

Wet vs Dry: Theorizing a Multilevel Water Framework for Canadian Communities

Jen Nelles

PhD candidate
Political Science, University of Toronto
1 Devonshire Place
Toronto ON M5S 3K7
jen.nelles@utoronto.ca

Working Paper

Paper presented to the Annual Meeting of the Canadian Political Science Association
University of British Columbia, Vancouver, B.C.
June 6, 2008

Merging Streams and Building Storms

What could be simpler than water? It is a fundamental building block of life and a daily necessity to every living being. As a substance it is, quite literally, clear, uncomplicated, basic and seemingly limitless. However, as a resource nothing rivals its complexity. The very fact that it is essential to so many and the sheer variety of ways it impacts, almost unremarked, our daily lives accounts for this intricacy.

At its most basic water is elemental, but it can be conceptualized in myriad dimensions depending on ones frame of reference. For instance, water is fundamental to life, not only to the degree that it must be consumed by living organisms but can also be seen as a habitat. These habitats form part of a complex chain of ecosystems that form the organs of the planet and the engines that comprise and regulate our environments. Water geography plays an important role in shaping social histories and constructing national imaginaries (see Biro, 2007). More concretely, as a consumable resource water is mobile - it can be appropriated, diverted, removed and is therefore an important factor to the economy. In this capacity it can be seen a commodity that can be bought or sold, exported or stored. Water is also convertible – it can be harnessed to create energy, but is also a primary or intermediary input into all industries from agriculture to manufacturing¹. Navigable waters support commerce and provide recreational space. To citizens and governments water is a service to be delivered that requires monitoring and infrastructure, and as a consequence, public expenditure. As a biophysical necessity it has a public good dimension and is therefore tied to fundamental socio-political questions of equity and rights at both national and international scales.

Each of these diverse functions underpins a set of (often competing) interests which must be negotiated, mediated, and governed across a patchwork of political and social jurisdictions. This fragmentation and yet interrelatedness of function, combined with issues of jurisdiction renders water management extremely problematic. Not only is water *valuable* to a wide variety of interests, the actions of these interests can often have far reaching consequences and impact on many others. It is therefore vital for public policy and legal regimes to get governing frameworks right. This is even more critical as mounting evidence indicates that water supplies, often perceived to be relatively abundant in Canada, are on the verge of crisis (Sprague, 2007; Lemmen *et al.* 2008; Morris *et al.*, 2007). Many of these same studies highlight the inadequacy of current regulatory and management structures to address the spectrum of projected stresses on Canadian hydrological systems (see also Brandes *et al.*, 2007).

In the Canadian context government policy on water is both decentralized and fractured within and across the federal structure. In its various guises water crosses constitutional, territorial and bureaucratic boundaries. Furthermore this is complicated by the fact that many Canadian water systems straddle the US border. Constitutionally, jurisdiction over water is divided between provincial and territorial governments, through the provisions of s.91 (navigation and shipping, fisheries, trade and commerce, taxation, First Nations, and criminal law) and s.92, s.109 (natural resources). Ironically it is particularly in this area that these constitutional compartments have proven far from 'watertight'. In part due to these constitutional divisions and partly due to functional imperatives water management is also scattered across bureaucratic departments.

¹ This is also known as 'embedded' or 'virtual' water (Horbulyk, 2007).

Different ministries at different levels control highly interlinked policy areas² and policies can differ significantly between provinces. Although not officially actors in Canadian federalism, both local and First Nations governments also have interests and key functions in managing water. Both of these groups of actors have typically been underrepresented in policy-making processes. This despite the fact that it is at the local and regional level that water quantity and quality stresses are likely to be most acute in the form of shortages, source quality, and ancillary environmental problems.

In this fragmented institutional context a key challenge will be to establish water policies that are effective, visionary, feasible, and that include and balance a complex constellation of interests. This paper takes up this challenge and attempts to theorize a governance framework for Canadian water management. Critically, it contests the assertion, championed by a variety of recent reports, that the federal government should intensify its role in water management (see particularly Morris *et al.*, 2007). While a federal role is both important and unavoidable any policy framework must recognize the importance of regional flexibility and incorporate local actors – particularly local governments – as legitimate stakeholders in the policy process. This may involve re-conceptualizing and expanding political space beyond the traditional binary lens of Canadian federalism. The paper adapts the concepts of multilevel governance developed within the European context to the issue of water governance in Canada. This model provides a conceptual frame which allows for both flexibility and coordination between governments as well as the incorporation of other relevant actors. This approach, properly implemented, may enable Canada to avoid past mistakes in resource management (particularly in times of crisis) as well as mitigate constitutional tensions.

This paper explores the dynamics of governance frameworks from an institutional perspective. As such it makes no attempt to evaluate the effectiveness or feasibility of specific *policies* (for instance in such areas as water pricing, markets, bulk exports or quality etc.), these are to be determined and negotiated within broader institutional structures. The central question is how to conceive a system of flexible water governance that both operates within the current bounds of Canadian federalism (while respecting international agreements) and enables local actors to participate meaningfully in policy-making. The first section highlights the pressures that the combination of climate change, natural cycles and the legacy of current water policy have had on Canadian hydrological systems and the communities that depend upon them. In addition to justifying a call to action, it demonstrates the degree of regional variation in impacts that must be recognized in establishing national directions on water policy. The second section documents the current institutional governance of water in Canada. Not only does this patchwork of legislation and jurisdiction highlight the fragmentation of the current policy environment, but it also shows how little input local governments and authorities have had into policy areas that profoundly affect them. The final section introduces the concept of multilevel governance as a potential solution to coordinating the environmental governance of water. It builds on the theoretical literature related to governance and the structuring multilevel environmental regimes and adapts them to the Canadian context. Ultimately, the issue of water management is destined to increase in importance on political agendas globally. Whether the policy response will involve reacting to national crisis or managing

² For instance, the federal government has responsibility for First Nations reserves and guarantees access to water within these territories, however in practice provincial departments regulate water rights and markets.

change will depend largely on the quality of institutional mechanisms established to govern this scarce resource. A wide debate about governance alternatives now may help get these structures right to ease the transition between Canada as a water rich to a water *smart* nation.

At Water's Edge: The Mounting Pressure on Canadian Communities

“It is entirely likely [...] that water will, from time to time, and place to place, be seen as relatively scarce or relatively abundant” (Horbulyk, 2007).

The above quote is infuriatingly imprecise but reflects the issue at the heart of water governance in Canada. In all likelihood Canada will remain a relatively ‘wet’ country regardless of global environmental trends (Sprague, 2007). However, the impacts of climate change and its effect on water abundance will vary significantly from place to place and from one time period to another. This underscores the need for political management that is sensitive to regional differences and that ensures that ‘wet’ regions are not disadvantaged by lowest common denominator policies. The section explores these mounting environmental pressures, with a particular focus on the impact of water issues on local jurisdictions.

Canada is widely perceived to be a nation with a great abundance of water; at the high end some figures indicate that Canada has 40% of the world’s fresh water (Mitchell, 2000) while others contend that fresh water supplies are closer to 20% (Kirschner, 1999). Sprague (2007) argues that these figures grossly overestimate Canadian water stores. At the heart of this overestimation is a misconception about what should be counted in estimates of national water supplies. There is a fundamental distinction between standing fresh water supplies and renewable water. Renewable water is defined as “the salt-free water that is fully replaced in any given year through rain and snow that falls on continents and islands and that flows through rivers and streams to the sea” (WRI, 2003). Measuring water abundance in terms of renewable supply is critical as it gauges the flow of fresh water through a nation’s ecological system and hence the amount of water that can potentially be used and replaced over the long term³. So while the base amount of water in Canadian lakes and rivers represents 20% of the world’s base water *renewable* stocks are closer to 7% of the world’s water supply (Environment Canada, 2008). Measured in terms of renewable supply Canada is third in the global rankings, behind Russia and Brazil.

