

“EMERGING ISSUES IN WATER GOVERNANCE AND LEGISLATION IN THE CANADIAN PROVINCES AND TERRITORIES”

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Abstract

In Canada, provincial governments have been largely responsible for legislation on water-related issues. Since the 1990s – and increasingly since the Walkerton water quality tragedy in 2000 – water regulation has been pursued with new vigour in many Canadian jurisdictions. While drinking water has drawn considerable attention, other water issues have also proved controversial. This paper focuses on three areas for which provinces and territories are responsible, providing a comparative examination of the associated relevant legislative and regulatory mechanisms across Canada’s 10 provinces and 3 territories. These include watershed management, drinking water protection, and source water protection in the context of integrated water resources management.

Introduction

Since the Walkerton and North Battleford Inquiries, significant attention has been directed to water governance in Canada. The focus on these tragedies as catalysts for change is somewhat misleading as water governance was already receiving heightened attention in myriads of ways across the country. Just a few examples include Quebec’s Water Policy initiated out of a 1998 conference, Alberta’s Water for Life approach to sustainable water management which emerged in 2001, and local efforts in Vancouver, British Columbia beginning in 1989 to plan a long-term water quality and quantity strategy for the Greater Vancouver Regional District. Since Walkerton, greater attention has been paid to drinking water and there is perhaps increased acceptance of the importance of the multi-barrier approach. Yet a theme of this paper is the high degree of inter-provincial variation between standards, norms, and laws that remains¹. Indeed, one of the only points on which legislation in most provinces and territories is broadly similar pertains to legislation prohibiting bulk water exports and out-of-province diversions.

The analysis presented in this paper is preliminary, and is based on ongoing work. The empirical material is drawn from an extensive, ongoing survey of provincial and territorial water legislation and policy, which has been gathered primarily from secondary sources, and complemented by email correspondence

** Substantial sections of this paper have been included in revised form as an appendix to K Bakker., ed., *Eau Canada - the Future of Canada's Water*. Vancouver: UBC Press. Forthcoming.

¹ There is greater similarity in the three territories where the federal government is directly responsible for more aspects of water resources.

with government officials. The focus of the analysis is on emerging issues pertaining to consumptive uses of water across Canada.

Provinces play an important and constitutionally-specified role in creating water legislation and policies relevant to water supply (e.g. potability) and resource management (e.g. environmental protection and licensing) and governance (e.g. accountability). Thus, in Canada, most water related activities are the responsibility of provincial and territorial governments. Federal lands, boundary and transboundary waters, and inland fisheries are exceptions and fall within federal jurisdiction.² Accordingly, this analysis focuses on water governance at the provincial/territorial level.

Of course, the high degree of inter-provincial variation between standards, norms and laws complicates analyses of water governance in Canada. Nonetheless, some generalizations can be made about issues which are the focus of policy attention across Canadian jurisdictions: improving integrated water resources management, particularly focused on source water protection; and strengthening regulatory frameworks. In addition, provincial and territorial governments are clearly making efforts to improve transparency³.

Watershed Management and Jurisdictional Fragmentation

Several provinces have identified jurisdictional fragmentation as an issue requiring attention and resolution. In a recent report to the Ministry of Environment of Ontario on watershed protection, multiple levels of fragmentation were cited. At the municipal level, legislative and jurisdictional reviews conducted in three municipalities found gaps in municipal authority that would hinder their ability ‘to address threats to vulnerable drinking water sources in existing built-up areas and from existing activities’ (Bellechamber et al., 2004: xiv). Gaps were also found between the provincial and federal levels, for example, water on First Nations Reservations. Accordingly, Justice O’Connor recommended working toward intergovernmental coordination, particularly with representatives of Fisheries and Oceans Canada, Environment Canada, Indian and Northern Affairs Canada, and Agriculture and Agri-Food Canada, ‘in an area where constitutional jurisdiction is not always clear’ (ibid: 15).

² It should be noted that Federal responsibility for First Nations reserves is complex and not well-defined with no federal legislation governing drinking water protection on First Nations lands. In a response to a request from the Walkerton Inquiry, the federal government defined the responsibility for drinking water on reserves as “shared among First Nation Band Councils, Health Canada, and Indian and Northern Affairs Canada (INAC).” See Walkerton Inquiry Chapter 15, Part 2, page 5.

