

# FLOW MONITOR

CANADIAN WATER POLICY WATCH

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## MESSAGE FROM THE CHAIR

This special edition of the FLOW Monitor looks back at the progress made towards national freshwater protection since the publication of our 2007 document, *Changing the Flow: A Blueprint for Federal Action on Freshwater* ([www.changingtheflow.ca](http://www.changingtheflow.ca)). The articles below, organized according to the seven priority areas identified in *Changing the Flow*, assess the level of action taken over the past five years to protect water. While the trend towards a diminishing role for the federal government is neither surprising nor new, we seek to stimulate thinking about where to go from here in this newsletter.

As the U.S. Supreme Court once decreed, “The state can no more abdicate its trust over property in which the whole people are interested than it can abdicate its police powers in the...preservation of the peace.” Sustainable water management is becoming more, not less, complex. Government leadership is as important as ever, but what this looks like seems to be evolving. In fact, at the time of print, we received news of intent to amend the *Fisheries Act* and the federal environmental assessment process. While we have very serious concerns about the potential impact these proposals could have on the health of Canada’s water resources, we will offer our commentary when more is known in a future edition of the FLOW Monitor.

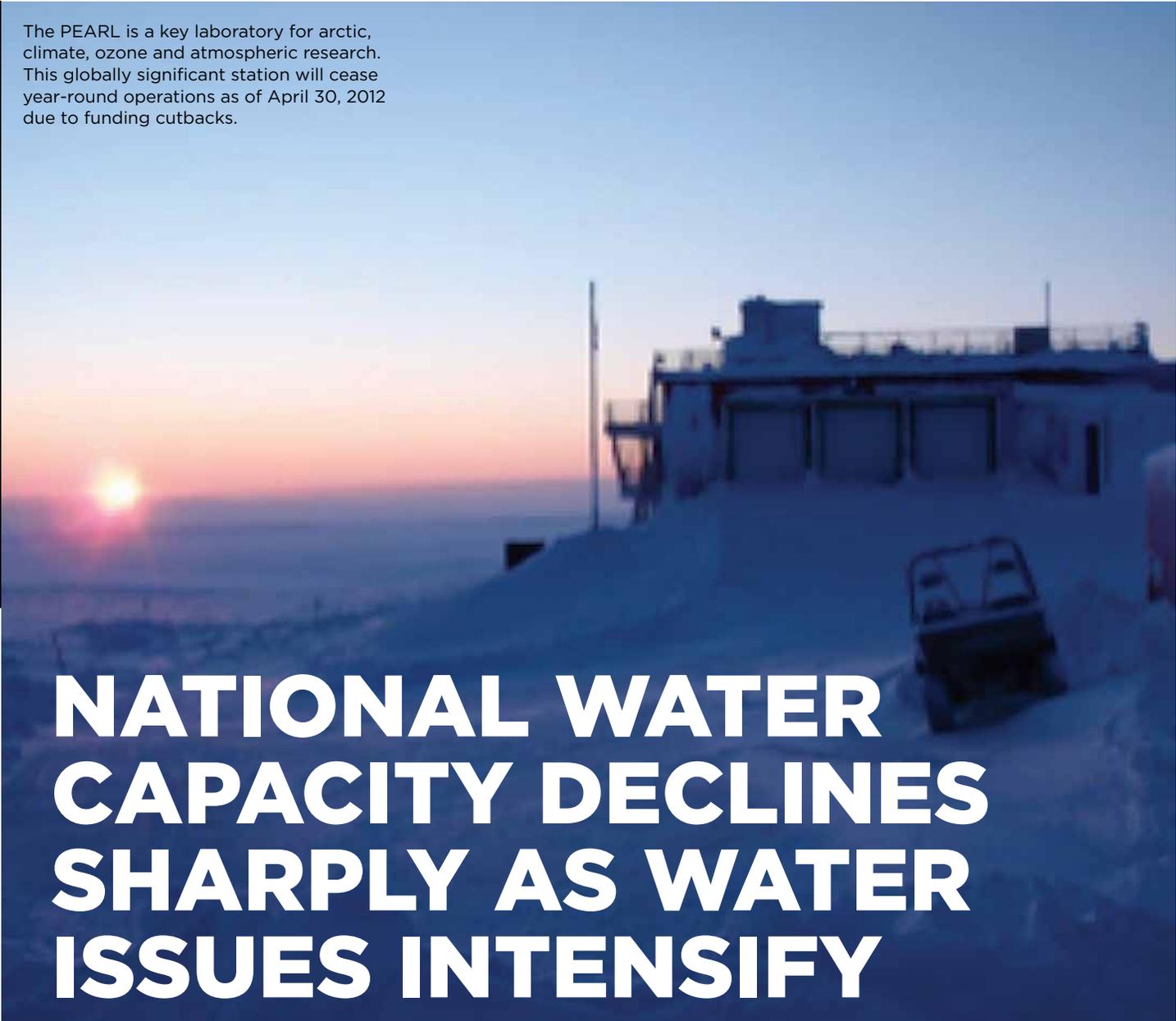
In a time of shrinking governments and government capacity, it is more important than ever to evaluate our collective capacity. Diverse actors – NGOs, academics, business and industry, stewardship groups, professional associations, citizens – need to work with government, First Nations, and political leaders to redefine roles and relationships for this new era and realize a truly sustainable future.

Yours for improving action on water, Norm Brandson

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The PEARL is a key laboratory for arctic, climate, ozone and atmospheric research. This globally significant station will cease year-round operations as of April 30, 2012 due to funding cutbacks.



# NATIONAL WATER CAPACITY DECLINES SHARPLY AS WATER ISSUES INTENSIFY

PHOTO COURTESY OF DAN WEAVER

By Ralph Pentland

Water is a key concern for Canadians across the country. Albertans have been forced to close the South Saskatchewan River to new water allocations to keep it from going dry; Manitobans are losing millions of dollars to increasingly frequent floods; and residents of the Great Lakes region are watching as lake levels decline and progress made to improve water quality under the Great Lakes Water Quality Agreement is reversed. In Montreal, citizens are dealing with serious financial pressures as water infrastructure crumbles beneath its streets, leaking as much as 40% of the City's treated water. And Atlantic Canadians are rallying against the fracking industry because they fear drilling the bedrock for natural gas will unduly risk contamination of important underground water supplies. Simultaneously, jurisdictions across the country will require extensive and costly adaptation measures to account for the impacts of climate change.



