

**Canadian Legal Framework of Water and Governance in the Prairie  
Provinces  
Critical Analysis of Adaptation to Climate Change**

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**Abstract**

This paper will outline, compare and contrast the jurisprudential framework of water law and water institutions in Canada against the construction of the governance and rules surrounding water by Canadian citizens, water stakeholders, and institutional employees. The premise of this research is critical legal pluralism, the difference between the jurisprudential positivist view of the law as based on precedent and well established objective legal rules versus the view of law as an institution and practice established and constituted by people, practices and decisions made in a fluid, dynamic, and every changing manner.

In the arid prairies, and specifically Saskatchewan and Alberta, water is necessary for supporting not only agriculture, but also industrial considerations, and leisure and domestic use. These multiple uses compete for water in times of scarcity. As such characteristics of both less developed and most developed countries are existent in this region of Canada. This region of Canada has had significant droughts over the past hundred years and is expected to suffer from periods of water shortage or conversely water overabundance as a result of climate change in the future. In assessing the area's ability to adapt to climate change, it is critical that vulnerabilities be identified. Vulnerabilities include the inability of social structures, such as the legal structure and framework of water, to respond to unforeseen, new circumstances.

In the face of these competing demands, Canada's water law evolves over hundred of years from many different sources and influences including the riparian water laws of Britain, where laws developed on a case by case basis in a land of relative water abundance. This archaic and rigid water law has been modified and adapted (to a certain extent) to meet the needs of the western Canadian situation; however, many rules and principles remain. The objective of this research is to compare water law and governance in Saskatchewan and Alberta, as found and evidenced in statutes, legal rules and norms (and interpreted by the legal profession) and compare and contrast this with water governance as practiced by the water community, stakeholders and citizens affected.

Introduction

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### **Introduction**

The most arid area of the prairies in the Canadian provinces of Alberta and Saskatchewan is in the South Saskatchewan River Basin (“SSRB”) (Sauchyn *et al.*, 2002a) which stretches from the Rocky Mountains across southern Alberta and Saskatchewan, covering an area of 420,000 square kilometres with an estimated population of 1.5 million. The basin is under the jurisdiction of two provincial governments, Alberta and Saskatchewan, the federal government of Canada, and several First Nation governments. There are also a large number of local governments (rural municipalities) and approximately 225 rural communities (Sobool and Kulshreshtha, 2003).

The land use of the SSRB comprises of agricultural crops (wheat and canola), livestock (cattle) and there are numerous dams, reservoirs, diversions and irrigation projects. In southern Alberta, 13 irrigation districts divert about 2.3 billion cubic metres (1.8 million acre-feet) of water to irrigate about 500,000 hectares (1.2 million acres) of land. Approximately 120,000 ha (300,000 acres) of land are irrigated by 25 irrigation districts throughout southern Saskatchewan. In addition to supplying water for irrigation, the basin is used for recreation, hydro-electricity and is the principal source of household water for 45% of Saskatchewan's population.

Alberta and Saskatchewan have a history of climate variability affecting agricultural development and this particular area is at risk of desertification. When European immigrants first settled this region at the start of the 20<sup>th</sup> Century, there was a period of water abundance. However, the 1930s were an extremely difficult time for agriculture with many people vacated parts of this area. Droughts have followed with the most recent occurring in 1998 and again from 2001-2003. This history of periods of water scarcity over the past century has allowed for much learning about vulnerabilities to climate and the development of many institutional adaptations. It has also always been recognized that climate is only one variable affecting vulnerability; Multiple social conditions affect vulnerability including social, economic and political factors which can't be separated from the impacts of climate change. This area has always been particularly susceptible to world grain prices and political policies of a perceived distant federal government many kilometers away in Ottawa.

In this area, drier conditions, with more extreme weather events, and increasing climatic uncertainty is expected with climate change (Sauchyn *et al.*, 2002b); as well, there will be impacts on water resources in terms of quantity and quality (Lapp, 2006). Increased periods of water scarcity are anticipated (Sauchyn, 2007). The potential for conflict as a response to resource scarcity has been well-documented (Homer-Dixon, 1999) from a theoretical and practical perspective. The existence of resource scarcity increases societal focus on distribution of that resource. Social and biophysical realities are intimately linked with the potential for conflict as people experience changes in their perceived security, well being, and relative equality (Deaton, 2001; Dollar and Gatti, 1999). Increased conflict results in increased vulnerability and risk in adaptive responses to climate change and climate variability. Water governance (the process and structure of decision making in relation to water) is an important societal institution in respect of adaptation to climate change and ensuring that conflict is minimized.