This ranking is still relatively impressive, although Sprague (2007) argues that it is important to consider what proportion of this water supply is feasibly accessible to the Canadian population. Canada is a vast and geographically diverse country, however over 85% lives in the southern latitudes with the highest concentrations located within 300km of the US border. This distribution of population and industrial/agricultural activity is significant in light of statistics that indicate that close to 60% of the renewable supply flows *north* to arctic and sub-arctic regions (Environment Canada, 2008). Taken together

³ Sprague (2007) uses a financial analogue to elaborate this difference. Water sitting in lakes and rivers in this example is akin to capital – it can be consumed only once and is thenceforth unavailable. The rivers flowing out of these lakes represent the interest and dividends that can be consumed but reappear in the next ‘cycle’.

these factors indicate that only a little over a third of Canada's renewable supply, 2.6% of world supply, is practically accessible (Sprague, 2007). This has significant implications for both domestic and international water management⁴. Policies cannot be shaped by perceptions of water abundance, but rather need to be based on accurate data regarding regional renewable water supply and water use and withdrawal patterns.

Patterns of supply, use, environmental factors, and therefore stresses on the water systems and supply, vary significantly from region to region. Unfortunately, all Canadian regions are projected to experience reductions in water availability over the long term (Lemmen *et al.*, 2008). Already there are warnings that water supplies are reaching a crisis point:

We predict that in the near future climate warming, via its effects on glaciers, snowpacks, and evaporation, will combine with cyclic drought and rapidly increasing human activity [...] to cause a crisis in water quantity and quality with far-reaching implications (Schindler and Donahue, 2006: 1).

While there are certainly national trends regional variations are significant with much of the variation in supply can be attributed to a combination of cyclical effects and climate change. The specific way such factors affect regional watersheds is tied to a variety of regional characteristics including the source of the water supply, base flow and recession trends and water use patterns⁵.

A brief survey of long-term water issues stemming from environmental characteristics belies the wide variety of regionally specific pressures on supply. For instance, western Canadian water systems are governed in largely by snowmelt and glacier runoff. Here climate change has the potential to affect the seasonal and long-term storage capacity of alpine areas (Lemmen *et al.*, 2008). This results in a larger degree of variability in spring runoffs and summer river flows. A study of historical stream flow data indicates that western basins have entered period in which flows will decline over the long term and exacerbate water shortages (Demuth *et al.*, 2002). The Great Lakes basin is fed primarily by precipitation and spring snowmelt runoffs leaving it increasingly vulnerable to shifting weather patterns, and already water levels in the Great Lakes are falling. This combined with a projected increase in winter precipitation and decrease in summer stream flows will contribute to an exacerbation of seasonal fluctuations in water supply (Lemmen *et al.*, 2008). The eastern provinces face a different set of water concerns based on their maritime geography. In this region reduced summer stream flows combine with issues such as saline intrusion into coastal aquifers have wide ranging impacts on availability of potable water and the potential for regional conflict

⁴ For instance, the myth of Canada's water abundance may be a factor in pressuring international transfer or sale of water to 'dry' areas. One of the largest potential recipients of Canadian water transfers is thought to be the United States. However, statistically the total US water supply is more than double that available to the populated areas of Canada (Sprague, 2007). On a broader scale debates have surfaced over the issue of access to water as a 'right' to which 'wet' countries may be obligated to guarantee to drier areas (Morgan, 2004; Matthews *et al.*, 2007). This is an issue of both human rights and international diplomacy that is likely to increase in importance as the impacts of climate change become more acute.

⁵ Agricultural regions will draw more heavily on water supplies in times of drought to mitigate the reduction of natural irrigation in the form of rainfall.

(Cohen and Miller, 2001). Meanwhile, Prince Edward Island relies entirely on groundwater supplies (along with 90% of the rural population of Ontario, Saskatchewan and Manitoba), which can be extremely vulnerable to climate change.

Regional environmental and climactic factors must be combined with settlement and industrial trends to establish the long-term vulnerability of these watersheds. For instance, population densities contribute to localized strains on water sources. Similarly, variation in industry concentration and type also accounts for different impacts on water supplies as a result of differing virtual water efficiencies. While the thermal power sector (which includes nuclear power) accounts for 63% of total water withdrawals in Canada but only consumes a small proportion of that intake. The rest is returned to the system or recirculated internally. By contrast, agriculture accounts for only 9% of withdrawals but returns only a tiny proportion to the source. Agricultural withdrawals also tend to be highest where supplies are lowest (Environment Canada, 2008). Comparative data regarding regional supply and use balances is very difficult to obtain, but this is indicative of a troubling data deficit that will ultimately impact the effectiveness and formulation of regional policies.

The effects of climate change and other factors affecting water supply have been felt most acutely by the population living and working in Canadian cities and communities. Municipalities are the third largest consumers of water (by classification) behind thermal power and extractive industries and account for 11% of Canadian abstraction (Environment Canada, 2008). Between 1994 and 1999 26% of Canadian municipalities reported water shortages due to drought, infrastructure issues or as a result of the impact of increased consumption (Environment Canada, 2008). Municipalities and rural communities will experience different levels of strain depending on the source of their water supplies. For instance, communities reliant on groundwater have experienced more frequent water shortages than those with surface water sources (NWRI, 2003). As a result, even within the same political jurisdiction or planning region stresses on water supply may vary depending on source levels⁶.

While source level variation due to climate change and cyclical environmental patterns affect water supplies available to sustain communities, municipalities themselves have significant impacts on watersheds. Urban development patterns, industrial type and distribution, as well as water demand, pricing and treatment all contribute to localized and regional impacts on water supplies. The specific localized and long-term effects of urban regions on watersheds are numerous and include impacts on atmospheric phase (local micro-climactic changes), land phase (due to the effect of runoff in terms of erosion, soil quality, etc.), volume fluctuations due to withdrawal patterns (with attendant impacts on habitats as well as volumes), and source quality issues related to urban discharges (see NWRI, 2003 for a detailed list of impacts).

As the principle service provider in terms of delivering, treating and transporting drinking water and sewage municipal governments are on the front lines of water quality and quantity issues. The decisions that these governments make regarding sources, conservation, pricing, servicing, management and governance of water – not to mention

⁶ An excellent example of this is that in the summers the community of Milton, reliant on groundwater for municipal water supply, has been forced to enact bylaws to limit water use (specifically with restrictions on lawn watering). The neighboring municipality of Hamilton draws its water from Lake Ontario and has therefore not been as vulnerable to seasonal supply fluctuations.

ancillary issues such as planning and development – affect not only their citizens but can extend well beyond political boundaries. As such municipalities should not only be a principal focus of water policies, but are clearly important actors in providing local intelligence and perspective to broader policy processes.