**LINKING BACK TO**  
CHANGING THE FLOW...

**PRIORITY 1:**  
Enhancing  
National  
Capacity  
for  
Freshwater  
Protection

*Changing the Flow* noted the anomaly of escalating water issues coinciding with a declining national capacity to deal with them. If we continue down the path we are on, our natural capital will inevitably decline to a point where it could have serious economic and human health repercussions.

Accordingly, the report called for more proactive federal leadership through development of a national water strategy, implementing a nested watershed approach, formalizing a process for sharing best practices, and creating a national water fund and audit process.

Since the peak of federal interest in water in the 1970s and 1980s, many federal water programs have been drastically downsized, or disbanded completely. Environment Canada and other departments have experienced major cuts over the years – between 1992 and 2007, 26% of Environment Canada’s staff and 21% of staff Fisheries and Oceans were cut, constraining their ability to strategically manage water resources and maintain or restore aquatic ecosystem integrity. In early August 2011, Environment Canada notified 11% of its workforce – 776 physical scientists, meteorologists, chemists, biologists, and computer scientists – that their positions might be cut or reassigned. The Department of Fisheries and Oceans would also lose 275 positions. These cuts are in addition to those being made as part of the Strategic and Operating Review, currently being conducted. The Parliamentary Budget Officer<sup>1</sup> predicted that the Review would result in 1,211 fewer jobs at Environment Canada over the next three years.

The targeted cuts to federal scientific capacity could suggest that science is not a critical priority for this government and that water-related decisions are becoming more politicized, rather than science-based. In reference to the fresh water quality and quantity monitoring programs, the Commissioner of the Environment and Sustainable Development stated, “...unfortunately, the federal government is not doing what it said it would do to protect the environment and move toward sustainable development. There is little in our findings to offset a discouraging picture, as most suggest underlying problems in how the federal programs are being managed.”



Adequately addressing the “underlying problems” referenced by the Commissioner would require a strategic plan for water protection. However, as opposed to making a concerted effort to develop a Comprehensive National Water Strategy, as promised in numerous public announcements, the government has focused on a few distinct and disconnected water programs, further contributing to a piecemeal and reactionary approach to freshwater management in this country. The federal government has bundled its choice programs under the banner of the Action Plan for Clean

Water. Unfortunately, the Action Plan is a far cry from what *Changing the Flow* suggested, and even further from what was promised in the 1987 Federal Water Strategy. The current Action Plan is neither national nor strategic and does not adequately address current and emerging threats to water.

All governments in Canada are facing severe financial constraints, but the development of a meaningful and well-coordinated national water strategy must remain a priority. While intergovernmental groups such as the Canadian Council of Ministers of the Environment (CCME) and the Council of the Federation are working to better define common approaches and priorities to water management, they should be aiming higher – Canadians deserve world-class water management. This requires learning from jurisdictions such as the European Union, which has demonstrated that it is possible to develop an effective and coordinated water policy that draws on the resources and skills of all sectors of society without undue burden on the public purse.

In 2006, the Senate Standing Committee on Energy, Environment and Natural Resources concluded that “years of neglect coupled with budget cuts to scientific research and monitoring programs have eroded the ability of policymakers to analyze and respond to the water issues that affect the lives of millions of Canadians.” This neglect has only become more acute since 2006, while the issues continue to intensify. The protection of Canada’s water resources, as well as its economy and communities, is ultimately dependent on whether we can figure out how to build national water stewardship capacity within government and the people of this country. **F**

1. Bruno, Jessica. 7 November, 2011. More than 6000 public service job cuts to be lost over the next three years: PBO Report. The Hill Times.

# ONE STEP FORWARD, TWO STEPS BACK ON CLIMATE CHANGE

By Jim Bruce and Robert Sandford

One can no longer say that climate change will affect Canada's waters in the future, since the impacts can be observed in every corner of the country.

Water quality and supply are challenges of increasing concern to the environment and economy. In response, *Changing the Flow* recommended that the federal government undertake several actions related to climate change, including assisting communities with preparation for droughts and floods, mainstreaming climate change into water policies, working with Albertans to implement water use targets in the oil sands, and strengthening the environmental assessment process.

The Government of Canada has taken some steps towards understanding the impacts of climate change and helping communities respond. For example, the Regional Adaptation Collaboratives Program establishes teams of stakeholders to respond to how climate change is impacting health, infrastructure, and communities. On the other hand, cuts to successful and cost-effective federal programs, such as the prairie-based Drought Research Initiative, undermine such programs. Additionally, funding for the federal-provincial flood damage reduction program for mapping and zoning flood plains is unlikely to be renewed. Rather, large federal grants are allocated to respond only once floods have happened through disaster assistance.

Other decisions at the federal level have also hindered Canada's ability to adapt to climate change and protect water resources, especially in Alberta's oil sands. For instance, in June 2010, the federal government abruptly ended an 18-month investigation by

Parliament's Standing Committee on Environment and Sustainable Development into the impacts of oil sands

development on water.

The government has also systematically weakened environmental assessment regulation. Budget 2010, transferred responsibility for conducting comprehensive environmental assessment studies of large energy projects from the Canadian Environmental Assessment Agency to the National Energy Board and the Canadian Nuclear Safety Commission.

Also of concern are the federal scientific monitoring programs. Numerous independent reviews have concluded that the current data available does not allow the full impact of oil sands development on water to be determined. On February 3, 2012, the federal and Alberta governments announced yet another "world class" intergovernmental oil sands monitoring plan. The plan would see industry responsible for funding the \$50-million-per-year program. Critics are concerned that little will be done in the short term to improve environmental performance or slow further development, that important advice from government panels is absent from the final plans, and that a lack of independent oversight leaves the system vulnerable. To address some of this criticism, the Government of Alberta has indicated that monitoring will eventually come under the control of an independent body. That body has yet to be created.