³ Other emerging trends certainly exist, but are beyond the scope of this paper.

Such issues have been noted in British Columbia as well. The overall conclusion from the BC Auditor General's report on protecting drinking water sources was that 'the Province was not adequately protecting drinking-water sources from human-related impacts'. The key reasoning given was a 'lack of an effective, integrated approach to land-use management' with specific recommendations being made in relation to the Forest Practices Code, Water Users' Communities and agriculture (BC Auditor General, 2003: 133).

Such conflicts between the goals of watershed protection and the management and exploitation of other natural resources like forests is often addressed either by avoiding legislation that codifies particular prioritizations or by stating particular priorities within the legislation itself. In Quebec, for example, the Protection Policy for Lakeshores, Riverbanks, Littoral Zones & Floodplains under the Environmental Quality Act encourages communities to submit management plans for the listed locales. Yet, it is stipulated within the policy that the Forest Act takes precedence over such plans and that plans under the Forest Act need not be cleared with municipalities.

Still, the majority of jurisdictions do not currently engage in comprehensive watershed regulation governing entire watersheds. Only Nova Scotia and New Brunswick regulate specific activities in entire watersheds. For example, Nova Scotia has 11 protected watersheds and prohibits activities such as fishing and manure stockpiling in some cases. In New Brunswick, watershed areas related to municipal water supplies are divided into three zones (A, B, and C) with varying levels of protection. Mineral exploration may continue where it can be demonstrated to have no harmful impact. In both provinces, some degree of forestry activity may continue. Saskatchewan is moving toward a commitment of protecting 12% of its lands and waters. In that case, both mineral development and commercial forestry are prohibited. Other provinces like Newfoundland and Labrador and Prince Edward Island restrict activities in portions of watersheds (buffer zones).

Most other jurisdictions adopt a discretionary approach whereby the Minister may require a watershed management plan, which may differ from watershed to watershed. In the absence of provincial legislation, Vancouver began buying up the land in its watershed in order to protect it from forestry operations as early as 1905 and has since fully protected its watersheds through a combination of provincial legislation and leasing, as well as land purchase. A problem with developing and implementing comprehensive legislation may be the devolution of power that can come with watershed based resource management. In Ontario, where the comprehensive management plans for watersheds required under the

Clean Water Act are to be administered by conservation authorities, some are concerned that the conservation authorities will become among the most powerful entities in the province.

Federal legislation attempts to redress some of the jurisdictional fragmentation related to watershed management, particularly with respect to interjurisdictional waters. Under the Canada Water Act, the government reserves the right to establish interjurisdictional committees and boards to oversee and/or manage federal and interjurisdictional waters. Examples include: the Canada Ontario Agreement on the Great Lakes (COA) with signatories from eight federal departments and agencies and three provincial ministries; the McKenzie River Basin Board with representatives from the federal government, British Columbia, Alberta, Saskatchewan, the Northwest Territories and Yukon; the Northern Ecosystem Initiative (NEI); and the Prairie Provinces Water Board among others⁴.

Generally speaking, inter-jurisdictional boards and agreements address issues related to water allotment and quality. Regulations regarding specific activities in or around the basins such as water taking, forestry, mining, and agriculture, remain the separate mandates of the individual jurisdictions involved. Cooperative mechanisms tend to be results-based and often focus more on research, monitoring and data collection rather than regulation per se.

Legislating Drinking Water Protection

Drinking water protection legislation offers another excellent illustration of the differentiation of water management approaches between Canadian jurisdictions. Notwithstanding the provincial regulatory responsibility for safe drinking water, we recognize that municipalities generally retain the responsibility for the implementation of provincial drinking water policies. Our analysis, however, is concerned with the legislative frameworks and directives to which those responsible for water resources – be it municipal supply, source protection, etcetera – are subject.

