

## **Canadian Water : towards a New Strategy**

The 15<sup>th</sup> Annual Conference of the McGill Institute for the Study of Canada was held in the Faculty Club of McGill University on March 25<sup>th</sup> & 26<sup>th</sup> 2010 and was attended by a large number of leading scientists and representatives of many groups interested in Water Policy. A good number of students also participated – in fact the conference was described as including a « Who will be Who » of Water in Canada, as well as a « Who's Who »! The conference was organized into a number of panels, each with a moderator and three or four speakers who addressed a particular aspect of the subject before participating in discussion of questions from the floor. There were also several special presentations by keynote speakers. The conference was televised in its entirety for showing on CPAC. It can be found at [www.mcgill.ca/water2010/video](http://www.mcgill.ca/water2010/video) or in French at <http://français.mcgill.ca/water2010/video>

The conference opened with a discussion of International Water Issues, moderated by David Biette, Director, Canada Institute, Woodrow Wilson International Center for Scholars. The panelists were: Zafar Adeel, Director, Institute for Water, Environment & Health, United Nations University; Margaret Catley-Carlson, Patron, Global Water Partnership; Doug Miller, Chairman, GlobeScan International; and Lili-Anna Peresa, Executive Director, ONE DROP Foundation.

Some of the issues addressed included the importance of access to safe water, which nearly 1 billion people world-wide lack, while 2.6 billion people have no access to adequate sanitation. Over 3.5 million deaths each year can be attributed to poor water, poor hygiene & poor sanitation. Over 50% of these deaths are of children under 5 – deaths which are totally preventable. It was pointed out that the right to water is the right to life and we need to recognize this under the Declaration of Human Rights. Lack of water obviously has a great impact on Health – for each child who dies of HIV/AIDS 5 die due to unclean water. There is also a great impact on Education and Economic Development when women & girls in the developing world have to spend many hours each day fetching water. Increasing droughts mean there is also an increasing impact on Food Security. It was pointed out that in this area the world will fail to achieve the Millenium Development Goals – it is important that the members of the G8 work quickly on their pledge to increase financing for this.

It was also stated that Climate Change severely affects the availability of water, and will continue to do so. Already Europe is experiencing so-called « 50- year floods » every 2 or 3 years, while by the end of this century dry areas are forecast to become drier. Parts of North America may get more precipitation, but as rain, not snow, and at times we do not expect. There are some 250 shared water basins in the world and they need to be managed on a watershed basis and not divided up according to artificial national boundaries. Here it is not just a question of how to allocate a fair share of the water to each country involved, but also a question of the quality of the water – its possible toxicity and if the river in question floods or silts up. There are examples of countries working together – eg Jordan & Israel in the Jordan valley, and Pakistan & India in the Indus valley. There has to be co-operation across boundaries but it involves very high-stakes political negotiations.

At a local level one of the questions from the floor concerned water-pricing. It was said that the right to water did not mean that water must therefore be free – provision of water does cost money and surveys show that many people would be willing to pay for good quality water. Pollution of water is a big problem – some rivers are so polluted that they can burst into flames – but good work has also been done. Salmon returned to the Thames a number of years ago after a long time when the river was too polluted to support them, and there are now fish in the Seine as well. Canadians use twice as much water as the United States, the next country on the list. We need to raise public awareness of this but we also need leadership from our governments.

Next the opening address was given by David Schindler, Killam Memorial Chair & Professor of Ecology, Department of Biological Sciences, University of Alberta. He told us that 60% of Canadian water is in the Canadian Shield, in the form of standing water in lakes & wetlands in the boreal forest. Recently we've doubled the carbon budget for the boreal forest, but it is mostly in the forest floor, not in the trees. Further north the permafrost contains 50% of below ground carbon, and since it is now melting as a result of global warming it releases the carbon as well as water. The value of the boreal forest as it now stands is approximately 14 times the value that could be extracted from it by logging or mining. Canadians tend to think that we have an abundance of water, but when we think of renewable water Canada only has 6%, in comparison with Brazil which has 12% and Russia with 10%.