While Canada has taken some steps to better understand the impacts of climate change, it also has to recognize that adaptation is not enough. Managing the changes in availability, seasonality, and quality of waters will become increasingly difficult and costly as climate change accelerates. We must reduce emissions of heat trapping gases, especially carbon dioxide and methane, on a global scale.

Canada's share of total global emissions may be fairly small (although very large per capita), but it has an important role to play internationally. Disappointingly, our country's track record is dismal, especially given our willingness to abandon our commitments made under the Kyoto Protocol. We cannot claim to be contributing members of the global community unless we commit to and meet international accords on climate change. **F**



**LINKING BACK TO**  
CHANGING THE FLOW...  
**PRIORITY 2:**  
Responding to the Impacts of Climate Change and Energy Production

# PATCHWORK REGULATIONS FAIL TO PROTECT DRINKING WATER

By Dr. David R. Boyd



**LINKING BACK TO**  
CHANGING THE FLOW...  
**PRIORITY 3:**  
Securing  
Safe  
Drinking  
Water  
for All  
Canadians

In Canada, major gaps in the national frameworks that are supposed to ensure safe drinking water for all Canadians and protect source water are creating inequalities across the country. We have a two-tiered system that leaves some Canadians vulnerable to boil water advisories, waterborne diseases, and associated adverse health effects. In response, *Changing the Flow* recommended legislating enforceable national standards for drinking water across Canada, immediately providing resources for safe drinking water on First Nation reserves, creating a comprehensive toolkit

for preventing water pollution, and accelerating funding for infrastructure renewal linked to multi-barrier protection.

Unlike most other democratic jurisdictions – including the United States and the European Union – Canada does not have legally enforceable national drinking water standards. Instead, it provides voluntary guidelines that provinces may or may not adopt. The national guidelines are used as enforceable standards by only four provinces, while the remainder use the guidelines less formally and to varying degrees. The result is an uneven set of rules governing drinking water in Canada.

## Safe drinking water for First Nations

One glaring example of Canada's uneven patchwork of rules is the urgent situation in many First Nations communities.

A recent government report<sup>1</sup> indicates that 73% of water systems on reserves are at high (39%) or moderate (34%) risk of failing to produce safe drinking water. As of January 2012, there were 116 drinking water advisories in place in First Nation communities – that's one in six. In a handful of communities, the majority of homes still lack running water and indoor toilets, posing serious risks related to waterborne disease. This is a medical and humanitarian crisis that demands immediate resolution.

Despite a federal investment of \$1.5 billion in First Nations water systems from 2003 to 2008, these communities have fallen between the cracks. Under Canada's Economic Action Plan, an additional \$179 million was allocated to water and wastewater projects for 2010-2012. These investments, while clearly a step in the right direction, are not sufficient and do not target the most pressing crises. The National Assessment estimated it would take ten years and \$4.7 billion to bring reserve water systems up to federal standards.

While provincial governments are responsible for drinking water systems in the rest of Canada, the federal government is primarily responsible for drinking water on reserves. In close consultation with First Nations, it must establish rules to ensure

protected supplies. On February 29, 2012, the federal government introduced Bill S-8 – An Act respecting the safety of drinking water on First Nation lands. The bill is largely based on Bill S-11, which died on the order paper when the 2011 federal election was called. A majority of First Nations opposed Bill S-11 because it did not respect Aboriginal rights and self-government agreements regarding water resources management, and the law was drafted without proper consultation. Bill S-8 does not appear to have resolved many of these concerns.

## Source water protection

Federal and provincial governments have made some notable progress on the protection of water<sup>2</sup>. In 2010, the federal government published draft wastewater regulations, which would require individual jurisdictions to achieve minimum performance standards that will ensure effluent releases to surface water achieve secondary treatment or equivalent. It's an excellent step, but the regulations have not yet been finalized, and Canada still lags behind leading industrialized countries, such as Sweden, Norway, and Finland. Unless it accelerates infrastructure investments and regulation enforcement, it will continue to do so for several more decades.

## Managing toxic contaminants

Under the federal Chemicals Management Plan, assessments of several hundred toxic substances are

complete, while thousands more must be done by 2020. In the meantime, there are growing public health concerns about increasing numbers of products containing or releasing carcinogens, mutagens, endocrine disruptors, reproductive toxicants and heavy metals into Canada's lakes and rivers.

Despite designating many substances currently used in Canada as toxic threats to human health and the environment, government has been slow to eliminate these threats through regulatory action. To address this problem, government needs to emphasize pollution prevention measures that will eliminate or significantly reduce the manufacture, import, export, use and release or disposal of toxic chemicals; begin making polluters pay for releases or emissions of these substances; and develop a substitution and green chemistry strategy.

Canada is behind the curve. It has yet to implement solutions that have, particularly in Europe proven successful. As a country, we need to do a better job to ensure all of our citizens have basic and fundamental access to clean and safe drinking water.

1. Neegan Burnside Ltd. 2011. National Assessment of Water and Wastewater Systems in First Nations Communities - 2009-2011. Ottawa, ON: Department of Indian and Northern Affairs.

2. For instance, the CCME Canada-wide Strategic Vision for Water, and the Canada-wide Strategy for the Management of Municipal Wastewater Effluent.

# SUSTAINING NATURE'S WATER NEEDS

By Tony Maas

Healthy freshwater ecosystems are foundations for a strong economy, thriving communities, and sustainable livelihoods. One would think, then, that ecosystem restoration and protection would be a central focus and underpinning goal of water policy and management, particularly for a country like Canada that is recognized globally for our vast endowment of lakes, rivers, and wetlands.

The impact of this neglect is showing up in waters across the nation. The lifeblood of the prairies, the South Saskatchewan River is being drawn down to dangerously low levels due to the combined impacts of over-allocation of water, cyclic drought, and the effects of climate change on glaciers and snow packs. Dams and their operation procedures have reduced once thriving Atlantic salmon populations in the Saint John River to a shadow of their former glory. The once-diverse wetlands along the shores of Lake Ontario and the St. Lawrence River have been transformed into monocultures of cattails due to stabilization of the natural fluctuations of water flows and levels.