Requirements with respect to monitoring of water contaminants differ vastly from province to province. Alberta was the first province to adopt the Canadian Drinking Water Standards in 1972 by making these binding in its Municipal Plant Regulation by 1978. Quebec first introduced binding standards at the provincial level with 42 parameters for testing in 1984. Since then, Quebec has increased the number of standards required for monitoring, and some of its standards go beyond those of the Canadian Guidelines. Alberta also exceeds the Canadian Guideline for turbidity. Conversely, in New Brunswick, the Minister

⁴ For further examples and detail, see (Environment Canada, 2002)

has discretion over the sampling plan and there are no set requirements for numbers or types of contaminants. British Columbia requires the monitoring of bacteriological contaminants only, and leaves additional contaminants to the discretion of the Drinking Water Officer. In sharp contrast, Ontario has drinking water quality standards for 161 parameters, and requires monitoring for 57 organics, 13 inorganics and 3 microbiological contaminants.⁵ Exhibiting another type of difference, Newfoundland is the only province in Canada where all water quality monitoring is performed by the province.⁶

Is this variation in standards a good thing? Some experts argue that variation in standards is appropriate. Other experts argue, however, that flexibility in regulation may lead to laxity in monitoring and enforcement, both of which are important aspects of the multi-barrier approach. This variation in standards might arise because water issues vary between regions. Another reason might be the degree of authority officials have to establish standards or requirements on an “as-needed” basis and the types of expertise used to manage different water issues. For example, in Newfoundland and Labrador responsibilities are apportioned according to appropriate expertise. That is, health aspects are addressed by health experts, construction aspects are the purview of engineers, and hydrological and environmental aspects are overseen by hydrologists and water resources engineers. Similarly, in British Columbia the *Drinking Water Protection Act* is administered by the Ministry of Health (through Regional Health Authorities), while the Ministry of Environment plays a supporting role in source water protection.

Provincial responsibility for water, particularly drinking water and water rights, is reasonable from the viewpoint of subsidiarity. The further devolution of drinking water management to the local level can work well, if supported by a well-designed and overarching coordinating mechanism and if local purveyors have sufficient resources to invest. In the case of drinking water, the Federal-Provincial-Territorial Committee on Drinking Water (CDW) plays an important element in coordination by establishing the Guidelines for Canadian Drinking Water Quality. Coordination in an environment of devolved responsibility can, however, be time-consuming and relatively slow. For example, the Commissioner for Environment and Sustainable Development noted in her 2005 review of the Committee’s work that a “significant backlog” existed (of approximately 10-years) in updating the Guidelines, despite Health Canada’s recommendation that a guideline should take two to three years to develop or review. The Commissioner found that many known contaminants are not even listed, because of the long times taken to update the guidelines.

⁵ The 3 microbiological requirements are to be reduced to 2. Note that there are 78 radiological standards, but no monitoring is required for them.

⁶ While participating in the provincial program, St. John’s uses its own staff rather than that of the province to do its testing and monitoring.

Disinfection and filtration are vital aspects of the multi-barrier approach to drinking water protection. A policy on disinfection and filtration of drinking water is currently being developed in New Brunswick. Filtration that filters out harmful contaminants and micro-organisms, is required in most cases in Ontario, Alberta, Saskatchewan, Nova Scotia, and Quebec and unnecessary in Prince Edward Island. Disinfection is not required in PEI because all the drinking water in that province is groundwater; groundwater sources generally do not require filtration. This provides an interesting example of the benefits of fragmentation; the needs of each province can be very different. The remaining provinces and territories do not have filtration requirements. The United States Safe Drinking Water Act, by contrast, required the filtration of surface waters with few exceptions since 1989.⁷ After the Walkerton water tragedy, operator certification was required in most provinces but it still remains optional in Newfoundland and Labrador as well as in the Northwest Territories. It is worth noting that since Walkerton, the province of Newfoundland and Labrador has significantly increased its number of certified operators by providing training rather than focusing on examinations.⁸ It is also worth noting that even though provinces require certification it takes time to implement regulations.⁹

The Guidelines for Canadian Drinking Water Quality are developed by consensus via the Federal/Provincial/Territorial Committee on Drinking Water (Mouldey 1994). The Guidelines are neither binding nor enforceable. Provinces can elect to make these guidelines binding within their jurisdictions should they adopt the guidelines as part of broader legislative frameworks or license and approval agreements. Yet only Nova Scotia¹⁰ and Alberta have fully adopted them.¹¹ In this case, we do not observe harmonization where one might reasonably expect to see it. On the other hand, this lack of interprovincial harmonization on guidelines may reflect the compromises requisite to establish uniform guidelines on such a geographically diverse resource as water.

Source Protection and Provincial Examples of Integrated Water Resources Management

Source protection is an aspect of the multi-barrier approach to drinking water that is receiving increasing attention of provincial and territorial governments. Source protection is an example of an integrated water resources management approach. Such approaches involve coordination with respect to the “development

⁷In the US, filtration was required for most surface water sources under the Surface Water Treatment Rule. Provisions for this rule existed in the 1986 amendments to the SDWA but the Rule did not get promulgated until 1989.