Leaky Compartments, Porous Boundaries and Slippery Scales: Canadian Federalism and Water Governance

Water systems do not respect jurisdictional and territorial boundaries, which tends to complicate its stewardship and management. The issue of water governance is even further diluted by the institutional context that defines Canadian federalism. The Constitution (BNA 1867), which divides jurisdictional responsibilities between federal and provincial governments was adopted when “‘the environment’ was not perceived as coherent subject for the legislators attention [...] the jurisdiction of federal and provincial governments for the protection and enhancement of environmental quality is not explicitly addressed” (Rankin, 1993: 53)⁷. As a consequence the issue of water governance falls under several different political jurisdictions depending on functional considerations. However the limits of these jurisdictions, and which should hold precedence, is often far from clear. In practice the provinces tend to have primacy in areas of natural resources governance (Hessing *et al.*, 2005). In the case of water issues this has led to what is often described as a “patchwork” of policies some of which vary significantly from province to province (Nowlan and Bakker, 2007; Morris *et al.*, 2007; see also Hill *et al.*, 2007).

In addition to these institutional complications the trans-national, multi-scalar and public good dimensions of water have rendered its governance unique in the realm of natural resources. As an ‘untraded’ and relatively abundant resource the long term management of water remained underdeveloped relative to the other natural commodities upon which the Canadian economy was built. Because of its function as an industrial input and public good many policies were devolved in practice to the local level resulting in both a scalar expansion of water governance and a regional fragmentation of policy approaches. As a trans-boundary resource water is also subject to trans-national management regimes in the form of bilateral treaties. Furthermore, water issues are also subject to international agreements – particularly on trade – adding another layer to the already stratified political context. The net result is that water falls under a constellation of different jurisdictions and a wide variety of bureaucratic departments. Above all this situation is characterized by fragmentation exacerbated by a lack of leadership and of an effective coordinating framework. This policy context is potentially unsustainable as domestic and international pressures mount and water literally rises on the political agenda (Muldoon and McClenaghan, 2007). Critically, current structures leave very little room for those actors most consistently engaged in water governance and affected by water issues – namely local governments – to participate in the policy process. This

⁷ Although the 1982 repatriation of the Constitution and the creation of the Constitution Act (1982) did result in some minor shifts in institutional context - specifically the addition of s.92a to address natural resource jurisdictional issues that had appeared since Confederation – these changes had little effect on the circumstances of water governance.

section elaborates the Canadian institutional context with respect to water governance and highlights critical tensions and gaps.

Both federal and provincial governments have shared constitutional power over water, powers are described in s.91 and s.92, s.109 of the constitution. The issue of water governance spans several different areas of both federal and provincial jurisdiction. The federal government has explicit constitutional authority over navigation, oceans, fisheries, federal lands and waters (including national parks and military bases), and First Nations lands and waters. However, from a jurisdictional perspective the federal has powers related to water in the areas of trade and commerce, international diplomacy, taxation, and criminal law. Constitutionally, provincial governments have power over the natural resources within their boundaries. They are also charged with licensing, environmental protection and ensuring safe drinking water of provincial supplies (excluding transboundary waters). Historically, in balancing federal and provincial interests in water management constitutional courts have interpreted federal interests relatively narrowly (Hessing *et al.*, 2005). For example, the federal power over fisheries has been circumscribed over time by provincial challenges. Currently, some areas such as ocean fisheries are exclusively federal, others like aquaculture have been ruled provincial, and some, such as recreational fisheries are jointly managed.

Theoretically, the constitution provides for a greater scope for federal involvement in areas of provincial jurisdiction through its general power to legislate using for “peace, order and good government” (POGG). Often overlooked, this first part of s.91 grants the federal government “residual” powers to legislate in any area not enumerated in s.92. However, historically the POGG has been subject to several different judicial interpretations. It has alternatively been applied as an emergency clause that can enable federal intervention in provincial affairs in the cases of emergency, and as a national clause which justifies federal intervention in areas of ‘national concern’

It is this latter doctrine that Saunders and Wenig (2007) identify as potentially significant in areas of environmental governance. Indeed, this doctrine is the cornerstone of many of the arguments advanced by Morris *et. al.* (2007) in support of increased federal involvement in national water governance. In one of many examples their report argues that “the protection of freshwater is of *national concern*. The federal government has the constitutional power to ensure [that Canada has] a national strategy through the residual power of peace, order and good government” (Morris *et. al.*, 2007: 26, emphasis added). While ‘national concern’ can be construed as a constitutional device to empower the federal government to legislate in some areas of provincial jurisdiction the feasibility of this approach remains questionable in all but the narrowest cases. First, federal legislation justified under this clause must pass the test of national concern established in *R v. Crown Zellerbach* (1988). This four part test virtually ensures that federal incursion will be legally acceptable in only very narrow policy fields, thus precluding sweeping legislation for water governance. Furthermore, Saunders and Wenig (2007) point out that historically the federal government has been reluctant to intervene in provincial jurisdiction in the realm of water governance. Typically, except where jurisdictions are clear, governance of natural resources has typically been characterized by loosely coordinated and “provincially-led intergovernmental collaboration” (Hessing *et al.*, 2005: 62). In water governance in particular, while the federal government has not be absent jurisdictional fragmentation has resulted in a cautious relationship on water policy. On

balance there is little indication that this balance is likely to change. Future water governance, however conceived, must be sensitive to this constitutional context.

As a consequence of the constitutional division of powers there is significant variation in provincial approaches to water governance - on any given issue there are differences in provincial rules and regulations. In the area of groundwater licensing, for example, not all provinces or territories even have permitting systems in place. Where these systems exist there are considerable differences in how environmental impact is assessed and in the scope for public participation (see Nowlan, 2007, Nowlan, 2005). This variation is replicated across a range of provincially regulated water issues⁸. Differences in regulations and policy approaches are exacerbated by the trans-boundary nature of water systems. Several river basins span multiple provincial and territorial jurisdictions. In these cases (often lengthy) negotiations have resulted in policy harmonization with respect to the waters in question. Such agreements have met with varying levels of success and highlight how difficult interprovincial/territorial negotiations and conflict resolution can be (Saunders and Wenig, 2007). The long-term consequences of unresolved coordination issues and different regulatory regimes are not entirely clear. This paper argues that, to a certain extent, policy variation is effective and even desirable. However, the fact that in some jurisdictions water is un- or under-regulated with uncertain results, raises questions as to whether some base level of legislation might be appropriate. And, if this is the case, how can or should such measures be feasibly implemented?

The complexity of water governance is not limited to the potential for inter-jurisdictional conflicts or policy variation. Even within the federal and provincial government water issues are not dealt with monolithically. Rather, water issues are governed from a wide array of different ministries and commissions on a functional basis. At the federal level alone currently nineteen departments have some responsibility for water (Bakker, 2007). The issue of low water levels in the Great Lakes/St Lawrence system demonstrates just how many bureaucratic units can potentially be affected by a single hydrological event. Figure 1 illustrates this fragmentation, but even this doesn't quite capture the added dimension of inter-jurisdictional divisions and tensions or international factors. What is quite obvious is that as bureaucratically splintered issue the deceptively simple case of fluctuating water flows is subject to no clear policy coordination or leadership. This does not *preclude* informal coordination from emerging or one ministry or actor from taking leadership and/or developing collaborative solutions. But there are significant institutional barriers to this kind of outcome – particularly as the goals of each of these actors, even those within the same governments, do not necessarily coincide.

[Figure 1 about here]

A further layer of policy complexity emerges from external constraints on Canadian and provincial water governance. As both a natural resource and a trans-boundary issue policy autonomy is limited by a series of international agreements. Two

⁸ Alberta's recent experiments with water markets are an oft cited example of interprovincial policy variation – as well as the potential for policy *innovation* that exists as a consequence of fragmented constitutional jurisdictions.

agreements are particularly influential in Canadian water governance. The North American Free Trade Agreement (NAFTA) has emerged relatively recently as an important institutional constraint as questions of commodification and bulk export have turned the regulation of water into a trade issue. Meanwhile, the bi-lateral Boundary Waters Treaty between Canada and the United States has managed the coordination of shared waters.

