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## Special Issue: Legal Issues in Water Rights Administration

### Introduction

An Institute workshop on "Western Water Rights: Legal Issues for the Water Manager" was held in Edmonton on May 9, 1986. Bringing together some thirty persons actively engaged in water management, the workshop provided a valuable opportunity for an interchange of ideas among senior government personnel and water resources specialists from different jurisdictions in western and northern Canada.

It was the second in a series of workshops being held under the Institute's four-year Canadian Water Law Project which is being carried out with the support of the Donner Canadian Foundation and Environment Canada. The project spans the subjects of water allocation, water quality, interjurisdictional problems and native water rights.

This issue of *Resources* contains articles based on the four main presentations at the workshop. The themes of the articles by Alastair Lucas and David Percy will be addressed by them at greater length in forthcoming working papers.

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### The Framework of Western and Northern Water Legislation

by David R. Percy

#### Introduction

Water has long been a major concern in the arid regions of western Canada, and features prominently in any discussion of northern resources. This focus of popular attention has not traditionally been accompanied by legal analysis, although issues in water resource allocation nearly always have a legal component. In those parts of western Canada where the available supply of water is already largely allocated, any solution to a water problem is likely to have an effect on existing legal rights. Water managers have sometimes ignored this fundamental truth and created a legacy of legal uncertainties for the future by imposing "administrative solutions" on existing problems. In northern Canada, on the contrary, administrators face the problem of implementing a relatively new system of water law which will both allow the orderly development of water resources and be sufficiently flexible to avoid in the future the problems that now face western water law.

The purpose of this discussion is to provide a legal background to western and northern water issues by reviewing and contrasting the essential features of the legal regimes that allocate the rights to appropriate water in those regions. Western water law will be discussed first, followed by an analysis of the ways in which northern water law differs from the western model.

#### *The Western System of Prior Allocation*

It is remarkable that it is still possible to talk about a western system of water law when water resources have for so long been a matter of provincial control. Yet since the 1890's, the region that stretches from the western boundary of Ontario to the Pacific has been governed by largely similar principles of water law. The common features of water law in the Prairie provinces are explained by the fact that water resources were controlled by the federal government under the North-West Irrigation Act from 1894 to 1930. When water passed into provincial ownership, the Act was adopted as the basis of provincial water law. It is unclear how these features took root in British Columbia, which had regulated water use as early as 1859, but by 1897 they were fully entrenched in the water law of that province.

The basic model of western water law remained largely unchanged until 1984, when Saskatchewan made some radical changes (described by Barton in Issue 9 of *Resources*). The basic model of western water law is still important in the rest of western Canada and some portions of it have probably been retained by implication in the new Saskatchewan legislation. Its cornerstone, like other natural resource legislation in the west, is a declaration that the Crown owns all of the water in the jurisdiction. The Crown grants by licence rights to specific quantities of water on a first-come, first-served basis. If there is insufficient supply to satisfy all the licensees on a particular watercourse, priorities are granted according to the date upon which licence applications were first filed. Thus the senior licensee is entitled to receive the entire quantity of water stipulated in his or her licence before a junior licensee is entitled to any water. The priority is enforced if necessary by closing down the sources of supply of licensees in reverse order of seniority.

Water rights are thus not only granted but also protected basically on the simple principle of prior allocation. However, because the earliest, and correspondingly most favoured,

uses of water are not necessarily the most important to society, a procedure was developed to take some bodies of water out of the ordinary licensing system. In the Prairie provinces, the Lieutenant-Governor is empowered to reserve bodies of water and to distribute water rights in the reserved area by licences. It is clear that this enables a provincial cabinet to prescribe priorities for the use of reserved water that differ from the temporal priorities that ordinarily prevail under the Act. British Columbia has a similar reservation power, although it operates under a different administrative mechanism. The reservation power has been used to provide secure water rights for hydro-electric and irrigation projects and in British Columbia for conservation purposes.

In addition to the water rights held by licensees, western legislation also preserves the right of owners of riparian land to use water at least for domestic purposes. It is contentious whether riparian rights survive beyond this point and difficult to reach a general conclusion because each province now deals with riparian rights in its own way. It is probably the case in all jurisdictions that riparians have no right to use water, except for domestic purposes, without obtaining a licence. They probably retain other aspects of their common law rights and may still be able to restrain the unlicensed or excessive diversions of others.