In positivist legal practice, it is assumed that the optimum resolution of water conflict would require water law to be detailed, accessible, and all encompassing. This paper will show that not only is water law in practice not an all encompassing code, but its application in practice reflects a very diverse institution of water law. This paper will compare the positivist water law applicable to settling competing water claims to the actual results in several water conflicts in Alberta and Saskatchewan. The diversity of water law in practice is supported by the literature in respect to flexible institutional and policy adaptations to climate change and variability.

## **Water Law and Governance**

Water governance refers to the both the range of political, social, economic, and administrative systems that are in place to regulate the development and management of water resources and provision of water services at different levels of society (UNDP, 2007) and the process of making decisions and reconciling competing priorities (UNHSP, 2007). Water law is an important framework in which water governance operates. It establishes the rules within which people and organizations operate in relation to water and sets the framework for the organizational structure of government institutions with mandates relating to water. First some aspects of water law in the SSRB will be discussed and then the institutional water governance setting.

Canadian water rights are based on two common law theories, the English riparian doctrine (a set of usufructuary rights) and the American prior

appropriation doctrine (Lucas, 1990). The riparian doctrine was inherited from England and made part of the law of Alberta and Saskatchewan on July 15, 1870 (Gibson, 1968).

In British common law, water, in its natural state, was incapable of ownership (Lucas, 1990). Landholders next to water acquired riparian rights of use which included a reciprocating obligation to return the water substantially undiminished in quality and quantity (Lucas, 1990). The common law riparian doctrine assumes an abundant, if not an inexhaustible, water supply such as existed in eighteenth century England. Because the common law riparian doctrine couldn't meet the development needs of Canada, Canada and later the provinces, enacted statutes replicating portions of the United States' prior appropriation system which was a first come, first right doctrine (Percy, 2004). Canada modified this to require a government issued license to protect a water right. Common law riparian doctrine remains relevant in Canada to the extent it has not been clearly modified or abolished by statute and to the extent the courts find it applicable in the Prairie Provinces.

The provinces of Alberta and Saskatchewan were created in 1905 and in 1930 natural resources (which included water) were transferred to the provinces in 1938. The provinces passed their own laws in relation to natural resources and water and over the years have each modified and amended their laws. Four main features of the original federal water law were as follows:

- (i) Crown Ownership;
- (ii) Allocation of Water by License;
- (iii) Prior Allocation Principle;
- (iv) Non-transferability of water rights.

The first three of these principles still survive in both Alberta and Saskatchewan, and the last in just Saskatchewan. Saskatchewan's water law consists predominantly of *The Saskatchewan Watershed Authority Act, 2005*, S.S. 2005, S-35.03. The Act establishes the corporation, the Saskatchewan Watershed Authority, and establishes its powers, mandate, and rules for administration moving from a legislated water rights model to a water rights model managed by a Crown Corporation. Issues formerly dealt with by legislation were then left to be resolved at the discretion of officials of the then Water Corporation (and now Saskatchewan Watershed Authority). It is argued that the licensed water rights established by the statutory scheme prior to 1984 remain in tact; water licenses issued after that time are at the discretion of the Corporation (Percy, 2004). As there isn't a statutory scheme of water rights, and there isn't a publicly accessible record of water rights, it is unclear what the priority of water rights will be in the event of a conflict.

In Alberta, The Minister of Environment responsible for the *Water Act* designates a “Director” who has responsibilities outlined in the Act for the management of water including issuing licenses, developing water management plans, water conservation objectives and authorizing water works. The *Water Act* establishes four classes of water rights: existing licenses, household users, traditional agricultural users, and new licenses and established a detailed structure of priority amongst these users. Transfer of water rights is allowed if in accordance with an approved water management plan, and in the absence of such a plan, Cabinet order. In the South Saskatchewan River Basin there is a South Saskatchewan Basin Water Management plan which allows the Director to consider applications to transfer water allocations within the basin. This is described as creating a non-regulatory method of reducing wasteful use by creating an incentive to save water and transfer its marginal value for compensation (Percy, 2004).