What is lacking is a comprehensive, ecosystem-based approach to water management – one that places the water required to sustain healthy aquatic ecosystems at the centre of water policy. It is in this context that *Changing the Flow* recommended a national framework to maintain instream flow needs (IFN), or what are

## WHAT ARE ENVIRONMENTAL FLOWS?

According to the Brisbane Declaration, environmental flows refer to the quantity, timing and quality of water flows required to sustain freshwater ecosystems and the human livelihoods that depend on them.



LINKING BACK TO  
CHANGING THE FLOW...

**PRIORITY 4:**  
Protecting  
Aquatic  
Ecosystems  
and  
Aboriginal  
Rights

But in Canada, as in many parts of the world, nature is often the last in line when it comes to sharing water among various interests. Water allocation policies were not developed to protect the environment; rather, they are resource use policies under which ecological water requirements are at best a consideration and, at worst, disregarded altogether. Canada's strongest law for aquatic ecosystem protection – the federal *Fisheries Act* – is often ineffective because of a narrow focus on production of “economically important” fish species or application on a project-by-project basis. The cumulative impacts of multiple and growing demands on aquatic ecosystems are rarely considered in Canadian water policy.

more commonly referred to as environmental flows. Securing environmental flows requires that we recognize there are limits to the degree to which natural patterns of water flows and levels in rivers, lakes, and wetlands can be disrupted before ecosystems begin to unravel and the many benefits they provide are compromised.

While Canada is a long way from the comprehensive science and policy frameworks for environmental flows developed in jurisdictions such as South Africa, the European Union, and Australia, glimmers of hope have appeared on the horizon in the five years since *Changing the Flow* was published. The Department of Fisheries and Oceans – via the Canadian Science Advisory Secretariat (CSAS) – recently convened an expert group of aquatic scientists to help develop a standardized framework for assessment of environmental flows in Canada. The CCME has also made environmental flows a priority, highlighting the need to “identify and share best management practices for instream flow (ecosystem) needs.”<sup>1</sup>

These are important steps toward addressing nature’s water needs in Canada, but real responses will remain ad hoc and reactive unless these initiatives can be integrated into an agenda for action. A major impediment to such an agenda lies in the fact that environmental flow issues sit at the confluence of federal and provincial jurisdiction over freshwater resources and ecosystems. What is needed is a truly national framework for environmental flows that clarifies the roles and responsibilities of federal and provincial agencies, that puts priority on places where action is most needed, and that mobilizes the collective capacity of governments, NGOs, and academic experts. We cannot afford duplication, delays, or distractions. The costs, both economic and environmental, are too significant.

In 1985 under the Pearse Inquiry, it was recommended that “Canada should develop a national program for determining instream flow needs.”<sup>2</sup> A quarter century on, initiatives like the CSAS process and the CCME Action Plan are clear indications that this need has not been addressed. Allowing environmental flows to continue to slip through the cracks risks the very foundation of our freshwater future – the health and integrity vast lakes and mighty rivers that are icons of Canadian culture. **F**

1. Canadian Council of Ministers of the Environment. 2010. Water Action Plan. 2. Hatfield, C.T. and Smith, G. 1985. Instream Resource Values and Protection in Canada. Inquiry on Federal Water Policy, Hatfield Consultants Limited.

# GOVERNMENT BEHIND COURTS IN RECOGNIZING ABORIGINAL WATER RIGHTS

By Merrell-Ann Phare

Aboriginal and treaty rights are recognized and affirmed by section 35 of the Canadian Constitution of 1982, but whether that includes Aboriginal rights *to water* is still a matter of debate. Canadian water policy appears intent on avoiding the need to fully recognize and characterize indigenous water rights. However, there are indications that legal frameworks requiring respect for First Nations’ water rights are gaining significant legal traction.

In Canada, the courts have not yet explicitly recognized the existence of indigenous water rights, but there are cases that signal that this may soon change. In the *Halalt First Nation v. British Columbia* case<sup>1</sup> BC Supreme Court has declared that the Halalt First Nation has an arguable case and that it has a proprietary interest in the Chemainus Aquifer. The Halalt claim to the groundwater was strong enough to merit the court to prohibit the District of Cowichan from operating its \$6 million groundwater wells, pending proper consultation with the Halalt. The case is currently under appeal, however, it is following the general direction set by other recent cases including the Tsilhqot’in Nation<sup>2</sup> case. There, the judge indicated that Tsilhqot’in Aboriginal title includes entitlement to waters within their territories – a vast northern section of British Columbia.

Canadian courts are beginning to recognize that ongoing denial or avoidance of indigenous water rights in any part of Canada is not only shortsighted and unrealistic, but increasingly legally untenable.<sup>3</sup> *Changing the Flow* recommended that aboriginal water rights be respected and implemented. This is both ethical and practical given that sustainable use and management of water requires all players – including indigenous peoples – be involved in decision-making. Even if the Halalt decision shifts under appeal, the writing is on the wall. First Nations are increasingly committed to asserting their rights and there will eventually be a court decision that changes the legal and policy water framework in Canada. It would be preferable, however, for governments to proactively initiate constructive dialogue with First Nations. This approach lessens liability by permitting the crafting of solutions that have the greatest chance of meeting multiple needs, and can bring us much closer to the equitable use and sharing of waters in Canada.

1. *Halalt First Nation v. British Columbia* (Environment), 2011 BCSC 945; 2. *Tsilhqot’in Nation v. British Columbia*, 2007 BCSC 1700; 3. It may be legally untenable to deny indigenous water rights on lands in treaty territories, unceded lands and waters, or lands and water subject to self-government or land claims agreements.



Despite apparent water wealth, Canada's renewable water supply is proportional to its landmass and is rarely located where, when, and of a quality that we need it. The Canadian myth of water abundance persists and for the most part, remains deeply entrenched in how water is managed. Some leaders and decision-makers, however, are beginning to recognize that we aren't immune to scarcity, and we can't continue to take water for granted.