The principle of prior allocation encouraged the development of western Canada because it made secure water rights available through a simple mechanism and at minimal cost. However, as water in certain river basins became fully allocated, it became clear that the prior allocation system suffered from two serious flaws. It could not make room for new uses of water and it did nothing to encourage licensees to use water more efficiently. The former defect arises from the virtual prohibition, which is express in Alberta and implied in Saskatchewan and Manitoba, of the transfer of existing water rights apart from the land or undertaking in respect of which they were first issued. A total prohibition of transfers would, of course, be unthinkable, for it would protect existing licensees at the expense of denying water for vital social needs. As a result, Prairie legislation set up a table of preferred water uses which, to use Manitoba as an example, gives the highest priority to the domestic use of water, followed in order by use for municipal, industrial, irrigation and other purposes. The only function of the table is to permit a higher priority user to acquire, by expropriation if necessary, a water right held by a lower priority user. Thus in Manitoba, a municipality can acquire the water right of an industrial user, but not *vice versa*.

This is the only form of transfer found in Prairie legislation. It is no more than a safety valve and does not cure the rigidity of the prior allocation principle, because it prevents most new users from obtaining water rights in fully allocated basins. The problem is compounded by the fact that existing licensees enjoy very secure rights and have no legal incentive to save water. Licences generally can be cancelled only if the licensee commits one of a series of specified delinquencies, such as breaching a provision in the Act or a licence, or wasting water. As licences are generally issued without either a fixed term or a significant charge for the use of water, the law does nothing to encourage the efficient use of water, unless the licensee's activities are so profligate as to meet the legal definition of waste. The Prairie system has thus resulted in a rigid pattern of water rights and there is little prospect that existing users will release water to enable future development to occur. Saskatchewan has overcome this inflexibility by enacting wide powers to expropriate existing water rights. British Columbia on the other hand has adopted the obvious solution of allowing, within limits, the transfer of water rights from existing to new uses.

### **Northern Water Law: The Authority Management Scheme**

In contrast to the west, water in the north is regulated by legislation of recent origin. The Northern Inland Waters Act (N.I.W.A.) was passed in 1970 and it allocates water rights by a formula that is initially similar to western water law. The ownership of water is vested in the Crown and the right to issue water licences is delegated to the appropriate Territorial Water Board. However, before a licence can be granted, an applicant must satisfy the Board that the proposed use will not affect an existing use which enjoys a higher statutory priority. An applicant's proposed use may affect an existing licensee whose use has a lower priority, but only if appropriate arrangements are made to pay compensation to the existing licensee.

Priorities in water use are thus important in the initial granting of licences and they apply equally to the allocation of the available supply in times of shortage. The marked differences between western and northern water law is found in the manner in which priorities are determined. In response to the obvious defects in the first-come, first-served principle, the framers of N.I.W.A. envisaged that priorities would be determined by the relative importance of different types of water use. However, it proved easier to state this goal than to realize it. The Act contemplated that the Governor in Council would prescribe a table of priorities for each management area in the North West Territories and Yukon, but in the 16 years since its passage no tables have been established.

The controversial question whether priorities in water use should be determined by time or importance of use raises a debate which is at the heart of modern water law. At first sight, the approach of N.I.W.A. seems preferable, but it is extremely difficult to state which uses are more important than others. Even if it is established at a given location that, for example, water is best used for generating hydro-electricity rather than for municipal purposes or for the pursuit of hunting and trapping, it is unlikely that this decision will be valid throughout an entire region or over a long period of time. This difficulty no doubt explains the failure to produce a table of priorities in any water management area in the north, but the failure has rendered important sections of N.I.W.A. virtually meaningless.

The present paralysis might be cured if water use priorities were stated as guidelines rather than absolute rules, so as to give the Boards flexibility in the initial distribution of water rights. Competition for available supplies among licensees might be resolved by the principle of prior allocation, as in western water law, with a power in the Water Board to override the principle if it creates serious conflict with other water management objectives.

In other respects, northern water law is similar to its western counterparts. There are equally formidable restrictions on the transfer of water rights, but flexibility is created by the fact that licences can be issued only for terms of up to 25 years and by the existence of a wide power to amend existing licences in the public interest. The status of riparian owners in the north is comparable to that found in western Canada and indeed riparian rights are dealt with by a formula that is similar to the present Saskatchewan provision.