Law is generally regarded in a positivist fashion as a set of rules reflected in the wording of legislation and decisions of judges all forming a code binding on subsequent legal subjects (Luhmann, 2004). In system-theoretical terms, law is an operatively closed network of communications which constantly refers to its own decisions, expressly based in turn on legal principles and procedures. However, in the actual workings of the legal system, people are not merely law “abiding” but also law “changing” and law “inventing” (Kleinmans, 1997). The legal system is composed of the interaction and intersection of different legal spaces operating simultaneously. Although it is recognized there is a social structure of legal culture composed of statute and established precedent, there is a vaporous edge of this structure of legal conjecture, where definitive legal opinions about what the law is or is not can’t be given. In relation to water law in this study, there is also a variation between the positivist legal institution respecting water law constructed by lawyers and the same institution constructed in resolution of water disputes by legal participants. It is the latter which is the essence of water governance.

Water governance involves many organizations (many formal institutional actors), many institutions (such as water law and the separate but related institution of water policy), and informal institutional settings and actors (such as the rural community and households). Water governance, through this definition, is much broader than the formal legal rules and policies which only experts in various water organizations and lawyers could define with certainty. Water governance comprises of all those institutions and organizations playing a part in the decisions made respecting water quality and quantity. By way of illustration, this research in this paper will show that in the drought of 2001-2002 water allocations were not made according to the strict legal rules of water allocations,

but in accordance with community norms of sharing and reciprocity. In this way, the informal community setting was significant in its role of water governance.

A complex institutional cluster is involved in water governance in the SSRB, involving federal and provincial agencies, local governments, civil society groups, and NGOs. This complex structure is partly a result of the historical development of water governance in Canada. Water management was not specifically dealt with in the Constitution of Canada. The topic of water spans several heads of legislative power assigned to the federal and provincial governments. Thus each level of government has a role to play. There is complicated overlapping of jurisdiction over water and related activities. The result is that a multitude of political actors at the municipal, provincial and federal levels each have some role or responsibility in water. This makes it difficult to identify issues and to balance interests at all levels or orders of government.

The SSRB watershed and its water resources are defined by geographic boundaries, but it is separated by artificial provincial and municipal boundaries representing different legal norms, rules and laws, or legal instruments. In Alberta, Alberta Environment takes a lead on water management but Alberta Health and Alberta Agriculture have important roles relating to public health and water and irrigation and drought management respectively. Similarly in Saskatchewan the Saskatchewan Watershed Authority is tasked with water management and watershed protection but the ministries of health and agriculture have similar roles. In addition the ministry of environment has responsibility for protecting the environment. The federal Canadian government has five departments with significant mandates relating to water including Environment Canada, Health Canada, Agriculture Canada, Natural Resources Canada and Fisheries and Oceans. Added to this is the patchwork of First Nation lands subject to a different regime of water management and environmental laws.

The complex institutional structure of water governance in Canada and the positivist legal rules established by provincial governments lay the foundation for the operation of water governance and its multiple legal spaces. These multiple legal spaces differ in respect of time, place, and effective resolution of water interests and illustrate the variety and diversity of law and governance in practice. As will be evidenced in the next section of this paper, the construction of water law and governance by water stakeholders in practice is much richer and adaptive than positivist legal water law.

## **Multiple Legal Spaces**

The multiple legal spaces described below were identified in a larger study of water governance assessed by interviewing a wide range of water stakeholders representing rural communities, the diversity of water institutions, and all orders of government in the SSRB (IACC, 2008). This section discusses some of the initial insights and the identification of the resolution of water conflicts during times of drought in manners not consistent with the positivist law of the SSRB.

### **St. Mary's - 2001**

In 2001 the lower south west corner of Alberta experienced a drought. Usually during years of water shortages regional people with Alberta Environment have to advise junior licenses (or last in time licensees) that they need to shut down their pumps and are being cut off. In the St. Mary's river in 2001 there was a severe water shortage which was going to allow only six or seven licenses to operate. Stop orders would have had to be issued on 500 to 600 licenses. This could have dried up the river. The sharing provisions which were put into the Act between 1993 and 1996 allowed two licenses to share water back and forth (if physically possible) as long as no other licensee complains that it is hurting their right.