Briefly, because NAFTA prevents any country from banning exports it also potentially constrains Canada's ability to ban or restrict *water* exports. Once water is traded under Article 315 of the treaty it cannot be withdrawn from commerce. When combined with Chapter 11 (investor-state dispute settlement) and national treatment clauses, which requires Canadian regulation to treat corporation from signatory nations equally, the implications for water diversion are significant. Taken together these NAFTA provisions open the door for bulk water exports – and particularly for the US to divert Canadian water into its water starved southwest (Barlow, 2007). The Canadian response to this potential threat has been creative. Rather than impose legislation banning bulk exports in 1999 the federal government attempted to persuade the provinces to pass laws restricting inter-basin transfer or diversion of water⁹. Since all but two basins are located entirely within Canadian territory laws banning the transfer of water outside of provinces effectively limited bulk exports. This was followed by an amendment to the treaty governing boundary waters, also to limit export and diversion¹⁰. This legislative manoeuvring has not entirely insulated Canada from future threats of bulk exports. The force of this 'policy' on exports rests largely on continued provincial compliance and enforcement of diversion legislation. The defection of one province will have national implications for bulk water export. Furthermore, water is not exempt from Chapter 11, whether it is ruled a commercial 'good' or not. This means that water licensed to US water companies could potentially be diverted and justified under this clause (Boyd, 2003). While the issue of bulk exports has quieted somewhat since 1999 it does illustrate how international agreements can constrain Canadian water regulation.

For the most part Canada-US water issues have been collectively, rather than legally, resolved. The shared boundary waters (the Great Lakes Basin and Columbia River Basin) are governed by the Boundary Waters Treaty (BWT), negotiated in 1909, and a number of related bilateral agreements. The BWT established the legal principles that govern the shared water, and established the International Joint Commission (IJC) to monitor the implementation of the agreement. The treaty protects navigation and rights to water use. Any new uses, diversions or obstructions require the approval of the IJC and agreements are in place to regulate pollution and other water quality issues. As such, the agreement represents an external constraint on federal and provincial water policy. However, practically it has been more helpful than limiting to water governance. The treaty represents "the distillation of over a century of debate and compromise on bilateral

⁹ Significantly, while the provinces ultimately rejected the proposed federal Water Accord that aimed to harmonize provincial policies on bulk water exports on the basis of inter-basin transfers each subsequently enacted very similar legislation independently, effectively accomplishing the same goal (Heinmiller, 2003). This initial rejection and subsequent adoption of a federally proposed 'standard' is a puzzling but not inconsistent feature of Canadian federalism. The implications of this for establishing a common water governance framework are discussed in the following section.

¹⁰ In Canada this is governed by Bill C-6, An Act Amending the International Boundary Waters Treaty Act, 2002.

water policy issues” (Muldoon and McClenaghan, 2007: 246). While the agreement and the IJC have both been subject to criticism for the most part they are regarded as effective mechanisms for international water coordination and diplomacy and may yet serve as basic models of how multi-stakeholder, collaborative and negotiated policy on water can be managed.

Typically the key figures in international agreements such as the BWT are federal, state and provincial governments. These are the actors with the authority to negotiate, enter into agreements and pass legislation to support collective goals. However important these government actors are in establishing and maintaining collaborative agreements they rarely have direct involvement in the *implementation* of agreed to principles and measures. An examination of the environmental quality provisions of the treaty reveals that among the most directly affected and most active stakeholders in upholding treaty obligations are *local* authorities (Valiente, 2007). This is true even within provinces. Local government action and inaction is often decisive in issues of water quality and quantity. For instance, by virtue of provincially delegated responsibilities these actors control most industrial sources of water pollution through the adoption and enforcement of sewer bylaws, and regulate the quality of water discharged via treatment systems. They regulate septic systems (in rural areas), and determine urban waste management practices. Land use and zoning determine types of development and therefore impact environmental quality. Local governments (or their proxies) are the principal water distributors and their pricing and distribution decisions impact conservation, consumption and infrastructure quality. Yet Canadian municipalities and communities are often regarded as *policy-takers* and are rarely formally involved in debates about or making provincial policy¹¹.

One consequence of this institutional context is that there is a variance in the degree to which local authorities have been able (and willing) to implement provincial policies and adapt to water related challenges. To list all of these here is impractical, however, the pollution control obligation of the Great Lakes Water Quality Agreement (GLWQA) demonstrates not only how critical local authorities are in achieving the goals of this agreement and the variability in compliance with basic pollution control measures. In Ontario the Ministry of the Environment sets effluent standard for sewage treatment in line with GLWQA objectives. A recent report from the Environmental Commissioner of Ontario (2003) estimated that there was a forty percent rate of non-compliance to even the most basic on *primary* effluent standards by municipal treatment plants. Plants with secondary treatment displayed a twenty-five percent rate of non-compliance with regulatory requirements. This failure of pollution control has obvious implications on both Great Lakes water quality in general and the ability of the Ontario provincial government (and the Canadian federal government) to live up to the obligations of the GLWQA.

This variance in compliance with provincial regulations is partly an issue of municipal *capacity*. Local governments are under increasing pressure to provide services and implement policies in a context of shrinking budgets and reduced provincial support

¹¹ Here it is important to note that, because municipal governments are also a provincial responsibility under s.92 there is also interprovincial variation in how these authorities are involved in policy implementation or consultation. However, generally speaking, the municipal voice is not significant in provincial water policy making.

(McMillan, 2006). This fiscal context coupled with a tightening of provincial water quality standards and regulation has seen a proliferation of ‘unfunded mandates’. These occur when new or more stringent provincial standards are introduced, or provincial functions ‘downloaded’ to local governments without a concurrent transfer of funding to enable implementation. The burden of fulfilling the mandate is thus left to municipalities and must be financed from their already tight budgets. In a study of municipal water infrastructure and policy one interview subject commented: “There are less grants and programs available, because there are many more municipalities having to upgrade their outdated water systems and the same amount of monies available” (interview response quoted in Furlong and Bakker, 2007: 6). For example, in Ontario the Safe Drinking Water Act, 2002 (SDWA) that came out of the Walkerton Inquiry¹² imposed, among other regulations, new standards of testing and infrastructure inspection. Legislation such as the SDWA is credited for raising costs and shifting the priorities of municipal water suppliers. In addition to cost pressures because in some areas updated regulations are still pending uncertainty is delaying and hampering utility upgrades and reorganization (ibid.). As a result municipalities can face considerable challenges with varying degrees of success in adapting to provincial water policies.

Despite the fact that local governments are institutionally (if not practically) constrained in some areas of water governance, in others they enjoy quite a bit of autonomy to determine local policy, adding yet another layer of complexity to inter-jurisdictional variations. In the area of local water management and service delivery municipalities have the latitude to choose from amongst a variety of different business models, ownership structures and measurement/pricing schemes (see Bakker and Cameron, 2005; Program on Water Governance, 2007; Bakker, 2007). Debates over which local configurations and pricing strategies are most effective are not the concern of this paper, however, the extent of provincial and national variation in approaches to local service delivery may have broader consequences. Again, while regional and local variation is most likely appropriate policy makers must think critically about the scope and impact of this patchwork of local policies and capabilities.