# TAPPING THE TRUE POTENTIAL OF WATER CONSERVATION

By Brenda Lucas and Oliver M. Brandes

Although only modest progress has been made in addressing the recommendations made in *Changing the Flow*, it is increasingly evident that water conservation and efficiency makes good economic as well as environmental sense, especially considering mounting municipal water and electricity costs. However, we have yet to turn the collective corner to fully embedding water efficiency and conservation in Canadian communities, industries and businesses practices. We aren't fully capitalizing on the readily available water, energy, and economic savings that come from aggressive water efficiency and comprehensive conservation.



LINKING BACK TO  
CHANGING THE FLOW...

**PRIORITY 5:**  
Promoting  
a Culture  
of Water  
Conservation

Fundamentally, we need to ensure that we have functioning freshwater systems – rivers, lakes, aquifers and watersheds. This requires going beyond traditional conservation measures, such as checking and fixing leaks in water distribution systems or implementing conservation plans in buildings. We must evaluate how human water use affects ecosystems and the environment. This process ultimately requires a key role for a number of players – including, critically, all levels of government.

## Wasting water and opportunities for innovation

Progressive companies and governments are recognizing they can reduce water demand, lower greenhouse gas emissions, and save money through



a comprehensive approach to water use. For example, innovation and new technologies make it possible to recover resources – such as energy, nutrients and water – from wastewater, generate new marketable products, and improve the quality of discharge to streams. Municipalities are finding that conservation and efficiency provide new water at a fraction of the cost of traditional supply-side solutions. According to a recent study, 40% of Ontario's natural gas and 12% of its electricity is used to treat, pump, and heat water and generate steam.<sup>1</sup> As the prices of gas, electricity, and water increase along with demand, opportunities for radical reductions in water and energy use will become an inevitable necessity.

The most immediate and obvious opportunity is to link senior government infrastructure funding to water conservation. At a minimum, government policy should require basic conservation planning in communities, as is beginning to happen in British Columbia and Ontario. Even better? Legitimize demand management and water conservation as valid forms of infrastructure and promote such projects as priorities for public funding, as recommended in a recent FLOW report.<sup>2</sup> Such programs could be the seeds of a new approach that would stimulate innovation, create economic opportunities and lay the foundation for overcoming massive water infrastructure deficit.

#### **Canada's burgeoning conservation movement?**

Conservation and efficiency programs and policies are finding traction at various levels of government as well as in leading corporations. An increasing number of provinces and territories are putting forward innovative water management policies and some initial programs – from the Northwest Territories, to British Columbia, Alberta, Ontario, Quebec, New Brunswick and Nova Scotia. Nationally, progress is more modest, but it appears that some groundwork is being laid. Two national institutions for intergovernmental collaboration have recently introduced new water initiatives. The CCME released its Water Action Plan in 2010, creating a collaborative framework for activities related to water management, including conservation. In the same year, the Council of the Federation signed a potentially significant Water Charter.<sup>3</sup> Another important thought-leading organization, the National Roundtable on the Environment and Economy (NRTEE), has released a number of key reports related to reducing water use and improving governance in the resource sectors.<sup>4</sup>

While there are a number of programs in place, a concerted effort from the federal government is conspicuously absent. A more focused emphasis is urgently needed to reap the full benefits. Provincially, Ontario is leading the pack by seizing the opportunity to push conservation through a focus on innovation with legislation that aims to foster development in water services and technologies, creates economic growth in the water sector, and promotes conservation of water resources.

An innovative project that has been funded by the federal government's Economic Development Agency for Southern Ontario, through its

Technology Development Program, is the Southern Ontario Water Consortium (SOWC). SOWC is a collaborative watershed-wide project for research, demonstration and testing of new approaches and technologies for water and wastewater treatment that is also supported by Ontario. Although funded to realize the economic development opportunity in water technologies, the SOWC also has the potential to become a venue to develop models for effective federal government engagement on the water file.

#### **Necessity: the mother of invention**

Increasing the link between economic opportunity and innovative approaches is an important first step in fostering water conservation as the “new normal” for Canada. A changing climate and the inevitable impacts on the hydrological cycle will only further necessitate conservation to adapt to future challenges. From transportation planning to urban design, our social and economic policy frameworks need to align not just to use (and reuse) water more efficiently but also to protect aquatic ecosystems. The next generation of water conservation goals needs to be aligned with building codes, water protection and allocation, as well as broader urban planning policies.

If seriously implemented, collectively these efforts offer the potential to generate significant benefits. But the real opportunity – the new imperative – is for governments to consolidate the various isolated activities into an integrated system that enables communities to live within their water budgets. Such an approach to water management would reap economic, social, and ecological benefits – and represents a clear opportunity for government to effectively engage to protect water in Canada. **E**

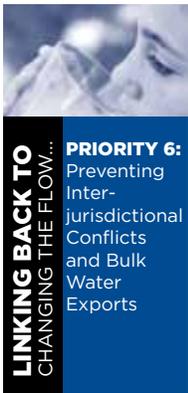
1. Maas, C. 2010. Ontario's Water-Energy Nexus: Will We Find Ourselves in Hot Water...Or Tap into Opportunity? POLIS Project on Ecological Governance; 2. Forum for Leadership on Water. 2008. Clean Water, Green Jobs: A Stimulus Package for Sustainable Water Infrastructure Investments; 3. Council of the Federation. 2010. Water Charter; 4. See <http://nrtee-trnee.ca/water> to view published reports on water.

INTERJURISDICTIONAL ISSUES:

# THE DEVIL IS IN THE DETAILS

By Marc Hudon and Murray Clamen

Canada and United states share the longest demilitarized border in the world. Two-thirds of Canadians live in either boundary or transboundary water basins. Over the past century, the two countries have maintained a relatively respectful relationship on water, in part thanks to the Boundary Waters Treaty signed in 1909 and the crucial role of the International Joint Commission (IJC).