Prof. Schindler remarked that the 20<sup>th</sup> century was unusually wet but we were now going to see more droughts. He quoted David Sauchyn, whom NCWC members heard speak at the AGM in Regina in 2007, as having done a very good calibration of rain & drought as seen in the record of lodge-pole pines in western Canada since the 1750s. Apparently temperatures are up by 2 – 4 degrees in the Prairies since 1970. Alberta has very little water except from the glaciers in the Rockies - Prof Schindler showed some startling pictures of the Bow glacier as it was photographed in 1897 and again in 2002, by which time it had retreated considerably. The Bow river then flows to Calgary and on to highly irrigated farming country as well as to « Feedlot Alley » where livestock manure runs off & pollutes rivers. The Red Deer, Bow & Old Man rivers combine to form the South Saskatchewan where many dams were built in the 1940s, with no environmental assessment. In the 20<sup>th</sup> century the population of Alberta had increased 44 times, while that of Canada as a whole had increased just 6 times.

The Athabaska glacier has also retreated and thinned out considerably, while the Tar Sands use a very large quantity of water, of which only 8% returns to the river. The rest of the water is polluted and goes to the tailings ponds, which might now be better described as tailings 'great lakes' and where there is leakage of dams. Melted snow in the area leaves an oily residue and contains many carcinogens & metal residues. Prof. Schindler also felt that the Mackenzie pipeline would severely damage the boreal forest. He said that there was still lots of acid rain in eastern forests – sulphur had been cut by 70% since the 1980s but there was still too much nitric acid. Other problems come from hydro dams which displace people & wild life and where the peat releases methane and pollutes fisheries with mercury. Many lakes suffer from blue-green algae caused by too much nutrient in the rivers or washed out from their banks.

Finally Prof. Schindler listed a number of actions that should be taken right away: we should take account of First Nations' Treaty Rights; develop a vision for the Boreal forest; develop a National Water Strategy & Policy for Watershed and not just Water protection; and restore Federal & Provincial Environmental Science Departments.

The next morning began with a special presentation by Nik Nanos, President & CEO of Nanos Research, who was described as one of Canada's most trusted pollsters. He said that water is an iconic part of who we are but that it takes others to appreciate our abundance of fresh water. However the issue of water is not top of the mind for politicians, or indeed for the general public except occasionally. In a poll taken last summer (2009) 61% of Canadians chose Water over Oil or Gas as our most important national resource, but it tended to be taken for granted. Concerns included: water pollution; waste & over-consumption; a National Water Strategy was seen as a top priority. Most Canadians thought governments, both federal & provincial, should be responsible, and many Canadians would be willing to pay, or pay a bit more, for water. (24% said they would be very willing to do this, while 20% were somewhat willing.) Canadians are ahead of legislators as concerns water – governments should give it the attention it deserves.

The next panel, on « A Water Reality Check », was moderated by L. Ian MacDonald, Editor, *Policy Options*, Institute for Research on Public Policy. The panelists were Karen Bakker, Associate Professor & Director, Program on Water Governance, University of British Columbia; James P. Bruce, Canadian Policy Representative, Soil & Water Conservation Society; former co-chair, Intergovernmental Panel on Climate Change; Christopher Hilken, Chair, Water Program, National Round Table on the Environment & the Economy; President, Clean Water Foundation; R.W. (Bob) Sandford, Chair, United Nations « Water for Life » Decade, Canadian Partnership Initiative; Executive Director, Western Watersheds Climate Research Collaborative.

Several panelists stressed the importance of understanding the link between Water & Energy, which NCWC has been studying over the past few years. It was pointed out that natural resources are a critical part of the Canadian economy, with a great influence on exports, jobs etc. Already water use by agriculture, forestry, mining & energy amounts to 80% of our water use, and such use will only increase in the future. This means that future water availability is a huge concern, not to mention the quality of the water that is available. Agricultural run-off leads to a decline in water quality & eutrophication, eg the growth of blue-green algae; many aquifers are polluted and endocrine residues are often found in the water supply due to drugs for human & animal use which remain active after passing through our bodies. All sectors in fact have an adverse effect on the quality of the water they use, eg water from the Tar Sands operations which end up in tailings ponds or leach out & into the Athabaska river system.