This section has sought to outline the institutional context of water management in Canada, and demonstrate the complexity of existing governance structures. The status quo is characterized by a ‘tangled web’ of policies, jurisdictions and constraints all of which conspire to muddy the issue of water politics. This paper makes two related arguments with respect to the current state of water governance in Canada. First, the political structure of water management is unsustainable. Secondly, despite the existing layers of complexity the panoply of policy players is currently incomplete.

Observers find this political situation untenable for a number of reasons – lack of leadership and coordination has resulted in bad management (Muldoon and McClenaghan, 2007), the emergence and intensification of national water issues requires increased policy attention (CWIC, 2007), current frameworks are under strain (Saunders

¹² The Walkerton Inquiry (also known as the O’Conner Commission) was a public inquiry led by the Ontario Attorney General into the circumstances surrounding the contamination of the town of Walkerton’s water supply with a dangerous strain of *E.coli* bacteria in May 2000. The Walkerton Public Utilities Commission asserted that the water supply was fine despite being in possession of lab tests that showed evidence of contamination. Over 2,500 became ill and 7 people died as a result of the contamination and cover up. The O’Conner Commission tabled its report in January 2002. The SDWA and the Sustainable Water and Sewage Systems Act, 2002 (SWSSA) were both products of the inquiry.

and Wenig, 2007), there are significant policy gaps, problems are intensifying and current policy and structures have failed to address these issues effectively (Morris *et. al.*, 2007; Bakker, 2007; de Loe and Kreutzwiser, 2007), effectiveness has been hampered by closed systems of government (Valiente, 2007) – and differ widely as to how it would most appropriately be addressed. This paper attempts to build a case for change. As climate change and human impact continue to stress water supply and quality these issues are inevitably destined to occupy the public agenda. At present the patchwork of policies, the fragmentation of governance and the amount resources dedicated to water policy appear dangerously insufficient to address mounting challenges.

Current structures of water management are not (completely) dysfunctional, and fragmentation, while potentially detrimental to effective policy making and implementation, is certainly not a fatal flaw. Yet there remains no real national coordination, sense of the big picture or set of principles to inform regional strategies or manage national concerns. It is the proposition of this paper that Canada is in need of a national framework for water governance, but that this framework should not be centrally determined. First, a centralized formulation and imposition of a framework is not feasible in the current institutional context. Furthermore, the summary of water challenges elaborated above demonstrates the need for regionally sensitive policies. Regions – defined in terms of provincial political boundaries, management regions or water basins – must be engaged in negotiating a national strategy that elaborates shared priorities yet enables regional. Finally, given that local authorities¹³ feel water pressures and are so instrumental in policy implementation these actors should have a more prominent position in policy formulation. As one scholar notes:

Even for issues fully within federal or provincial jurisdiction, local interests are affected. It is local communities that live with the economic, social, and environmental consequences of senior governments' policies. Many people within those communities are differently affected, and it is appropriate that those voices be heard in the making of policy (Valiente, 2007: 1057).

Medd and Marvin (2008) also contend that strategic intermediaries – established institutional representations of the water sector that include interests such as utility companies, regulators and consumers – have been underrepresented in the policy making process. This is the result of an increased need for new actors to address the complexities of water governance:

One effect of the increased political salience of water is that participation opportunities have increased and new actors have entered the process [...] Thus it appears that the hitherto well-defined boundaries of the sector have begun to erode. Participation within the sector is now more complex and less predictable and water policy characterised by many cross-sectoral linkages. The number of policy actors who might participate in some

¹³ Although they have not been explicitly discussed in this paper, 'local authorities' can be read to include First Nations governments and groups. From a political perspective this pairing is not perfect it suffices for the purposes of the argument.

aspect of water policy is now potentially in the hundreds rather than the tens (Maloney and Richardson, 1995: 111-112)

Any governance framework should incorporate local authorities and strategic intermediaries alongside federal and provincial government both in determining provincial/regional policies and to contribute to the national vision. The following section considers the framework of multilevel governance as an approach to theorizing and structuring water governance in Canada.

Fluid Governance

A reconceptualization and restructuring of how water management and policy in Canada operate is required in order to more effectively and coherently address emerging supply and quality challenges. Recent reports on the state of Canadian water management advocate, to varying degrees, an intensification of federal intervention and policy coordination (Morris *et al*, 2007). Others advocate greater interprovincial or intergovernmental coordination, the inclusion of a wider spectrum of policy actors, or provide solutions specific to certain specific regional or policy contexts (Valiente, 2007). Few, however, attempt to elaborate an alternative that combines these objectives within existing constitutional and institutional contexts. This section considers just such a framework based on a model of multilevel governance. To this end it first determines the necessary parameters to which an effective and feasible governance structure should adhere. It then builds a case for a shift from a government to a governance approach to water management and establishes a multilevel approach as conforming to the parameters of effective, feasible and good governance, and considers how these could be practically applied to the Canadian context. Finally, the section concludes with a critical reflection on the benefits, potential drawbacks and challenges of adopting a multilevel governance framework. While the approach is not without flaws it provides the potential for policy coordination, for a significant degree of regional policy variation and autonomy, as well as for the meaningful inclusion of local and other strategic actors in the policy process.

Effective and feasible governance within the Canadian context consists of a coordinating yet flexible framework to mediate relations between key policy actors. This paper does not attempt to outline the features of effective *policy* or determine the limits of the feasible in terms of negotiated intergovernmental relations. Nor does it prescribe precisely *how* such a framework might be implemented. Rather it seeks to establish a theoretical structure of relationships within which government and other actors can interact to steer water management at all levels. For the purposes of this argument to be *effective* the framework must enable and allow for a degree of national coordination and the establishment of a collective vision, set of goals, and/or guidelines on water issues. This 'national policy' need not be binding in a legislative sense but its implementation should be *feasible* – that is, relevant actors should (and probably can) not be coerced into adopting its tenants. Therefore, the process of determining this national policy, and its content, should be such that government actors participate and assent voluntarily. This must be accomplished within the established institutional boundaries limited in part by the constitution and international treaties. As a result the provinces and territories must

play a lead role in collectively negotiating any national agenda. Another dimension of effectiveness is the flexibility of the framework. It should allow for variations on policy, management practices and relational structures of water governance at the regional/provincial level *within such limits* as determined collectively by the national framework. Finally, an effective framework of governance allows and contains mechanisms for broader participation by local and strategic actors in the policy process. How these actors participate in the long-term will relate to how governance is structured at the regional level, however, local and strategic actors should also be implicated in national policy negotiations. Taken as a whole these criteria broadly address both the perceived gaps in current structures and take into account the core values of ‘good governance’,¹⁴ (Hirst, 2000: 14). It is important to recognize that these parameters are *ideals*. The political reality is such that achieving such a vision will likely be a difficult and lengthy process. However, these principles reflect the recommendations of policy makers and scholars while respecting the institutional context and therefore guide the re-conceptualization of water governance.

The concept of governance has been the subject of increasing theoretical attention (Rhodes, 1996). In contrast with narrow conceptions of rigidly hierarchical, state-centred policy making, governance incorporates a variety of non-state actors alongside governments in horizontally organized structures of functional self-regulation. In these configurations actors participate in negotiating and designing collectively binding decisions and policies without superior authority (Wolf, 1999; Cooke and Morgan, 1998; Rhodes 1996; Stoker 1998; Davies 2005; Jessop, 1998). The concept emerged as the current period of economic transformation increasingly necessitates a broader conception of policy learning that focuses on the capacity of institutions in both the public and private sectors to sustain growth and facilitate the adjustment process to those activities associated with the emerging knowledge-intensive economy and increasingly complex policy challenges.