Considering the large number of shared lakes and rivers, meaningful interjurisdictional cooperation – along with strong public engagement – will be critical in addressing the newest wave of threats that water bodies are now facing, including invasive species, persistent organic pollutants, endocrine disrupters and climate change. On this issue, *Changing the Flow* suggested the federal government strengthen the IJC, establish a binding dispute

resolution process to address interjurisdictional conflicts within Canada, and prevent the export of bulk water and inter-basin diversions.

The role of the IJC is to assist governments in finding solutions to boundary and transboundary water problems. Originally established by the Boundary Waters Treaty, the IJC has six members, three appointed by each federal government. In recent years, the growing trend on both sides of the border has been to substitute the Commission's scientifically and technically sound process of evaluating conflicts in favour of more expedient political processes. The Devils Lake outlet and Red River Valley Water Supply Project are two examples. However, there has been some effort to strengthen the IJC and its activities by adding three new scientists to the Commission's Great Lakes regional office in Windsor in 2010 and through support of the International Watersheds Initiative.

Related to the important binational issue of bulk water exports, the Government of Canada has committed itself to introducing legislation to prevent exports in two successive Speeches from the Throne. Bill C-383, An Act to amend the International Boundary Waters Treaty Act and the International River Improvements Act, was introduced as a private member's bill by a Conservative Member of Parliament in December 2011. It is based on Bill C-26, a government bill that died on the order paper when the 2011 election was called. While similar to the original legislation, Bill C-383 has an extra clause that would prohibit diversions into and from transboundary waters. It appears to have addressed the main concerns of critics, but could still be improved vis-à-vis a trade law challenge.

The Great Lakes-St. Lawrence basin is a particularly important binational freshwater system. Over 40 million people live in the basin, which ranks as the fourth largest economy in the world. In June 2009, the Canadian

and American governments announced they would be renegotiating the Great Lakes Water Quality Agreement, which expresses commitment to protect the ecological integrity of the watershed. This revised agreement needs to:

- **Encourage the elevation of national policies in both countries;**
- **Facilitate strong independent oversight by the IJC;**
- **Strengthen the level of municipal support in the region;**
- **Allow industry to adapt to the new regulations;**
- **Engage the public as partners and stakeholders in the process; and**
- **Better protect ecosystems.**

Boundary waters management is one of the clearest areas of federal responsibility, and yet the Government of Canada is, with more frequency, failing to meet its obligations in this area. Canada's financial commitment of \$8 million for cleaning up the Great Lakes' Areas of Concern, for instance, is negligible when compared to the \$475-million U.S. investment.

Within Canadian borders, the federal government also has an important role to play in interprovincial conflict resolution. Recently, there has been progress in negotiating bilateral agreements for the Mackenzie River Basin Agreement. Exactly 30 years after recommended in the Mackenzie River Basin Study, a series of bilateral water agreements are being negotiated between Alberta, British Columbia, Saskatchewan and the Northwest Territories (NWT). Along with developing their water strategy, declaring the human right to water, and developing community-based monitoring efforts, negotiating the bilateral agreement between NWT and Alberta is one of a series of actions taken by the NWT government to address significant concerns raised by northerners for over three decades about major upstream developments and their potential impact on the ecological integrity of the entire Mackenzie basin. This presents an opportunity for the federal government to make a meaningful contribution to these negotiations.

Matters of interjurisdiction are clearly federal domain. Protecting Canada's boundary and transboundary watersheds is dependent on stronger federal engagement in these areas. **F**

# CRIPPLED WATER SCIENCE CAPACITY:

## A RISK TO CANADA'S WATER LEGACY

By Robert Sandford and Jim Bruce

Scientists, analysts, and policy experts play a critical role in translating and communicating data to inform the public and enable decision-makers to create wise, science-based policy. Their work depends on being able to detect and address threats to water, such as pollution from sewage, industrial contaminants and agricultural pesticides and fertilizers.

Basic water science requires groundwater observation wells, flow measurement stations, climate data, aquatic ecosystem assessments, long-term monitoring, data coordination, and harmonization.



Without an adequate water science program that produces accurate, detailed, and publicly accessible information about water quality and availability, we risk the reliability of drinking water supplies, food production, and urban and rural development.

*Changing the Flow* recommended developing world-class water science by establishing national water inventories, mapping all major aquifers by 2010, and building overall capacity in the water science program to facilitate local decision-making. Systematic cuts to environmental programs and departments, however, have largely stalled progress on these fronts, hindering the federal government's ability to fulfill its constitutional obligation to develop and maintain national water statistics.

### Data accessibility

There is some progress being made to improve data accessibility. For example, both the HYDAT archival database and the RES'EAU-WaterNET program provide online access to water data from a variety of sources and encourage information sharing partnerships between jurisdictions. Content is gradually improving on the Know Your Watershed website, which allows visitors to access watershed profiles by entering the name of their city. The 2012 Open Data pilot project also improves public access to federal government data. The International Joint Commission is improving monitoring and data coordination with U.S. agencies for select boundary waters, such as the Great Lakes.

### Surface water monitoring

Environment Canada is the main federal department primarily responsible for surface water monitoring through two programs: the Fresh Water Quality Monitoring Program and the National Hydrometric Program. The first program measures water quality on a long-term basis at 456 sites and the second monitors water quantity and levels at 2,107 sites.

There are over 23 principal uses for the hydrometric data, including flood forecasting and international relations. Resources required to

operate many of the stations are shared between federal provincial and territorial governments. For these reasons, the findings of a 2010 audit by the Commissioner of the Environment and Sustainable Development are of major concern. The audit concluded that the federal government was not monitoring water quality on most federal lands, monitoring stations were not located with the aim to best detect potential risks, and that risk-based priorities were poorly defined. Furthermore, the cooperative monitoring agreements between different levels of government rely on Environment Canada to set standards, coordinate, and contribute to the program adequately. With significant budget cuts to Environment Canada, the future of these programs is unknown.

### Groundwater monitoring

The last major assessment of Canada's groundwater resources was published in 1967 and basic mapping of Canada's 30 key regional aquifers will take another two decades to complete at the current rate of progress.<sup>1</sup> With emerging groundwater issues such as rapidly evolving land uses, carbon capture and storage, and shale gas fracking, the absence of groundwater data poses undue health and security risks. The collection, maintenance, and management of existing and newly collected groundwater data, and ready access to these data, should be a priority for action.