Irrigation districts sent out letters to their licensees and held meetings to discuss water shortages. A smaller percentage of water allocation for each license was agreed on (approximately 60%). However, because irrigators and other uses of water couldn't meet their agricultural or business needs with this smaller allocation of water, novel arrangements were made. Farmers transferred their allocation to another farmer in exchange for agreed upon consideration which allowed at least one farmer to irrigate and obtain a crop that year. Approximately 70 licensees didn't agree to the sharing arrangement and received stop orders as a result. The actual water allocations agreed upon during this time were significantly different than those provided for in the positivist water law.

### **The Blood Tribe Indian Reservation – 2001**

The Blood Tribe Indian Reservation is located in the south west corner of Alberta and comprised of 349,295 acres covering 545.8 square miles in the heart of Blackfoot territory (Blood Tribe, 2008). The Blood Tribe is comprised of nine to ten thousand members but less than half live on the reserve. The Blood Tribe operates many businesses but the main one is the Kainai Agri Business Corporation which is the agricultural arm of the reserve. Twenty thousand acres of the reserve are irrigated in the north east corner of the reserve. The

Corporation also runs a feedlot and has stock initiatives (Kainai Agri Business Corp, 2008).

During the droughts of 2001 and 2002 in the SSRB, the Blood Tribe did not decrease their water intake from the river(s). The Blood Tribe does not acknowledge the provincial water allocation system of Alberta. They would not have respected a provincial enforcement order to suspend their intake, nor did they participate in the voluntary agreement described in the previous section. The Blood Tribe do not deal with provincial governments, only the federal government and believe that, as their reserve is surrounded on three sides by water (the rivers), they own the water to the middle of the water course. This opinion, although perhaps contentious or believed incorrect by some, is reasonable when considering the historical development of legislation and case law.

Because of Canada's colonial development, Indian reservations are not governed in the same manner as provincial lands surrounding them. Historically, Aboriginal peoples were within the jurisdiction of the federal government, not the provincial governments. The federal government established through federal legislation, the *Indian Act*, R.S.C. 1985, c. I- 5, Indian "Bands" and their mechanisms of governance and establishment of reserve lands. Indian reserves, and Indians, have been held not to be an "enclave" of federal jurisdiction (Lysyk, 1967; 4B Manufacturing). The general rule is that provincial laws do not apply to Indians and land reserved for the Indians. However, there are exceptions for matters with only incidental effects (Hogg, 2002). For the most part, provincial legislation dealing with land on reserve and incidentally water, will not apply (*Derrickson*, 1986; *Western Canada Ranching Co.*, 1921). As a result, provincial laws dealing with priorities and enforcement of provincial environmental and water laws may be unenforceable on reserve land.

### **Swift Current Creek, 1988**

In 1988 the Swift Current Creek, one of the main Saskatchewan tributaries into the SSRB ran dry. This creek is fed by snow pack in the Cypress Hills located in the south west corner of Saskatchewan and because of low snow pack that year suffered drought. Licensed Saskatchewan water users along that creek experienced water shortages. The licensed users shorted were those downstream. Upstream users were able to withdraw water. As such, priority was based on geographical and environmental determinants, not first in time, first in right uses. This area did not experience water shortages in the 2001 time frame because of the abundance of snow pack in the Cypress Hills.

Now the Swift Current Watershed Stewards group has been formed (not due to this specific drought, but other water quality issues along the Swift Current

Creek). It is anticipated that this organization might be a forum to help alleviate a year of water shortage such as 1988 and provide a more equitable solution to water shortages.

### **Northern Alberta Oil Sands**

Although outside of the SSRB, an interesting example of agreement to water interests contrary to the positivist water law rules occurred in northern Alberta, where oil sand development uses 349 million square metres of water each year from the Athabasca River (Wahl-Hrdlicka, 2007). As outlined previously, Alberta water licenses have a very detailed priority of first in time, first in right and grandfathered interests. Two of these grandfathered licenses are held by Syncrude Canada Ltd. and Suncor Energy Inc. which gives them priority to use water from the Athabasca River for their oil sands mining operations based on the terms and conditions of the original license and not subject to the provisions of the current Act (if inconsistent). These companies have agreed to a significantly different water priority structure and a reduction of their license priority during periods of certain water shortages. Instead of their current licenses which allow for a combined peak withdrawal rate of close to double the average allocation rate, they agreed to a maximum rate equal to their average annual allocation rate. This agreement came after Alberta Environment and the federal Department of Fisheries and Oceans Canada issued a draft Water Management Framework (2006) with the goal was to protect the river and set in stream flow needs to meet environmental and socio-economic goals over the long term. More recently, in this area, Alberta has expanded the decision making framework by implementing a civil society engagement in water conservation, environmental decisions and development. Alberta Environment has released a water management framework for the Industrial Heartland and Capital Region which is comprised of 470 Square kilometer area north east of Edmonton (Alberta Government, 2008) and is a major oils sands development area.