This approach assumes that neither the public sector nor individual private enterprises are the source of all knowledge and advocates a form of shared or networked learning. Instead, the process of innovation and institutional adaptation is an interactive one in which the means for establishing supportive social relations and of communicating insights and knowledge in all its various forms are crucial to the outcomes. Challenging economic and social policy issues that cross sectoral, spatial, and jurisdictional boundaries cannot be managed by top-down government action or market mechanisms alone. Instead these require the combined resources of governmental and non-governmental actors in the form of horizontal, autonomous, self-organizing and “self-governing inter-organizational networks” (Rhodes 1996, 659-660). Governance is, therefore, the process of managing networks of diverse actors; the game-like interactions, rooted in trust between organizations, and between network members, where notions of power rest more on mutual dependence among ‘self-governing’ networks. The area of water management is an ideal candidate for governance solutions as a challenging cross-cutting, multi-jurisdictional and multi-actor policy field. In fact, this approach would argue that, because of these features, that the only effective way to govern water issues is through an alternative governance framework.

¹⁴ These are effectiveness, participation and legitimacy.

Multilevel governance follows from, and to a certain degree refines, the governance literature. This variant acknowledges that networked and multi-actor policy making takes place within and involves actors that are part of hierarchical authority structures. At its broadest multilevel governance is a “catch all term to refer to any system that involves interaction between central state actors and other territorial levels” (Perry, 2007: 1053), however, it is most frequently used to describe a shift in the locus of political authority both away from the *centre* and, potentially, away from the state. In contexts where authority is already dispersed, such as in federal systems this approach addresses both shifting intergovernmental and state-society relations. While they are not the sole focus of the multilevel governance approach formal power relations between institutions and different levels of government remain a significant dimension of analysis, particularly in the case of water. Several sub-classifications of multilevel governance exist, but all share the following features: networked governance operating at and across multiple scales; fluid authority; policy outcomes based on a negotiated order; all nested within a context of, but not necessarily governed by, hierarchical structures.

The term ‘multilevel governance’ was pioneered by Gary Marks (1992; 1993), describes a new political architecture where authority and policy making influences are dispersed across the different levels of the state, as well as to non-state actors. Hooghe and Marks (2001) argue that the core of the idea of multilevel governance is that the national level no longer monopolizes policy making and instead engages in collective decision-making with other levels of government and relevant actors. In federal systems this principle can be extended to the provincial or state levels. In other words, multilevel governance holds that policy making authority is no longer solely the domain of the government actor vested with formal institutional power in that area. Decision-making competencies are therefore shared among all actors with no one level exercising monopoly over another. Accordingly, subnational levels are said to be interconnected to national, and at times, supranational arenas rather than nested within the national state (Hoogh and Marks, 2001: 4).

The multilevel approach emphasizes the fluid and networked nature of relations between and across institutions and actors operating at different levels. An absence of overarching authority coupled with an emphasis on leveraging relative institutional capacities and spheres of influence, creates institutional exchanges that are flexibly adapted to changing environments and issues. Informal bargaining becomes as important as the formal allocation of power between levels of interaction, and “politics rather than laws and formal structural arrangements is the determining factor for outcomes” (Peters and Pierre 2004: 84). The process involving a “complex web of institutions, actors and interests”, offers a measure of political congruence but is less determinate than a system of “hierarchical subordination” (ibid., 84-85). It is an approach that is both flexible in terms of structures and participation while capable of coordination across scales.

Intersecting the multilevel governance literature is the concept of nested scales. While this literature is characterized by a scalar rather than institutional focus its principles there is a great deal of conceptual overlap with multilevel governance. Its central contention is that scale is dynamic, contested, and socially constructed. Institutions, in this perspective, are just one dimension in a set of shifting social dynamics. Again, power in this construction is fluid no scale is completely determining of, or determined by, another spatial scale. Neither the global nor the local level is

afforded theoretical priority. Rather they are mutually interconnected such that local actions affect global flows of people, capital and ideas while broader processes and actions at the global level affect the context and the scope for action available to agents at the local level. Political influence and other social relations operate across the respective scales simultaneously, rather than hierarchically. In turn, the relationships between these different scales are ‘nested’ within each other exerting influence though not control on each other (Swyngedouw 1997, 142).

Despite very similar intellectual trajectories the concept of nested *scales* goes beyond the more institutionally focused multilevel governance approach to engage and consider the broader universe of forces that act on social choices. Scales can be non-hierarchical and fluid, but institutions, while capable of operating outside of hierarchical arrangements are ultimately defined in large part by hierarchical structures. Viewing multilevel governance through the conceptual lens of nested scales reveals the latent importance of *government* and related power dynamics in this framework. Although it emphasises the importance of networks, negotiated order, and diffuse authority, a multilevel governance frame is not tantamount to governance without government.

One advantage of the multilevel perspective is that in advocating governance arrangements that decouple authority from hierarchy there is both more scope for local and non-state or strategic actors to engage in policy design and to lead multilevel initiatives. However, a normative dimension is often misattributed to the opening of new political space for these actors. Nothing in the multilevel perspective specifically advocates a shifting of responsibilities or of resources from one level to another. While it is often and appropriately associated with the principle of subsidiarity it is important to note the distinction between the *decentralization* the *devolution* of policy making. This approach to governance emphasizes situating policy leadership, authority and implementation at the most appropriate scale according to the institutional strengths and capacities of the actors through a process of negotiation. Therefore, the local gains significant within this approach, not primacy. Most critically for local actors is the opportunity for knowledge exchange, learning and policy input typically located at much higher levels without having to be represented by ‘superiors’ in the formal institutional hierarchy.

Although multilevel governance is often debated at a theoretical level there has been a proliferation of empirical studies produced from across social science disciplines. Not surprisingly, water governance has been a consistent focus of empirical research due to its territorial, jurisdictional and practical complexity. Among successful examples of multilevel governance in water are the EU Water Framework Directive (Page and Kaika, 2003), recreational water governance in Australia (Benson and Jordan, 2007); the Mersey Basin Campaign (Manchester and Liverpool) and Sustainable Water in East Lancashire initiative (Medd and Marvin, 2008); and the International Joint Committee (IJC) and framework of the BWT (Klinke, 2007; Valiente, 2007). While the criteria of ‘success’ and degree of effectiveness of each of the initiatives is certainly open to debate these cases are demonstrative of multilevel governance in practice at a variety of scales. These and other studies contain valuable insights into the challenges, structures, configurations, content and institutional barriers of water governance and hold lessons that may be instructive to the Canadian context. Because these studies focus on specific issues to address potential lessons here is impractical, but does provide an opportunity for future

scholarship. However, it is useful to note that multilevel governance frameworks exist in a wide variety of institutional contexts in the realm of water governance.

Because multilevel governance is the result of negotiation and bargaining between actors it is difficult to predict what a water governance framework would look like in the Canadian context. Furthermore, because multilevel governance is typically seen as a descriptive and explanatory device for emergent phenomenon, rather than a prescriptive tool there are few guidelines as to how to implement such a framework. Nor has it been the intention of this paper to outline the specifics of how such a system might be practically established. Rather this section provides the conceptual framework with which we can begin to rethink water governance in Canada. Despite these limitations there are some actions that may help stimulate the intergovernmental, interscalar collaboration and coordination.