Finally, it should be pointed out that N.I.W.A. contains two features that might serve as a model for western water law. There is a mandatory requirement of a public hearing for all applications for licences or renewals. Although this has proved rather cumbersome in practice, it is clearly desirable at least for major proposed uses of water. In addition, the Territorial

Water Boards maintain water use registers, which are open to public inspection, of each application received and each licence issued by the Board. Although the register records only the gross diversion of a licensee, without taking into account any water returned to the stream, it is otherwise an admirable model for other jurisdictions.

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## The Legal Character of Water Rights

by Alastair R. Lucas

There is little doubt that in the water-short Canadian west the riparian rights system prevalent in the nineteenth century produced serious uncertainties for holders of water rights. In low-flow periods, the effect of "reasonable" use by individual riparians was a prorationing of available water supply with consequent shortages for each user. This lack of secure title to water rights resulted in little incentive for large-scale investment in irrigation and other water works. Removal of this disincentive to development was the primary reason for establishment of statutory "prior appropriation" systems under the Northwest Irrigation Act and the British Columbia Water statutes, the forerunners of the modern legislation.

However, an analysis of water rights legislation and water licence instruments in the four western provinces and the northern territories suggests that significant problems of security of title remain for holders of water rights. In particular, there is at least serious doubt that water rights are property rights or even that they are vested rights arising under contract, as opposed to statute.

This has several important implications. It means that there may be no legal basis for asserting rights to full compensation in the event of a taking of water rights, either under existing water rights statutes, as a result of amendments to water rights statutes, or under special confiscatory acts. Existing rights to compensation where water rights are reallocated to higher uses are limited to "loss" or "damage" as opposed to the value of the interest taken. This in turn affects the essential worth of water rights as valuable interests.

If water rights are merely statutory permissions, the value of one of the essential elements of the licensee's operation is diminished. This may be evidenced by reluctance of potential lenders to treat water rights as valuable assets for security purposes. The latter problem will be particularly serious if water rights are not considered to be a property interest.

More generally, the legal nature of water rights is a factor that shapes the entire water resources system. If vested rights of a property nature are allocated to licensees, this means, for example, that the basis for a freely operating market system in water rights has been laid. If greater transferability is a goal to be pursued, all that is required is removal of statutory restrictions on transfer. However, if water rights are merely statutory permissions, then transferability requires an elaboration of the regulatory framework or, ideally, a legislative definition of water rights as property rights.

Whether water rights are vested rights of a property or contractual character also colours the approach of government - both legislators and administrators - to water resources. Action by legislators and by administrators that may adversely affect existing water rights will be taken with greater care if rights are vested than if they are merely permissive. This is partly a consequence of the formal legal rights to compensation that may be raised by interest holders. It is also fostered by a

kind of restraint reflex on the part of political and regulatory officials who tend to avoid public controversy.

### Defeasibility Provisions

There are a number of powerful defeasibility provisions in the water rights statutes. (Defeasibility is how property lawyers characterize loss that occurs when registry systems fail to protect rights.) These are of two types. First, there is the automatic variety, such as the statutory priority provisions. These, in effect, provide that as a condition of the licence a licensee's authorized diversion may be restricted in periods of scarcity so that senior appropriator's may divert their full entitlement.

A second category of defeasibility provisions requires that action be taken by administrators to establish the existence of certain facts, and if they are established to exercise statutory powers to suspend, qualify, amend or cancel water licences. These provisions include transfer to a higher use, and suspension or cancellation for failure to meet licence conditions, for noncompliance with the Act or regulations, for abandonment, for fraud or material misstatement in a licence application or in other required information, or for mistake on the part of the licence-issuing authority.

There is little doubt that these defeasibility provisions detract from the security of title to water rights. However, it appears that in practice the use of these powers by water rights administrators is rare, and that action is normally preceded by negotiation. Exercise of the statutory power is an act of last resort, even with the priority provisions which are central to the scheme of the statutes and constitute a fundamental characteristic of the rights acquired by licensees.