⁸ We thank the Newfoundland Department of Environment for providing this helpful information.

⁹ See Osborne 2005, page 19.

¹⁰ Nova Scotia adopted the Canadian Guidelines for Drinking Water Quality in 2000 in its Water and Wastewater Facility Regulations.

¹¹ Alberta requires that all health-based parameters of the Guidelines be met. It allows exceedances for naturally occurring fluoride and its standards exceed the turbidity standards set out in the Guidelines. See Table 2 above.

and management of water, land, and related resources” as a means of maximizing potential economic and social benefits, “[...]without compromising the sustainability of vital ecosystems.”¹² Indeed, it is gaining international momentum with the 2006 World Water Forum including “Implementing Integrated Water Resources Management” among its key themes.

In addition to watershed-based source protection efforts, other initiatives demonstrate some commitment on the part of provinces to an integrated water resources management strategy. In particular, Manitoba’s recent move to create a Ministry of Water Stewardship is innovative. Provinces and the federal government have designated and continue to designate resource-specific ministries such as ministries of forests, land, agriculture, energy, and fisheries but there has never been a stand-alone ministry of water in the country. This is perhaps due to the multi-use character of water. With its extensive scope, the Ministry offers an example of what integration might look like and how a ministry might play this role in its inclusion of all relevant water legislation as ministry responsibilities on its website. It is responsible for the administration of twenty-three water related acts, ranging from conservation, to fisheries, public health, power and others.

While often a myriad of provincial departments within provinces are involved in water policy, it is important to highlight the steps that provinces have taken towards integration. For example, in Ontario and British Columbia, a whole section of the Environment Ministry has been devoted to water. The Saskatchewan Watershed Authority is a Crown corporation reporting to the Minister of the Environment, and is the result of merging the existing watershed management responsibilities of SaskWater, Saskatchewan Environment, and the Saskatchewan Wetland Conservation Authority in order to better coordinate source protection province-wide.

Several provinces provide some coordinating functions among the departments involved in drinking water. For example, Newfoundland and Labrador has four departments involved in drinking water. Coordination occurs through a committee of Deputy Ministers and a technical working group. Saskatchewan also has a Steering Committee for the Safe Drinking Water Strategy composed of deputy ministers. Nova Scotia, too, designated the Department of the Environment and Labour as the lead government agency for water. A committee of senior managers involved with water issues meets on a regular basis with the department of the Environment acting as the coordinating department. Moreover, implementation of Quebec’s Water Policy involves an Interdepartmental Committee, which is

¹² Global Water Partnership Technical Advisory Committee, *TEC Background Paper No. 4: Integrated Water Resources Management* (Stockholm: Global Water Partnership, 2000), p. 22.

comprehensive in scope including twelve ministries from sustainable development to education, sport and leisure as well as the Société immobilière du Québec.¹³

Conclusion

Water governance in Canada's provinces and territories is increasingly characterized by efforts to adopt approaches for integrated water resources management including recent source protection initiatives. Nonetheless, jurisdictional fragmentation continues to be a key pattern that persists both in emerging regulatory efforts such as IWRM as well as in areas undergoing significant change such as drinking water legislation. Water governance is a multi-faceted and complex issue involving many actors. As such, this review touches on a few of the more prominent issues. Subsequent research will address issues such as water exports and diversions, initiatives to transition from a supply to a demand side approach, monitoring and enforcement. A large-scale, publicly accessible database is in progress and will be available on the project website in the future (www.geog.ubc.ca/~bakker).

Bibliography

Baril P, Y Maranda and J. Baudrand. (2005). "Integrated Watershed Management in Quebec - a Participatory Approach Centred on Local Solidarity" Abstract for the International Meeting on the Implementation of the European Water Framework Directive - EURO INBO 2005. International Network of Basin Organizations.

BC Auditor General. (2003). *Report 8: Follow-up of Performance Reports*. Office of the Auditor General of British Columbia, Victoria, BC.

BC Ministry of Health Planning. (2002). *Action Plan for Safe Drinking Water in British Columbia*, Victoria, BC.