A clear first step is to bring together relevant stakeholders on the national and regional levels to begin establishing a national water policy. Obvious participants are the provinces and territories and the federal government, but local, regional and strategic actors should also be included. This leaves, however, the practical difficulty of how these other actors could effectively be incorporated without multiplying voices to the point of policy irrelevance. This is a classic case of balancing the often competing goals of participation and effectiveness. One solution is to reduce the number of actors. There are a number of ways in which this could be practically achieved by aggregating interests functionally, by territorial unit, or both, using a ‘nested enterprise’ approach. A second, and perhaps even more intractable problem, is the challenge of facilitating the inter-provincial agreements that will likely be necessary to implement any but the most superficial national policies. Vested provincial interests and the risk of linking issues may hinder meaningful progress towards a national agreement. Furthermore, since water issues are fragmented even within provincial boundaries the ‘interests’ of the provincial negotiators may not coincide with those of the various ‘water regions’ they formally represent. River basin management may provide a partial solution to both of these issues.

River basin management (RBM) is the foundation of EU Water Framework Directive (WFD) and a widely used system of water management. Indeed, this system of organization is in place in some river basins in Canada including the Fraser River Basin (see Blomquist *et al.*, 2005). However, it has not been adopted consistently across all Canadian river basins. A river basin can be defined as the geographical area determined by the watershed limits of the system of waters, including surface and underground waters, flowing into a common terminus (cf. art. II of the Helsinki rules). Strong relations exist between groundwater and surface water in the basin, between water quantity and quality and between land and water, upstream and downstream. These relationships distinguish river basins from mere geographical areas and conceptualize them as coherent systems (Lundqvist, *et al.*, 1985, Newson 1992). RBM expands significantly on traditional water management and includes aspects of land-use planning, agricultural policy and erosion control, environmental management and other policy areas. It covers all human activities that use or affect freshwater systems. RBM can be defined as “the management of water systems as part of the broader natural environment and in relation to their socio-economic environment” (Mostert *et al.*, 1999). RBM is advocated as an approach to establishing institutions for better matching regional and local circumstances with political responsibilities (Klaphake, 2002).

Coordinating regional water governance at the scale of river basins may contribute to reducing the number of actors involved in the initial negotiations of a national policy, potentially circumvent provincial conflicts and establish management across functional and territorial boundaries and on a sustainable scale. Establishing coordination at the river basin level will require bringing together relevant interests at the appropriate scale. Ostrom (1990) refers to this as a process of ‘nesting’ in which smaller, often functionally differentiated or competing groups organize themselves within a federated system. This enables these organizations to become part of the larger scale without losing their autonomy (Marshall, 2005). Similarly, once constituted as stakeholders at this level smaller groups may join functionally similar other groups and reform as an aggregated sub-entity¹⁵. At the national level, then, representation can occur in a variety of functional interest areas at the scale of the water basin. This reduces conflict as much as is feasible in this complex policy area by reducing the influence of provincial interests while simultaneously limiting externalities (as water basins are relatively separate systems). The findings of Matthews and St. Germain (2007) seem to support the capacity of water basin management – or at least organization at this scale – to reduce political conflicts. They find that the best water management solutions are those that ignore existing political boundaries. While conflicts are still inevitable finding the right scale and aligning representation along sub-jurisdictional levels can help to mitigate tensions and reduce barriers to cooperation.

While RBM stands as one potential approach to initiating a national water policy and establishing a degree of policy coordination it is not without challenges. Indeed, careful scrutiny of an RBM model reveals several problems with governance approaches in general. This section concludes with a critical assessment of multilevel governance as an approach to governing water in Canada.

The establishment of RBM as a basis for water management is attractive, but poses a troubling chicken and egg type of dilemma. In order to effectively design a national policy negotiation should involve river basin representatives. However, river basins must first be organized (where structures are not already in place), which will require either provincial agreements to coordinate policy (which is tantamount to establishing a national policy) or the independent emergence of governance at the river basin scale. Theoretically, such a reorganization could take place concurrently with or independently from federal/provincial negotiations. However, precisely how this would be resolved is far from clear.

Leadership is critical in shaping multilevel frameworks of governance. The initiation of a national policy debate has to come from somewhere. The federal government is a natural choice to initiate a national discussion, but recent administrations have proven unwilling to take on the issue of water politics as a whole. This leaves the initiative of the provinces who have also historically proven unwilling to cooperate in the broader area of water governance. The multilevel perspective holds that leadership can emerge at any scale and from a diverse array of actors and is no less likely in this instance. Critical to any alternative leadership will be to get the issue of water governance onto federal and provincial political agendas. This is occurring slowly as a proliferation of reports and recommendations from various groups around the country have attempted

¹⁵ This is as close to functional, overlapping and competing jurisdictions as is likely to emerge in the realm of water governance (see Blatter and Ingram, 2000).

to create momentum. This process is likely to be slow but, absent political leadership, may be the only way to prompt national action.

Other potential issues, and persistent critiques of governance approaches include issues of transparency and democratic accountability within governance arrangements, of policy consistency, how to mitigate uneven regional capacities and implementation, how interests are represented and balanced and of policy consistency over the long term. Also a danger is that negotiated order will result in lowest common denominator policies that may lack effectiveness or fall short of necessary objectives. All of these are valid criticisms of governance structures in general and their severity and significance will vary according to specific contexts.

This section has presented the conceptual framework of multilevel governance as a way to re-vision the issue of water management in Canada. As with many frames the translation from theory to practice is difficult one. The reality is that, while the concepts of multilevel governance can provide a new way to conceptualize water management the evolution of water governance will largely occur piecemeal and organically as individual actors adopt more open and networked approaches to policy. While political agency can in part shape this evolution leadership and foresight are as critical as flexibility.

Escher's Waterfall: Closing the Strange Loop of Multilevel Water Governance

Water is an issue under pressure in Canada. While the magnitude of the crisis is unknown the mounting importance of issues surrounding water quantity and quality belie a certain urgency that is beginning to catch the attention of scholars and policy makers alike. Surveys such as those conducted by Bakker (2007) and Morris *et. al.* (2007) have raised questions about the adequacy of current institutions to deal with the wide range of water management issues. These studies cite numerous policy gaps – many of which are ultimately attributable to a lack of policy coordination and to the institutional fragmentation that characterizes current management structures in Canada. In this fragmented institutional context a key challenge will be to establish water policies that are effective, visionary, feasible, and that include and balance a complex constellation of interests. Whether the political future involves managing a water crisis or simply adapting to change will depend largely on the quality of institutional mechanisms established to govern this scarce resource.

This paper advances the concept of multilevel governance as a way to theorize the issue of water management. This approach highlights a shift from government to governance in a policy era marked by increasingly complex issues and a renegotiation of state-society relations. A multilevel perspective sees policy creation as the product of networked governance negotiated between state and non-state actors alike located as different scales, no longer as the product of hierarchical and state centred mechanisms. The state, however, remains a critical actor in the policy process, despite the fact that it is no longer necessarily the central locus of authority. M.C. Escher's 1961 lithograph *Waterfall* famously depicts an endlessly falling, and miraculously rising flow of water (Figure 2). This deceptively simple image illustrates the blurring of boundaries and scales, the diffuse nature of authority, and the non-hierarchical flows of policy input, learning and participation that characterize multilevel governance approaches. As a

theoretical framework a multilevel perspective offers the potential for national policy coordinate coupled with flexibility, and the potential for an expanded space for local engagement in policymaking within the Canadian constitutional and institutional context. However useful in envisioning an ideal of water governance establishing such a framework is much more challenging. Some concrete measures can be adopted to facilitate coordination but these face some key barriers and are reliant on political cooperation and leadership.