### Internal research capacity

Internal research capacity has been reduced by at least 30% over the past two decades, and is once more being downsized. This makes it even more difficult to meet federal partnership obligations with research institutions and universities. The elimination of funding for the Canadian Foundation for Climate and Atmospheric Sciences (CFCAS), combined with the dismissal of hundreds of federal water scientists, will cripple Canada's ability to detect emerging risks due to climate change and other threats.

Without capacity to adequately detect and address threats to freshwater resources, Canadian citizens will experience the impacts of reduced scientific capacity through increased financial burden, aquatic ecosystem deterioration, and personal health implications. Federal leadership is required to develop a truly world-class water science program that can protect critical water resources from current and emerging threats. **F**

1. Council of Canadian Academies Expert Panel on Groundwater. 2009. The Sustainable Management of Groundwater in Canada. Ottawa, ON.

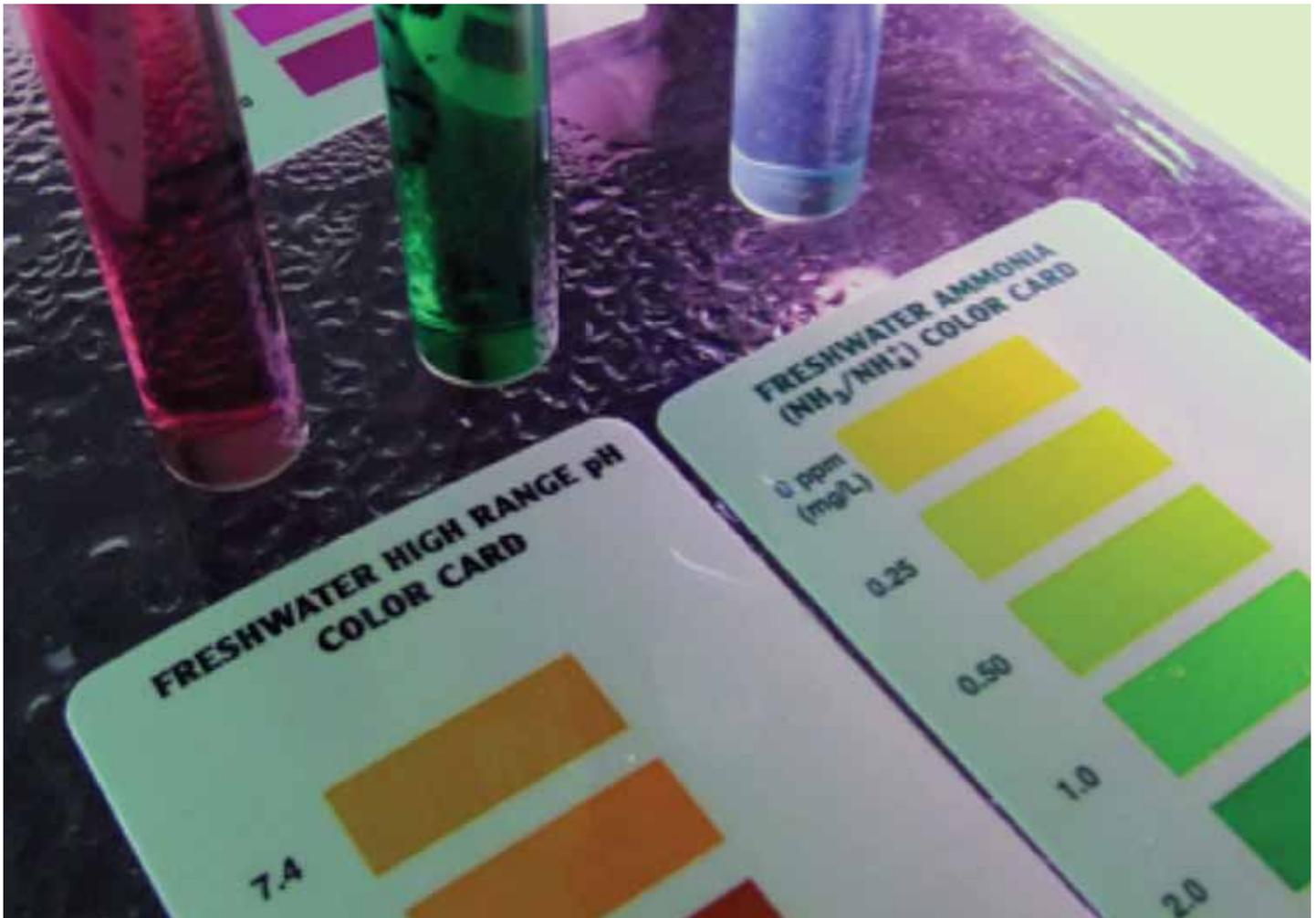


PHOTO COURTESY OF CYBERGIBBONS ON FLCKR

# RUNNING THE RAPIDS

## THE FUTURE OF GOVERNMENT AND WATER GOVERNANCE IN CANADA



“Mobilizing our collective and diverse national capacity to address the growing human health and environmental concerns in the turbulent waters ahead is what is urgently needed to realize a sustainable freshwater future.”

PHOTO COURTESY OF SHANCHEM ON FLOCKR

**By Oliver M. Brandes and Tony Maas**

We have all heard of “peak oil” – the idea that we are entering an era of declining fossil fuel reserves. More recently, this concept has been extended to crucial resources including natural gas, coal extraction, annual grain harvests, minerals and ores such as copper and platinum, as well as climate stability, economic growth and fresh water.<sup>1</sup> The concept of “peak water” even resonates in Canada, where mighty rivers and majestic lakes dot the landscape. Our challenge may be dealing with not only the idea of limits or peaks, but also with persistent uncertainty about the quality and reliability of freshwater resources and rapid change within linked hydrological, ecological and economic systems. In the not so distant past, we would have relied

on government to lead us through this kind of challenge. However, even a cursory glance through this newsletter reveals the federal government is retreating from commitments, responsibilities, and activities related to fresh water. The role of government is changing rapidly.