It was stated that members of First Nations were entitled to water quantity & quality before any other users, which could be a cause of future conflict. In fact 75% of First Nations' reserves today have no good & reliable drinking water. Canada has the weakest water governance framework in the developed world – we do not have standards, only guidelines, and we do not adequately integrate water management which leaves a regulatory vacuum. We need a stronger engagement of government in

water management and allocation of water use between multiple water users. We also need enforceable standards, and enforcement.

Another topic was the link between water and climate change. As the atmosphere warms it holds more water vapour, which leads to more intense rain or snow, hence more soil erosion, more agricultural run-off (with nutrients & drugs) and more urban storm sewers overflowing & causing floods. Further north wetlands & peatlands tend to disappear as the permafrost melts, which causes an increase in the release of methane gas and further atmospheric warming.

Comments & questions following the presentations dealt with the importance of Water Security and the necessity of a National Water Policy – this was seen as an issue of leadership. There was some discussion about how this could be done given the division of powers between the federal government & the provinces. In the 1970s & 80s the Canada Water Act enabled very good co-operation but since then the federal government blew it while giving billions of dollars to the oil & gas industry. Departments of the Environment are now no longer doing conservation as there is a lack of funds. Also in the 1980s the governments of Canada & of the United States spent large sums on the Great Lakes, which worked very well at the time but the situation is now deteriorating. Manitoba has a Minister of Water Development – it was suggested that all provinces should follow suit. There is also an important role for the Council of Ministers of the Environment. We heard from the President of the CCME later in the day.

The next panel on « The Economics of Water » was moderated by Peter Calamai, Adjunct Research Professor, School of Journalism & Communication, Carleton University, who stressed how vital it is to deal with Water. The panelists were: Peter Brown, Professor, McGill School of Environment, Department of Geography & Department of Natural Resource Sciences, McGill University; Madeleine Cantin Cumyn, Emeritus Wainwright Professor of Civil Law, McGill University; Hans Schreier, Professor Emeritus, Institute for Resources, Environment & Sustainability, University of British Columbia; Steven J. Renzetti, Professor, Department of Economics, Brock University.

Here there was some discussion of Water as a Fiduciary Good in the Common Law tradition. Water is essential to all life and under fiduciary law it is our duty to preserve & enhance our resource base, including water, for the good of all life. However our generation is in fact unravelling the natural world. Water is a common good which can be owned but which it would be morally wrong to fail to provide. Our current governance framework fails to do a good job of preserving water but we could perhaps find a good possible pattern for action in First Nations' tradition. Both ground water & surface water form a collective resource which it is the duty of the provinces to manage in the public interest. However integrated management by watershed has to involve the users – we need a water plan for each watershed committee.

This panel also returned to the question of water pricing. In Canada we pay the least and consume the most, the exact opposite of the situation in the European Union. Apparently we consume even more in rural areas, to the tune of 1800 litres per day! It is cheaper to conserve water than to treat it, but 50% of drinkable water is used to water lawns. It was suggested that agriculture needed to use less water-demanding crops. Urban wetlands might help to reduce storm water – the BC floods in the past year

should be a wake-up call for us all. There was some discussion of full-cost pricing, though it is difficult to calculate & implement. However it is badly needed because of our aging infrastructure, inadequate revenue & rising demands. The current pricing system performs poorly and does not promote innovation. One quarter of the population is not metered, and if water use is not measured then it cannot be managed. We need to develop full cost accounting rules, but also avoid an undue impact on the poor. The Canadian Report on Water in 1980 called for full-cost pricing but it was never implemented. One comment from the floor suggested that it would be easy to reduce our water use, simply by mandating the use of low-flush toilets in all new houses – at present the average flush uses 15 litres.

We then heard a keynote address from The Honourable Jim Prentice, Minister of the Environment. He said that our use of water was becoming a major problem. He remarked that the importance of water to our history, commerce etc is illustrated by the history of the St Lawrence river. We do have vast water resources but there is a mismatch between where it is and where it is needed, and only 1% of it is replenished by rain and river flow. This is our renewable water and we cannot increase consumption without depleting resources. The St Lawrence renewal plan has been implemented since 2005 – what can be done is illustrated by the improvement of the Port of Montreal under this plan. The sediment was dredged out in 2007 and it is now 98% decontaminated. The provincial & state governments have been working with the Canadian & US federal governments to improve the Great Lakes. In January 2010 Canada & the United States met to bring the 1972 Great Lakes treaty up to date. In 2010 we still dump untreated waste into water, which is completely unacceptable. However something is being done about it, in such places as Ste Agathe, Sherbrooke, Sarnia, Brockville & Hamilton.