Bellchamber, N., Andrew, J., & Implementation Committee. (2004). *Watershed Based Source Protection: Implementation Committee Report to the Minister of the Environment* (Ministry of Environment No. PIBs 4938e), Toronto, ON.

Commissioner of the Environment and Sustainable Development. 2005. *Report of the Commissioner of the Environment and Sustainable Development to the House of Commons - Chapter 4 - Safety of Drinking Water - Federal Responsibilities*. Canada: Minister of Public Works and Government Services. Office of the Auditor General of Canada.

De Loe Rob and Reid Kreutzwiser. (Forthcoming). "Chapter 1 - Challenging the status quo: The evolution of water governance in Canada" in K. Bakker, ed., *Eau Canada: the Future of Canada's Water*. Vancouver: UBC Press. Forthcoming..

¹³ Ministère de Développement durable, Environnement et Parcs. 2005. *Bilan Annuel 2003-2004 - Mise En Oeuvre de la Politique Nationale de l'eau du Gouvernement du Québec*. Avril.

Environment Canada Freshwater Website: http://www.ec.gc.ca/water/e_main.html (Last Accessed March 3, 2006)

Environment Canada. (2004). *Case Study - Edmundston, New Brunswick - Management of Water*. Accessed at http://www.ec.gc.ca/water/en/manage/qual/case/e_edmund.htm

Environment Canada. (2002). *The Canada Water Act Annual Report 2001-2002*, Ottawa, ON.
Environnement Quebec. 2002. *Politique Nationale de l'eau*. Quebec.

Environnement Quebec. 2003. *Bilan de la qualite de l'eau potable au Quebec Janvier 1995 – Juin 2002*. Quebec.

Federal-Provincial-Territorial Committee on Drinking Water of the Federal-Provincial-Territorial Committee on Health and the Environment. 2004. *Summary of Guidelines for Canadian Drinking Water Quality*. April.

Global Water Partnership Technical Advisory Committee, *TEC Background Paper No. 4: Integrated Water Resources Management* (Stockholm: Global Water Partnership, 2000)

Health Canada. 2002. *From Source to Tap: The multi-barrier approach to Safe Drinking Water*. Federal-Provincial-Territorial Committee on Drinking Water of the Federal-Provincial-Territorial Committee on Environmental and Occupational Health. May 16.

Lindgren Richard D. 2005. "Tapwater on Trial: Overview of Ontario's Drinking Water Regime" Prepared for Third Annual Conference on Water and Wastewater in Ontario. May.

Ministere de Developpement durable, Environnement et Parcs. 2005. *Bilan Annuel 2003-2004 - Mise En Oeuvre de la Politique Nationale de l'eau du Gouvernement du Quebec*. Avril.

Mouldey, Sarah Elizabeth. 1994. *Managing for Safe Drinking Water: A Review of Drinking Water Management in Alberta with Specific Reference to Calgary*. MA Thesis. University of Calgary.

Osborne Bryan. 2005. "Saskatchewan Provincial Case Study Analysis of Water Strategies for the Prairie Watershed Region" Working Draft for Comment presented to the Prairie Water Policy Symposium. International Institute for Sustainable Development. September.

Ontario Ministry of Environment. 2005. *Progress Report on Ontario's Municipal Residential Drinking Water Systems 2003-2004 Results and Interim Results for 2004-2005*. Chief Drinking Water Inspector. May 31.

Ontario Ministry of Environment. 2004. *White Paper on Watershed-Based Source Protection Planning*. Ontario.

Ontario Ministry of Environment. 2003. *Advisory Committee on Watershed-Based Source Protection Planning: Protecting Ontario's Drinking Water: Toward a Watershed-Based Source Protection Planning Framework, Final Report*. Ontario. April.

Pollution Probe. (2004). *Source Water Protection Primer*. May.

Sierra Legal Defense Fund. 2001. *Waterproof – Canada's Drinking Water Report Card*. Prepared by Randy Christensen and Ben Parlin

Timmer Darren (2003). "Source Protection in the Annapolis Valley, Nova Scotia: Local Capacity in a Watershed Context" MA Thesis. University of Guelph.

Walkerton Commission of Inquiry. 2002. "Chapter 13: Legislative, Regulatory and Policy Framework." Toronto: Publications Ontario

Walkerton Commission of Inquiry. 2002. "Chapter 15, Part 2: First Nations and Drinking Water" Toronto: Publications Ontario.