The apparently wide scope of these defeasibility provisions is also qualified by two legal factors. One is the strict interpretation which the courts will give to these statutory provisions, on the basis that they are punitive or forfeiture provisions, or that they purport to interfere with prior vested rights under the licences (on the assumption that these rights are vested). A second mitigating factor is the presence of procedural fairness requirements under most of the water rights statutes, providing for some form of notice and opportunity to be heard prior to the exercise of cancellation powers by water rights officials. It is significant, however, that procedural protections vary considerably. In some cases there is no provision for hearing, and in others, procedural rights are limited by discretionary powers in the water rights officials. Where procedural rights are unclear, the general principles of procedural fairness in administrative law are likely to be applied to give licensees a right to notice and an opportunity to be heard before decisions are made to suspend or cancel licenses.

### Competing Natural Resource Rights

Competing resource rights are a potentially serious qualification on water licence rights. Consolidated approval systems for development of oil and gas and mineral rights, such as the Alberta ERCB process, have the benefit of drawing potential adverse effects on water rights to the attention of water resources officials and water licence holders. The problem is then dealt with by attaching appropriate terms and conditions to other resource rights, and by water resources officials developing and promoting policies to protect water rights holders. This raises competing rights problems to the regulatory and even occasionally to the political level for resolution. However, it is not a complete answer, since in the event of a conflict that cannot be resolved by regulatory or political negotiation, rights would be determined by interpretation of the water rights statute and its competing natural resource counterpart. The

outcomes of this sort of conflict are uncertain.

### **Invalid Licence Terms and Conditions**

When new water licenses are issued, further insecurity is produced, ironically, by diligent efforts of water resources officials to protect the interests of existing licence holders, the rights of unlicensed domestic water users, and the overall provincial water resources base. Terms and conditions are attached to licences that purport to make them subject to the rights of other water users – apparently including unlicensed users. Other conditions purport to authorize officials to periodically review and modify licence rights to preserve the rights of other water users and more generally to ensure the “most beneficial use of the water in the public interest”. These conditions may in fact be enforced to protect other water uses, and they may, by increasing management flexibility, help to maximize public benefit from the water resource. The problem, however, is that such conditions may actually weaken security of title throughout a licensing scheme by undermining the fundamental system of priority by time. If prior rights can be administratively reallocated in this way, apparently without even the possibility of compensation for affected licensees whose licences contain such conditions, the essential security of title based on prior acquisition of rights is shattered.

There is another side to this coin, however, and its implications are equally damaging for water rights and title security. This arises from the fact that these very conditions which, if they were valid and enforceable would undermine the priority system, are themselves challengeable. It is arguable that such conditions are likely, if challenged by the licence holder or by other interested persons, to be held *ultra vires* the licensing authorities. As conditions not within the legal authority of the water rights officials, they are void and unenforceable. Thus holders of subsequently issued licences or unlicensed water users who may have taken comfort and security from these conditions in previously-issued licences may find their confidence misplaced. Equally, water administrators whose management plans may have been based in part on the soundness and enforceability of such conditions will face uncertainty.

There is little doubt that all of these problems tend to be magnified by conditions of overallocation in particular basins. This is when the time priority system becomes seriously strained. It is under these conditions that the validity of licence terms and conditions designed to mitigate the apparent rigors of time priority by introducing the means for equitable apportionment, are most likely to be disputed and legally tested. Unfortunately, conditions of extremely low flow have prevailed in several southern Alberta basins in recent years, and the pattern of prairie weather suggests the possibility of continuing dry conditions in southern regions.

## **REMEDIAL APPROACHES**

### **Water Rights Definition**

These problems suggest several remedial approaches. One is to define water licence rights more clearly as vested property rights. This would establish a firm basis for lifting transfer restrictions to create a market in water rights. Detailed discussion of the implications of wider transferability of rights is beyond the scope of this article. However, it can be seen from this analysis that uncertainty about whether water licence rights are property rights, or merely regulatory permissions subject to pre-emptive regulatory modification, would have to be resolved in order to implement an effective rights transfer mechanism.

This clarification of rights could take many forms. One possibility that merits consideration is elaboration of the criteria for transfer of water rights to similar or to higher uses. If, for example, criteria and authority were legislated for transfer of water rights between agricultural users, in over-allocated basins, pressure for informal or unauthorized equitable apportionment, with consequent inefficiency, may be removed.

