Responding to Water Scarcity in Western Canada

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I Introduction

Although Canada has a reputation for possessing abundant supplies of water, it suffers from regional water shortages. In western Canada, the threat of water shortages is endemic and has inspired water legislation since the earliest days of European settlement. The southern regions of the Prairie Provinces are known as Palliser's Triangle, in homage to the leader of a Royal Geographical Society expedition from 1857 to 1860, who maintained that the arid climate would constitute a barrier to settlement. The area experiences annual precipitation of between 12 and 16 inches and suffers from chronic water shortages. The historical concern about lack of water in this region is exacerbated by the fact that most supplies in the area are drawn from the major glacier-fed river systems that have their source in the Rocky Mountains. The Athabasca glacier, which feeds the Saskatchewan River system, for example, has been receding at an accelerated rate since 1960 and is now shrinking at a rate equivalent to about 30 percent every century. In recent times, long-standing concerns about present and future water supplies have been increased by the rapid growth in the population and economy of the area.

This case study is based on the responses of the western provinces to the threat of water scarcity, It sets out the legal background against which governments

have had to wrestle with scarcity in the last 20 years in order for the group to evaluate the possible legal and policy responses.

II. The Framework of Water Allocation Law on the Prairies

As European agricultural settlement pushed westwards into the arid regions of the Canadian plains, the need to provide a secure legal basis for irrigated farming quickly became apparent. The prevailing common-law doctrine of riparian rights did not allow either large-scale irrigation or the development of land that was distant from a watercourse. In the late 1880s, a substantial political movement began to support the development of a law of water allocation that was conducive to irrigation, and the federal government began a thorough study of legislative options. This movement ultimately led to the passage of the North-West Irrigation Act of 1894. The influences of the American law of prior appropriation as it stood in the late 19th century are visible in the structure of the Canadian legislation, although they became gradually obscured over the years as a detailed regulatory approach was superimposed on the original structure of the Act.

The federal Irrigation Act governed water use across the vast area that now comprises the Prairie Provinces. In addition, by 1897 British Columbia had developed a system of water law that was similar in principle to the Irrigation Act, although there was little historical connection between the development of the respective statutory regimes. As a result, by the end of the 19th century the enormous area of Canada that stretched from the Pacific Ocean to Hudson Bay was subject to broadly similar principles of water law.

The federal legislation continued to apply after 1905, when the prairie provinces of Alberta, Saskatchewan and much of the area that now constitutes Manitoba were carved out of the federal territories of Rupert's Land and the Northwest Territories. In 1930, the Natural Resources Transfer Agreement placed the Prairie Provinces on an equal footing with the provinces that had joined

Confederation at earlier dates. Subject to certain exceptions, it transferred federally owned public lands and natural resources to the respective provinces in which they were situated. Each province immediately reenacted the provisions of the federal Irrigation Act as provincial law, with only minor changes. As a result, even when water resources came under provincial jurisdiction in 1930, the Prairie Provinces remained governed by the same basic model of water allocation law.

The Irrigation Act and its provincial successors were based on four fundamental principles. These principles provided the foundations of the basic model of prairie water law and were universally recognized in provincial law until very recent times.

A. Government Ownership

In order to secure control over water use, the cornerstone of Irrigation Act was a declaration that the Crown owned all the water within the jurisdiction. Although some western American states declare that water belongs to the public or to the state, the Canadian formula was borrowed from the Australian state of Victoria. The Water Rights Act of Manitoba closely parallels the original federal legislation by its declaration that "all property in, and all rights to the use, diversion or control of water in the province ... are vested in the Crown." In Alberta the declaration of Crown ownership of water was extended to include groundwater in 1962. On this basis, the provincial statutes then prohibit anyone from using or diverting water without first obtaining a licence from the government.