Minister Prentice announced that he would take questions from the Press in the next room but there was no general discussion.

The next panel on « Water Governance in Canada » was moderated by Scott Vaughan, Commissioner of the Environment & Sustainable Development, Office of the Auditor General. He noted that the issues from the Canada Water Report in 1980 were still with us today. There is still a gap between potential solutions & actions, ie a deficit in governance. The panelists were: Rob de Loë, University Research Chair in Water Policy & Governance, University of Waterloo; Linda Nowlan, Environmental Lawyer & Consultant; Ralph I. Pentland, President, Ralbet Enterprises Inc., who was a key speaker at the NCWC AGM in Ottawa in 2008.

The panelists agreed that a discussion on water governance was essential, with the growing awareness of problems, in local communities and around the world. The issue is more complex than previously – the old problems are still with us but new problems have have cropped up. On the other hand we also have new tools. However the stakes are much higher in view of the possibility, and indeed reality, of irreversible ecological damage. We will not get very far if we just concentrate on the problems – we should look at the opportunities as well. A National Water Policy / Strategy to address the governance deficit is definitely called for, but it should not be top down; rather we need to develop co-operation between the many competent actors who are available. Leadership is needed to integrate a concern for water into every aspect of government

policy. We also need much greater participation from outside government circles. It was pointed out that there are overlapping constitutional responsibilities, and that aboriginal water rights were of particular importance. These rights are guaranteed by the Charter of Rights & Freedoms, but are not well defined there. It was also noted that there is no shared water governance in the Athabaska area, although it is much needed. There is a role for the federal government in shared governance agreements with the provinces, and indeed the European Union mandates shared governance of water.

There was also some discussion of the concept of Sustainable Development. In 1987 the Brundtland document assumed that sustainable development was possible, and that its limits could be expanded indefinitely. This is now a very dubious, not to say risky, proposition and we are heading down several unsustainable paths. As the economy globalized responsibility for governance drifted up to multi-national corporations and non-democratic institutions such as the International Monetary Fund, while at the same time being devolved down to ill-equipped local institutions. Sustainable development needs a major expansion of science & policy in government but this has not been taking place. Also regulation in many fields has moved from regulatory efficiency to 'smart' regulation, which means a minimalist approach which turns out to be to the advantage of those regulated, rather than the general public. Both democracy and capitalism have thus been diminished. Decision making has now become less transparent and water managers at local levels are now struggling with less support from government.

The next special address was given by The Honourable Charlene Johnson, Minister of Environment & Conservation, Government of Newfoundland & Labrador and President, Canadian Council of Ministers of the Environment. She described how the CCME works by consensus with 14 equal voices; once consensus is reached each member is responsible for its implementation in their own jurisdiction. In October 2009 a framework was adopted for a Strategic Direction for Water, with a vision of access to clean, safe & adequate water for all. The CCME committed to provide leadership for this and set out 5 goals :-

- 1) Aquatic ecosystems to be protected on a sustainable basis.
  - 2) Conservation & wise use of water to be promoted.
  - 3) Water quality & quantity management to be improved. Water quality guidelines were developed collaboratively, with benefits to both human health and that of the ecosystem. This also dealt with waste water & effluent.
  - 4) Climate change impacts to be reduced by adaptation.
  - 5) Knowledge of the state of Canadian water to be developed & shared, including a water quality index. The government of Newfoundland & Labrador had just launched a water web portal – the first in Canada. Training teams go out to help rural areas; they are equipped with portable water treatment kits for potable water.
- Minister Johnson mentioned that a conference would be held in Newfoundland & Labrador in October 2010 and she recommended that we check the CCME website for further information. [www.ccme.ca](http://www.ccme.ca)