### **Synthesis**

The multiple legal spaces of water law and governance illustrated in these cases show a plurality of water law and governance quite different from the statutory positivist water law often quoted by lawyers and water professionals. In other contexts (such as the criminal law field) this would be cause for considerable consternation. Similarly, variability in resolution of conflicts in legal institutions in water governance would be argued by some to reflect lack of certainty and increase risk of conflict and protracted legal disputes. However, in the field of adapting to climate change and variability, this diversity of water conflict resolution is cause for optimism. It illustrates three very important features of adaptive capacity critical for responding to climate variability and climate change: well established decision making frameworks and processes,

grassroots civic engagement, and subsidiarity or integrated decision making. Each will be explained in turn.

The degree of susceptibility of a system to climate variability or climate change is partly a function of its adaptive capacity, or “ability to design and implement effective adaptation strategies, or to react to evolving hazards and stresses...” (Burton, 2005). Well developed institutions (such as the institutions of water law and water governance) have been identified as facilitative of the management of climate-related risks and thus important in reinforcing adaptive capacity (IPCC, 2007). A well developed institution does not mean a rigid rule driven institution.

Adaptive capacity requires flexibility of institutions to deal with the unanticipated conditions that may result from the impacts of climate change. In respect of governance, the role of institutions includes implementing an enabling environment that allows civil society to deal successfully with the challenges of climate change and applying specific policies (resource mobilization and allocation and incentives and disincentives). Adaptive capacity, to be successful, must allow for the identification and resolution of communities’ problems and the satisfaction of their needs in a fair, efficient and sustainable manner. Thus, the fundamental contribution of governance to reducing the vulnerabilities of people rests on its ability to anticipate problems and to manage risk and challenges in a way that balances social, economic, and natural interests (IPCC, 2007). This entails a well **established decision making framework** and process involving **grassroots civic engagement**. This is not the same as a rigid, positivist framework of water law only requiring dissemination to the constituents affected by it.

The third element of this pluralistic water law and governance institutional framework is that of **subsidiarity or integrated decision making**. Subsidiarity and decentralization, or delegation of responsibility and authority of water management to the lowest feasible level involves managing surface waters at the catchment’s level with involvement of all stakeholders (WWCWAU, 2003; Brooks, 2002). Decentralization and subsidiarity is important for two main reasons:

- (i) Decentralized management decisions and planning allows for local community practices and values which are then adopted and embraced in practice. Community participation ensures community commitment;
- (ii) Decentralization also allows a three part economic analysis which incorporates externalities which might otherwise be lost in the cost

benefit analysis: A conventional top down economic perspective reflects prices paid and relative values of inputs and outputs; a bottom up perspective that reflects the true value to the community and its residents of what might be otherwise marginal resources to outsiders; and lastly a sideways interaction of economic interventions with non economic values such as health benefits from improved water quality.

In order to achieve the goal of subsidiarity in relation to adaptive capacity, a formulistic positivist set of water laws will only limit and bind grassroots participants and water stakeholders in making water management decisions. Consequently, water management decisions will be very diverse (or inconsistent perhaps) if made embracing the three features: well established decision making frameworks and processes, grassroots civic engagement, and subsidiarity.

With the exception of the Swift Current Creek case, all of the cases discovered in this research project illustrate flexibility and civic engagement for the resolution of water conflicts. It is these characteristics which are important for reducing vulnerability and promoting resiliency in adapting to climate change. Community resolution of water conflict allows for community commitment to result and the incorporation by the community of important considerations both socially and economically into decisions. What might be determined to be a scattered fragmented water law system on careful examination is really an important development in water law and governance in adaptation to climate variability and change.

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