In senior levels of government, a common adage is “government steers but no longer rows.” This is increasingly the case when it comes to fresh water policy and management. Governments once did a significant amount of the “rowing” – they were once leaders on the water file. In the 1970s and 1980s, there were literally dozens of federal-provincial water planning and management agreements, culminating in the thoughtful Pearse Inquiry and the ensuing – but never fully implemented – Federal Water Strategy.

Since the early 1990s, however, federal leadership has declined in many water-related portfolios, with provinces and territories,

and in some cases local governments and watershed organizations, often stepping in to fill the void. Water strategies, plans, and even the occasional law reform initiative are now being initiated at these levels across the nation. Most recently, Canada's 13 premiers – through the Council of the Federation – waded in with a three-year commitment to lead action by signing a Water Charter and earmarking resources to implement its commitments.<sup>2</sup> These developments are not necessarily surprising, given the predominant constitutional role of provincial and territorial governments coupled with an increasing awareness of water problems and crises across the nation and globally. This emphasis on getting the rhetoric right is laudable, but the reality is that action remains fairly modest. Environment, fisheries, and natural resource ministry budgets are on a perpetual downward spiral. Today, even claims of “steering but not rowing” are questionable.

Articles in this issue of the FLOW Monitor certainly highlight many areas of federal inaction and the related implications for people and the environment. It also shows that new actors and players are entering the fray, as demonstrated by the proliferation of local watershed and shoreline property owner organizations, more active municipalities, and First Nations governments. The focus is on “bottom-up” activities such as community-based monitoring, ecosystem restoration projects, and campaigns aimed at understanding and improving the state of local freshwater supplies and ecosystems. Despite this influx of new voices and activities, a void still remains where government was once the clear driver – or at least made key decisions and provided overall guidance on many crucial aspects of water security and stewardship.

So perhaps it's time to acknowledge another new “peak” – peak government. Constitutionally, senior governments have a clear, undeniable role to play in coordinating and leading efforts to protect freshwater resources and ecosystems, yet they are steadily being drained of their capacity to do so. Instead of addressing critical, issues in water

management, decision-makers focus on “winnable” priorities such as immediate job creation and “announceable” initiatives such as project funding and partnerships that usually align with short-term gain, often at the expense of long-term value and social and ecological sustainability.

It is clear that limitations to revenues and capacity are very real, having perhaps peaked in the early 1990s for the federal government and a few years later for most provincial governments. This descent was further accelerated by the global economic recession of 2008. Many of the things government once did, such as direct on-farm water conservation measures, sophisticated environmental monitoring and planning, public awareness and education, and aggressive enforcement of water pollution regulations have been largely abandoned.

These articles daylight that while it is important to understand what government once did, it is equally, if not more, important to understand the limitations and narrow priorities and mandates of what might be called “Government 2.0” – smaller, leaner government agencies that ‘enable’ and ‘convene’ rather than engage directly. Understanding this change and the current constricted – and generally self-imposed – interpretation of government roles and responsibilities is crucial for water champions and advocates. Emphasizing well-researched and well-intentioned recommendations at specific agencies can be a real lost cause when governments are in retreat from the science, regulatory, and policy functions we once relied on to protect our waters. Yet the fact remains that governments are ultimately, constitutionally responsible for the health of our waters. So it is absolutely critical to clearly identify when government must be at the helm, while at the same time creating opportunities and providing resources for other actors to play larger roles in decisions and assist in implementation.

The reality of Government 2.0 is that protecting water demands engagement and action by all sectors of society. National capacity is much more than just government capacity. Diverse players – NGOs, academics, business and industry, professional associations, stewardship groups, citizens – need to work together and with government, First Nations, and political leaders to redefine roles and relationships for this new reality. Mobilizing our collective and diverse national capacity to address the growing human health and environmental concerns in the turbulent waters ahead is what is urgently needed to realize a sustainable freshwater future. **F**

1. Heinberg, R. 2007. *Peak Everything: Waking up to a Century of Declines*. New Society Publishers; 2. Council of the Federation. 2010. *Water Charter*.

# FLOW MEMBERS

The Forum for Leadership on Water (FLOW), a project of Tides Canada Initiatives, is an independent group of water experts from across Canada that encourages government action to protect and steward our critical freshwater resources. We are committed to proposing policy solutions, urging action and tracking progress towards a more sustainable water future.

We believe that all levels of government and broader civil society must work together as part of a Canada-wide strategy that effectively addresses current and emerging threats to freshwater security.

➤ To receive future editions of the FLOW Monitor visit [www.flowcanada.org](http://www.flowcanada.org).

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Oliver is Co-Director of the University of Victoria's POLIS Project on Ecological Governance, which focuses on watershed governance and legal and institutional reforms for sustainable water management. Oliver provides strategic policy and governance advice to government and non-government organizations.

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Norm is a Professional Engineer and a consultant on resource and environmental issues. He was Deputy Minister of the Department of Environment and founding Deputy Minister of the Departments of Conservation and Water Stewardship in Manitoba.

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Brenda currently leads the Southern Ontario Water Consortium (SOWC) and serves as Senior Advisor to the Blue Economy Initiative. She recently served as Senior Policy Advisor to two Ontario Ministers of Environment with responsibility for water and renewable energy. Before that she spent 8 years with the Walter and Duncan Gordon Foundation.

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## **Linda Nowlan, WWF-Canada**

Linda is Director of Pacific Conservation, WWF-Canada. As an environmental lawyer, she has over twenty years of experience in the private, government, intergovernmental, nongovernmental and philanthropic sectors.

## **Ralph Pentland, Canadian Water Issues Council and Ralbet Enterprises Inc.**

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## **Robert Sandford, United Nations International "Water for Life" Decade**

Bob is the EPCOR Chair of the Canadian Partnership Initiative in support of the United Nations Water for Life Decade, a national partnership initiative that aims to advance long-term water quality and availability issues in response to climate change. Bob sits on the Advisory Committee for the Rosenberg International Forum on Water Policy.

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