### **A Quieting Titles Procedure**

A further recommendation is that a procedure for quieting titles be implemented by statutory amendment, in order to clarify licence rights based on early informal allocations or on dubious backdated priorities. This procedure could be handled by a temporary or *ad hoc* tribunal that incorporates both judicial and water resources expertise. The procedure cannot be elaborated here. However, it should, at a minimum, involve a proceeding initiated by any affected person or government agency (normally the water rights agency or the licence holder) with notice to all other interested parties. The latter could then intervene in the proceeding to assert their interests. A binding determination of the water rights of the parties would be made by the tribunal. This would establish a secure basis for investment by holders of water rights, and for planning and management decisions by water management authorities.

### **Statutory Water Planning Powers**

A final recommendation is that statutes be amended to give water planning functions a firm legal basis. In particular, authority to prepare management plans should be spelled out in the water rights legislation. The legal effect of these plans, once prepared, should be made clear and should be related to the water licensing systems. This would mean that licences could validly be conditioned to ensure that water use would conform to the objectives of management plans. Current informal planning actions aimed at placing individual water licensing decisions within overall management objectives would then have the legal basis to ensure their long-term effectiveness.

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## **Natural State Water Licensing**

*by Donna Tingley*

Alberta's water licensing legislation has long been a concern to conservationists. The *Water Resources Act*, R.S.A. 1980, c.W-5, which regulates the use and diversion of water in the province, contemplates the complete allocation of water in watercourses through a licensing scheme which is essentially based on the “first come, first served” principle. Theroretically, this means that all of the water in a watercourse could be allocated for diversion and consumptive uses without regard for the water's basic recreational and aesthetic values.

Alberta's Act does have a saving provision which permits a water licence to be granted for natural state purposes. Unfortunately however this section, and a similar provision which applies in the northern territories of Canada, has been used only sparingly. The purpose of this article is to review the law and practice in Alberta with respect to natural state water licences, with a brief comparison with the situation in the Yukon and Northwest Territories.

Before discussing natural state licences in detail, it is helpful to briefly outline the overall water licensing scheme contained in Alberta's *Water Resources Act*. At the outset, the Act provides that the right to divert and use all water within the province is

vested in the provincial government. In order to use or divert water for all but domestic purposes, one must apply for a licence under the Act. Licence applications are given priority based on the day that they are granted and each licensee is entitled to the whole of the supply specified in the licence. Where an applicant applies for a water licence, and the water flow is allocated to existing licensees, a system of priority based on a list of uses in the Act, the applicant must, however, compensate the existing licensee for the loss of his licence.

Of interest to conservationists is section 11(1)(c) of the *Water Resources Act* which states that a licence may be obtained to "use water in its natural state for the purpose of conservation, recreation, or the propagation of fish or wildlife or for any like purpose". Under the general provisions of the Act, anyone holding such a licence will be assured of a certain water supply and the right to receive compensation if the water is ever required for a higher priority use.

The natural state licensing section in the Alberta *Water Resources Act* is an anomaly. It authorizes a licence to be granted for the "non-use" of water in an Act which was established to deal with diversion and consumptive uses. There is no direction in the law as to how one applies for a natural state water licence or how the application should be assessed by the approving authorities. For example, the *Water Resources Regulations*, A.R. 91/58 (as am.) prescribe in detail the information which must be included in an application to *divert* water. Natural state licences are not mentioned.

Despite this lack of direction, at least four applications for natural state licences have been submitted to Alberta Environment. The first two were submitted during the 1970s and were both refused. Only anecdotal information is available with respect to these early applications. The first was submitted by an employee of the water rights branch of Alberta Environment. His purpose was to obtain a legal right to waterski on a recreational lake near Edmonton. He did not pursue the matter when his application was refused.

A more significant application was submitted in April, 1974, by Alberta Fish and Wildlife, who viewed their application as a test case. If successful, they planned to apply in respect to other water bodies. The site was chosen very carefully. The application was submitted for Ware Creek which is an important spawning area for Bow River rainbow trout. Most importantly, there were no conflicting users of the creek. After protracted interdepartmental discussions, the application was refused by Alberta Environment. Alberta Fish and Wildlife have not applied for a natural state water licence since.

During the past few years, two natural state licence applications have been dealt with by Alberta Environment. Because the documentation has been made readily available by the applicants, the two situations make useful and interesting case studies.