B. Allocation of Water by Licence

All prairie legislation exempts the minor use of water for basic domestic and agricultural needs from the licensing requirement. A person who wishes to use water in excess of the amount exempted under the Act, or for non-exempt purposes, must first obtain a licence to divert and use water. When the licence is granted, the licensee obtains the right to divert and use the quantity of water

stipulated in the licence, and historically this right passed to the licensee's successors. Early licences, particularly those issued by the federal government at the beginning of the 20th century, typically granted the right to divert large quantities of water for irrigation purposes. For example, one such licence authorized the total diversion of 627,178 acre feet of water during the irrigation season. The licences were usually granted without a fixed term and were treated as permanent in nature. Licences were also secure because they could be cancelled only if the licensee committed one of a limited series of offences specified in the Act.

Water licences in Western Canada had one major feature that differed from water rights that accrued under the doctrine of prior appropriation in the United States. In Canada, licensees were entitled to the entire quantity of water stipulated in their licences, even if it exceeded the amount which could be put to use at the relevant time. In the doctrine of prior appropriation, a water right could be obtained only to the quantity of water that could be put to beneficial use.

C. The Prior Allocation Principle

Any system of water law that grants users secure rights to consume water and allows cancellation only in limited circumstances must deal with the problem that occurs as soon as there is insufficient supply to satisfy all recognized users. On the Canadian prairies, the law resolved that problem by borrowing from the American doctrine of prior appropriation. Under the basic Canadian model, the senior licensee is entitled to receive the entire allotment of water stipulated in the licence before a junior licensee is entitled to receive any water. The Canadian law is thus functionally similar to the original doctrine of prior appropriation, though it is properly described as a system of prior allocation because the priority of a licence depends on the date of the licence application, and the quantity of water allotted to the licensee has always been measured by the decision of the

administrator who issues the licence rather than by the amount of water which an individual puts to beneficial use.

D. Nontransferability

During most of the first century of the existence of prairie water law, allocations of water granted under a licence were essentially nontransferable, except as part of a transaction that involved the conveyance of the land or the undertaking in respect of which the licence was first granted. This rule was implicit under the original federal legislation. The prohibition against the transfer of water allocations was made express when Alberta enacted its first provincial Water Resources Act in 1930. That legislation stated that licences were appurtenant to the land or undertaking specified in the licence and generally "inseparable therefrom."

III. Western Canadian Water Law and Water Shortages

As its short title implies, the Irrigation Act was designed to encourage agricultural settlement by providing secure water rights as they were required. It fulfilled that objective successfully, but it did not take long for the fatal flaw in the original 1894 scheme to emerge. The legislation had only been in existence for a quarter of a century when it became evident that the policy of giving out secure long-term water licences and prohibiting their transfer would soon exhaust the available water supplies on the southern prairies. In 1920, a concern arose in southern Alberta that the grant of large licences for irrigation might have pre-empted the water supplies required by new and expanding municipalities.

Although the fatal flaw in the original prior allocation system was pinpointed in 1920, its effect was disguised for most of the rest of the century. The immediate concern of ensuring that municipalities would have access to adequate water supplies was addressed by the creation of a safety valve in the Act which allowed the transfer of water from a lower priority to a higher priority use. This scheme

also had its origins in American water law and determined priorities in water use by reference to a statutory table. The outline of the 1920 scheme still exists only in Manitoba. Where water is fully allocated, the Manitoba Water Rights Act allows a higher priority user to buy the water rights of a lower priority user. If voluntary negotiations fail, the amount of compensation to be paid to the lower priority user can be fixed by arbitration. In Alberta, there is no record that any transfers from lower to higher priority uses ever occurred.