The final panel on « New Ways of Thinking about Water » was moderated by Désirée McGraw, Executive Director, Jeanne Sauvé Foundation. The panelists were: David B. Brooks, Senior Policy Advisor on Fresh Water, Friends of the Earth Canada;

David Henderson, Managing Director, XPV Capital Corporation; Tim Morris, Programme Officer, Fresh Water Resources Protection, Walter & Duncan Gordon Foundation, who spoke at the NCWC AGM in Regina in 2007; Larry Innis, an Aboriginal Rights lawyer, who replaced, at very short notice, Merrell-Ann S. Phare, Executive Director & Legal Counsel, Centre for Indigenous & Environmental Resources, who was unable to be present.

Several panelists stressed the importance of Accountability; we have a number of good policies and over 50% of the provinces have their own water strategies but implementation is lacking. Meanwhile our water condition is getting worse; 1 in 6 of first nations have 'Boil water' notices, there are blue-green algae in Québec lakes and huge stretches of toxic algae in Lake Winnipeg. Moreover climate change will adversely affect water. Canadian water policy in 1987 was a world leader but it was essentially shelved in the 90s due to problems in sustaining implementation. Accountability to watersheds & ecological systems is vital but there is no way to track water policy across, except in Newfoundland & Labrador, as Minister Johnson just told us. Accountability is also due to citizens who do connect with water, especially if they are engaged in the decision-making. Economic accountability is also critical; water is much more important than is sometimes realised, particularly when we do not take account of the costs of pollution, for example. What we do to the environment affects the economy and vice versa. Emphasis should be on reducing demand rather than increasing supply; sustainability, not efficiency, is the bottom line. There is a great opportunity now to invest in new technology for water use, though the political will may be lacking. However Ontario has taken a step in the right direction with the use of new technology for retro-fitting cooling towers to save energy. We should be looking at the Economy and the Environment, not either/or.

Larry Innis, who practises aboriginal environmental law, spoke about the Boreal Initiative on Water Rights & Reconciliation. He reminded us that we were at present in Hochelaga, where the French signed a treaty in 1701 with 40 First Nations; we need to remember the 10,000 years of history before Jacques Cartier arrived. Indigenous law is a law of reconciliation, but as applied to water it is quite different from western law. The indigenous emphasis is on the duty to share & to preserve for future generations – there can be no ownership of water. He asked how the Cree, for example, could harmoniously exist on their land base while the government gives out thousands of permits for water use. However we do have the opportunity to be a place where we can reconcile indigenous views of water stewardship and water as human rights. We need to listen to the communities first and then move from vision to action. A vast amount of our water comes from indigenous territory in the boreal forest, but we need to consider how the users of that water relate to people downstream, as for example the people of Fort Chipewan, downstream for the tar sands development.

Closing remarks were given by Robert Slater, Adjunct Professor, Carleton School of Public Policy & Public Administration; President, Coleman, Bright & Associates, who had also welcomed us at the beginning of the conference. He noted that water is a common good and a spiritual resource. Scientists say that the state of our water is very troubling but Canadians do care and say it is important – in fact we are ready to do something about it, and to pay. There is evidently a need for governance across many areas but it needs to be inclusive and transparent; decisions have to be made about

regulations and cost & value pricing. However we should be ready for surprises, eg from climate change and also from the law of unintended consequences.

This conference was very worth-while attending (albeit exhausting) and I met a number of interesting people over the excellent refreshments which were served during the breaks. It was, however, so crowded that it was difficult to track down any particular person to whom one wished to talk. I was glad to be able to meet Ralph Pentland, with his wife Betty; he had spoken at the NCWC AGM in Ottawa in 2008. I also had a good conversation with Tim Morris who had been a speaker at the AGM in Regina in 2007. I was interested to meet a couple of women from the National Network on Environments & Women's Health who spoke about their work on an inter-disciplinary exploration of women & water in Canada. See [www.womenandwater.ca](http://www.womenandwater.ca) It was also good to find that a number of the students present were also involved in another conference, beginning the very next day, on « Uncharted Waters » Connecting Activism and Academia on Water Issues. See [www.unchartedwatersconference.ca](http://www.unchartedwatersconference.ca)

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