On July 12, 1985, a natural state licence application was submitted by Trout Unlimited Canada for a base flow on a specified reach of the Highwood River during the period April to September. The organization applied for the licence because, it said, fish kills had occurred in the past due to a combination of high summer temperatures, effluent loading and reduced flows due to diversions into various irrigation works.

The application was rejected by a letter from the Water Controller dated August 30, 1985. The reasons for the refusal are set out in the following quotation from the letter:

"In reviewing your application, we must consider the effects of your proposal on existing users along the Highwood River

and Little Bow River. In so doing we find that approval of your application would seriously restrict the use of water for human needs and food production. At the same time our experience of last summer leads us to conclude that a minimum passing flow of the magnitude contained in your proposal is not necessarily required to ensure the survival of the fish population in the Highwood River."

This letter raises two questions. One, was the reason that the licence was refused the fact that there was insufficient flow to meet the needs of the existing licensees and the Trout Unlimited application; or was the refusal based on the needs of potential future users? If the latter, then the government action is open to criticism because the *Water Resources Act* does not contemplate the needs of future users as a criterion for assessing applications. Second, if the department believed that Trout Unlimited was applying for more water than was necessary to support the fishery, why did they not grant the licence for a lesser amount of water? In other circumstances, this is a matter which might well be negotiated between the department and the applicant.

The only successful application for a natural state water licence was submitted jointly on December 4, 1984, by the Public Lands Division of Alberta Forestry, Lands and Wildlife and the Wagner Natural Area Society, a non-profit society. It concerned an area of land known locally as the Wagner Bog. The property is owned by Alberta Forestry, Lands and Wildlife, and is leased to the Wagner Natural Area Society under a 21-year recreational lease. As an assured water supply is critical to the survival of the bog, the decision was made to apply for a natural state water licence.

On the advice of Alberta Environment, the application submitted for the Wagner Bog was essentially blank. The department wanted complete flexibility in dealing with the matter as it had not reviewed an application for a natural state water licence for several years. This ultimately worked against the applicants, because Alberta Environment was never certain what was being requested in terms of surface water, groundwater and the volume of each.

On December 12, 1985, more than a year later, the applicants were granted an interim licence and licence. The licence has raised some concerns for the joint applicants, particularly because of one clause which reads as follows: "the licensee has the right to use the water that directly originates on the property". The difficulty is that the bog is fed in part by groundwater which migrates from some distance away. The licence may not apply to this water.

These applications demonstrate that it is very difficult to obtain a natural state water licence in Alberta in spite of its apparent availability. Even the one licence that was granted is so narrow in scope that it may not provide the protection required. There appears to be some reluctance on the part of Alberta Environment to license a "non-use" of water for recreation and conservation purposes to the detriment of future applicants whose uses might be considered more productive. As well, in fairness it must be recognized that the regulators must deal with some difficult practical questions in natural state licence applications. For example, who should be eligible to apply for a natural state water licence? Is it reasonable that a single conservationist can obtain a licence to protect a public resource, such as a fishery? As well, it is very difficult to assess the amount of water required to protect the aesthetic value of a watercourse.

It is interesting to compare the Alberta situation to that in northern Canada where the relevant legislation contains a similar natural state provision. The *Northern Inland Waters Act*, R.S.C. 1970, c.28 (1st Supp.) and the Northern Inland

Waters Regulations, C.R.C. 1978, c.1234, which apply in the Yukon and Northwest Territories, contain a water licensing scheme. Very briefly, the scheme, which is administered in the respective territories by the Yukon Water Board and the Northwest Territories Water Board, operates as follows.

The Act authorizes the federal Cabinet to establish water management areas, to classify uses and to prioritize uses in the water management areas. At this time, water management areas have been formed and uses specified, but priorities have not been established. In practice, licences are given priority based on the date of licensing. One of the uses specified in the Regulations is "conservation" which is defined in section 5(b) as "being the use or storage of waters or the construction of works in and about waters for preserving, protecting or improving the existing or natural environment".

In the Northwest Territories, there has been little interest shown in conservation water licences. One application was submitted a number of years ago by an individual. It was for an entire water basin, and was rejected outright by the Board.