Initially, the inability of the Irrigation Act scheme to allow new users to obtain water allocations without acquiring the land to which they were attached, except under the table of statutory priorities, was disguised by a massive long-term effort to increase the available supply of water. As long ago as 1975, it was estimated that over $1 billion had been invested in water storage facilities in the Saskatchewan-Nelson River Basin. During the 1980s, the planning of the Oldman River Dam, which was completed in 1992, aroused an unprecedented degree of controversy and litigation. The degree of controversy emphasized that most of the available storage sites on the prairies had already been used and that it is now unlikely that new major dams will be built to alleviate perceived water shortages. As the era of dam building began to recede, more radical proposals suggested the diversion of water into the southern prairies from the Mackenzie River Basin, which flows north into the Arctic Ocean. These proposals were always highly controversial and in Alberta, where there had been some occasional indication of government interest, major interbasin transfers of water are now prohibited by legislation.

In a pattern that was familiar in the American West, the role played by water law in creating shortages became the subject of examination only after all efforts at augmenting the natural supply of water had been exhausted. In Canada, it became apparent only in the last two decades that the basic model of prairie water law had never been designed to deal with water scarcity. The problems can be summarized as follows:

- The legislation had essentially granted secure water licences of indefinite duration that were free of charge, once a modest initial application fee had been paid, and not readily transferable, except with the land or undertaking to which they were attached. The system created no incentives for the efficient use of water.
- In fully allocated basins, there was no realistic way to make room for new users of water or to allow water use to adapt in the face of changing societal needs.
- In a number of basins, virtually all available water had been allocated through the grant of licences. The legislation contained no mechanism to reclaim water that had been allocated to licensees for the protection of minimum instream flows or the aquatic and riparian environment.

CRITICAL QUESTIONS IN WESTERN CANADIAN WATER LAW

1. How can new uses of water be accommodated in fully allocated basins?

The following are the main options that have been considered in Western Canada

(a) limiting the amount of water available to licensees to those quantities which they are capable of using productively as of a certain date. The water reclaimed by this process will be made available for allocation to new users;

(b) cutting the allocation of water to existing licensees by a fixed percentage (e.g. 10%) and making the water reclaimed available for allocation to new users;

(c) closing fully allocated basins to new licences and allowing existing licensees to transfer all or part of their allocations to new users. This policy requires informing all potential new users that water can be obtained only through the transfer process.

2. How can water be reclaimed to meet the instream flow needs of a fully allocated river? Suppose, for example, that licences have been issued for the use of 95% of the natural flow of the river and that science suggests that 45% of the natural flow should remain in the river for instream purposes at all times.

The following are the main options that have been considered in Western Canada:

(a) limiting the amount of water available to licensees to those quantities which they are capable of using productively as of a certain date. The water reclaimed is left in the river to increase the level of instream flows;

(b) cutting the allocation of water to existing licensees by the fixed percentage that is required to achieve the desired level of instream flows;

(c) allowing licensees to take water from the river any order of priority of their licences only when 45% of the natural flow remains in the river;

(d) implementing the transfer system referred to in question 1(c) and allowing the government to hold back a fixed percentage (e.g. 10%) of the water transferred until the desired instream flow levels are met.

(e) implementing the transfer system referred to in question one (c) and allowing the government to buy water from existing licensees in order to increase instream flows.

3. Where a province has instituted a transfer system, it faces problems with two categories of licences. Both licences authorise the diversion of 100,000 acre feet of water at per year. Licensee A has never diverted more than 70,000 acre feet in any single year. Licensee B traditionally diverts 100,000 acre feet each year, but 30,000 acre feet of water re-enters the river in the form of return flow.

The policy issue faced in every system is whether licensees in the position of a and B should be permitted to transfer their entire licensed allotment of 100,000 acre-feet per year or whether the right to transfer should be limited to their consumptive use of 70,000 acre-feet per year.

The following are the main options that have been considered in Western Canada:

(a) limiting the transfer rights of both Licensee A and B to 70,000 acre-feet per year;

(b) limiting the transfer rights of Licensee A to 70,000 acre-feet per year, but allowing B to transfer 100,000 acre-feet per year;

(c) limiting the transfer rights of Licensee B to 70,000 acre-feet per year, but allowing A to transfer 100,000 acre-feet per year.