Water governance in Canada faces an uncertain future. Its fragmented and uncoordinated institutions have been deemed inadequate to manage the mounting pressures faced by hydrological systems and the communities that rely upon them. What is certain is that this institutional debate, and how it is ultimately resolved, will have an important role in charting the course of Canadian water governance.

Tables and Figures

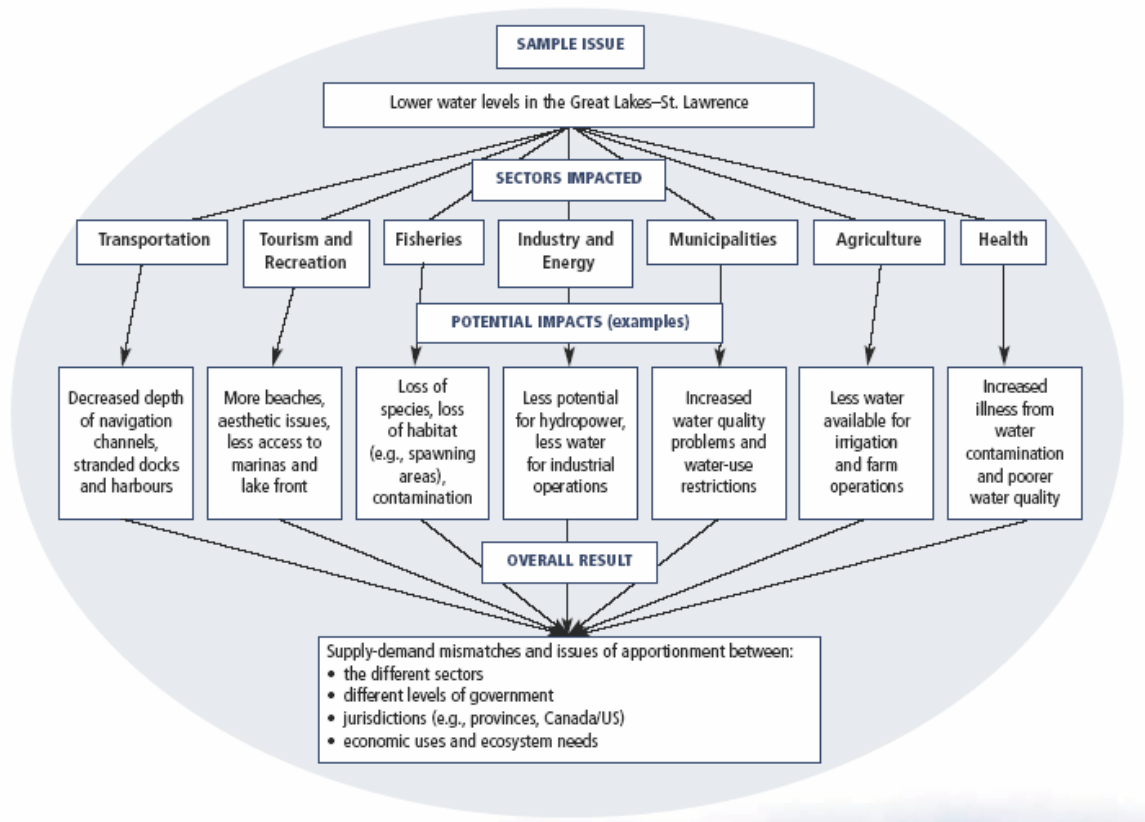


Figure 1: Water is a Cross-Cutting Issue (Lemmen *et al.*, 2008: 37)

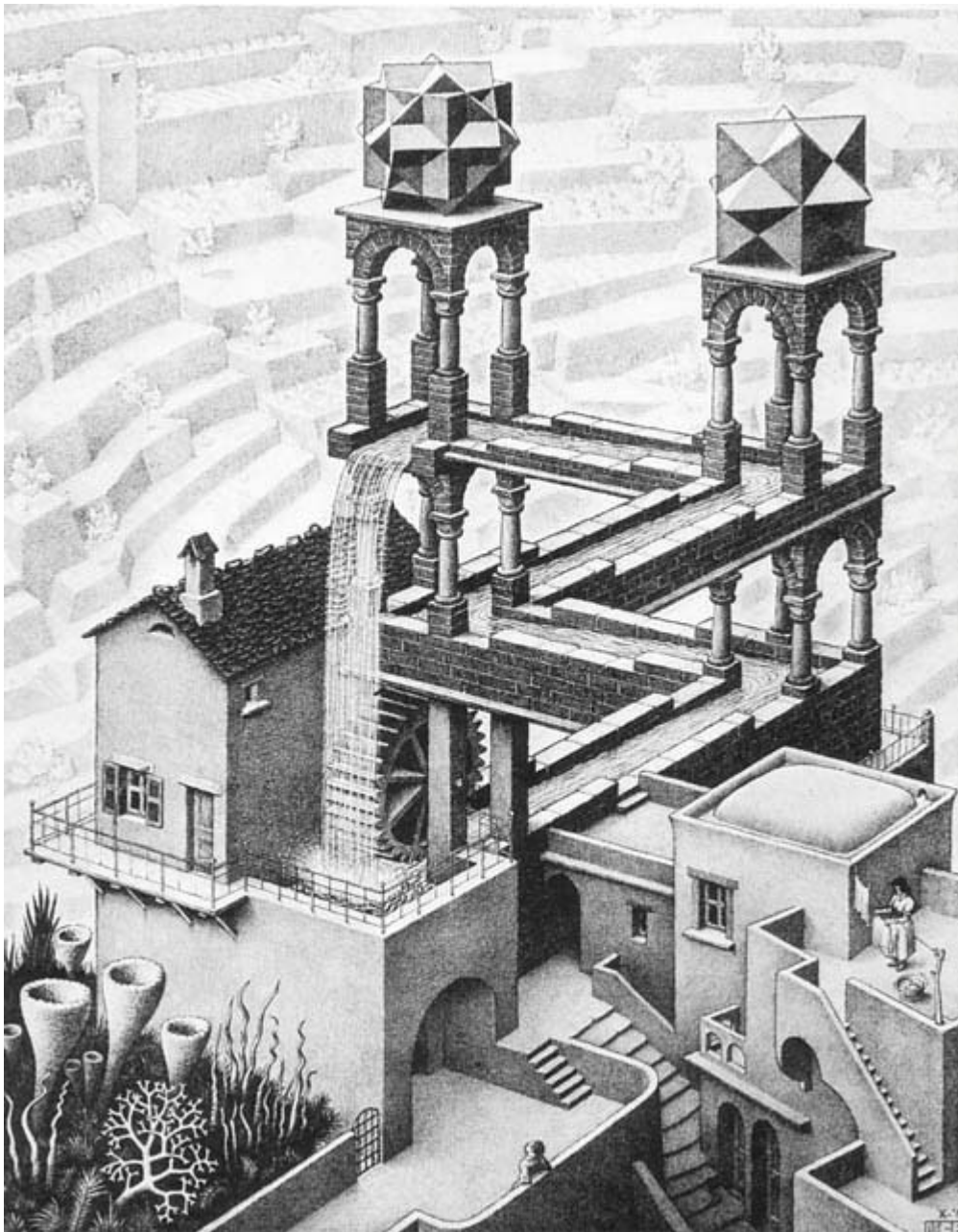


Figure 2: Waterfall (lithograph, M.C. Escher, 1961)

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