In the Yukon, however, the first two applications for conservation water licences are currently before the Yukon Water Board. One application was submitted by an individual in respect to a bog area, and the other by a community association representing a subdivision located at the bottom of a placer-mining creek. The Board is very concerned with the applications because of the precedent that will be formed. There are approximately six applications for conservation licences that will be submitted once decisions are rendered on the current applications. The Board is undertaking both technical and legal studies on conservation water licences before calling public hearings into the two applications. The Board's concern is very straightforward. The placer-mining industry is very important to the Yukon's economy. The Board's fear is that the availability of conservation water licences may ultimately have a detrimental effect on this key industry.

In conclusion, the natural state or conservation water licensing provisions in the legislation are causing considerable discomfort for those responsible for their administration. Administrators are reluctant to face the possibility that conservationists could be in a position to legally enforce the "non-use" of a watercourse for conservation or recreation purposes. On the other side, conservationists will undoubtedly continue to pursue any legal means available if it appears that governments are not taking appropriate means to ensure that the recreation, conservation and aesthetic values of water are preserved.

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## **The Role of Water Resource Planning In Support of Licensing and Allocation**

*by Bruce MacLock*

The process of licensing and permitting water use can be greatly strengthened through the development and adoption of water resource management plans. In the place of a "first come, first served" approach, a broader, more strategic approach is now being used in water licensing, resulting in a wiser allocation of water. Alberta has used a partnership of planning and licensing to its maximum advantage to respond to the challenge of major water demands for in situ extraction of hydrocarbons from oil sands deposits in the Cold Lake – Beaver River Basins. This article will describe the work that went into the short-term and long-term plans for those basins

and will draw a few conclusions regarding the efficiency of planned licensing and water management.

In order to address the water requirements of the oil sands projects, a study was undertaken by the Planning Division of Water Resources Management Services, Alberta Environment, with the assistance of various other Alberta Environment divisions, Alberta Energy and Natural Resources, and Alberta Recreation and Parks. A planning team, which included an observer from Saskatchewan Environment, guided the study. Four technical committees provided input in the areas of water supply, water withdrawal requirements, instream water requirements and interaction with other planning agencies. A public involvement program was initiated at the outset of the study to keep residents and other interested parties informed of the study progress and to give them the opportunity to identify from their respective viewpoints the critical issues facing water users. The three main stages of the water management study were technical studies, formulation and evaluation of water management alternatives and the adoption of a water management plan.

The technical studies determined the quantity and quality of the surface water and groundwater resources in the region. The two main basins in the study area are the Beaver River Basin and the Cold Lake Basin. The total annual volume of the Beaver River at the Alberta/Saskatchewan boundary is 839,400 dam<sup>3</sup>/year (thousand cubic meters per year) or 680,780 acre-feet/year (442,740 acre-feet). Most of the available groundwater in the area is located in surficial deposits, consisting primarily of glacial till, and in buried bedrock channels, filled with preglacial and glacial sands and gravels. The water quality of the lakes indicates that they are naturally productive and are still in their natural condition. The existing water quality in the rivers is generally good and typical of wilderness rivers relatively unaffected by development.

Existing water uses were determined and forecasts of future water requirements were completed for domestic, municipal, agricultural and industrial use for low and high development scenarios for the years 1985, 2000 and 2015. Most of the water withdrawn for industrial use (mainly for the oil and gas industry) in the basin is consumed, whereas the municipalities' water withdrawals are only partially consumed with a large portion being returned to the surface water system following treatment. Existing withdrawal water use in the basin is approximately 8500 dam<sup>3</sup>/year (6890 acre-feet/year). For the year 2015, the high development scenario predicted a forecasted total withdrawal water demand of 103,900 dam<sup>3</sup>/year (84,265 acre-feet/year). The low scenario forecasted a demand of 26,900 dam<sup>3</sup>/year (21,815 acre-feet/year). The difference in demand between the high and low scenarios is due to the wide range in projected sizes of individual oil sands facilities.

Inventories of the existing and potential fisheries, wildlife, and recreation users in the study area were undertaken and the instream lake, water level and streamflow needs were assessed. These requirements were determined from resource inventories as well as the sensitivity of each resource to change in lake levels or streamflows. The sensitivity analysis was based on historic lake levels and streamflows, water quality data, and a lake shoreline ecological inventory and assessment.

The water quantity and quality requirements of the water users were compared with the available surface and groundwater resources by means of surface water balance, groundwater, and water quality computer models. This analysis demonstrated that short-term water requirements could be met from within the Basin, reasonably close to the point of use. As for the long term, the analysis also showed that withdrawal water needs, up to and including the high

development scenario for the year 2015, could be met by any one of three alternatives: (i) *Local Supply*. This alternative consisted of meeting municipal and industrial withdrawals from groundwater, the Beaver River, and eight lakes (Cold, Ethel, Marie, Burnt, Angling, Moose, Wolf and Caribou). (ii) *A Reservoir*. A dam on the Sand River upstream of its junction with the Wolf River would supply water to be withdrawn by industry from the reservoir. (iii) *An Interbasin Pipeline*. All major industrial withdrawals would be met by water supplied by pipeline from outside the Cold Lake-Beaver River Basins. Two possible pipeline routes, the Bonnyville and Ardmore, would bring water from the North Saskatchewan River. A third route, which was later ruled out for technical and environmental reasons, would bring water from the Athabasca River into the Basin using both a pipeline and a natural river channel. Instream water requirements and water quality needs could be met by actions common to each of these three long-term water management alternatives, with the possible exception that flow augmentation from a reservoir might provide some flexibility in meeting water quality needs.

The results of the technical studies, the short-term proposal and the long-term alternatives formulated by the planning team were reviewed at public meetings in February 1983. The planning team then forwarded a technical evaluation and summary of the public response to the senior management levels of the represented departments. This report included a recommended water management strategy for the Basins. In summary, this strategy was that the provincial government adopt the short-term water management proposal, resolve uncertainties related to the long-term alternatives, and implement the most acceptable long-term alternative when the withdrawal use exceeds the limits set out in the short-term proposal.

The planning team's draft recommendations for short-term water management were then reviewed within Alberta Environment and forwarded to the Minister for consideration. In March 1983, the Minister of Environment announced that the short-term plan had been adopted by the Government for the management of water resources in the study area. The short-term plan contained 16 statements setting out the Province's intention to restrict water withdrawals to fixed amounts from certain sources, protect instream water needs, maintain control over water management structures, enhance water quantity and quality monitoring programs, encourage water recycle, construct certain lake outlet control structures, restrict waste discharges, and control erosion and surface runoff impacts on lake water quality. Most of the short-term plan was implemented through existing licensing mechanisms, programs, and budgets.

A number of items had to be clarified before the advantages and disadvantages of all the long-term alternatives could be finalized and a long-term plan selected. The Minister's announcement included a commitment to resolve these questions and select a long-term plan before the withdrawal limits of the short-term plan were met. Withdrawals were forecasted to reach the short-term plan limits between 1990 and 1995. A new planning team was appointed to carry out this work, with public involvement again being a key component.

The results of the engineering and environmental studies and the evaluation of the alternatives were reviewed with the public and interested government agencies. Throughout the public involvement process, many people emphasized the importance of protecting water quality. Control of surface water waste discharges and deep well disposal were both items of concern. Participants stressed that there should be no impact on local water quality and that emphasis should be

placed on the recycling of waste water to reduce discharges. Waste water disposal was considered as important as water supply and there was general agreement that it should be addressed in the long term plan. As to a pipeline, industry representatives, private citizens and public interest groups all supported the ownership and operation of a pipeline by a private firm or by a co-operative of existing users. The same parties supported the recycling of water to reduce the amount of make-up water required. Each of the three alternatives was evaluated according to the following criteria:

- cost.
- reliability of water supply (i.e. ability to meet demand continuously for 30 years).
- impact on water quality, fisheries, wildlife and recreation.
- opportunities for local employment and related benefits.
- flexibility (i.e. ability to deal with an increase, or decrease, in water needs).
- public acceptability.

This process resulted in the announcement in October 1985 by the Environment Minister and the local M.L.A., of the long-term plan for water resources management, based on the third alternative of a pipeline from the North Saskatchewan River. Some of the key features of the long-term water management plan are:

- Long-term industrial water needs for oil sands plants will be supplied by pipeline from the North Saskatchewan River.
- Oil sands water users are expected to collectively fund, own and operate the pipeline system in accordance with existing provincial statutes and regulations.
- The pipeline is expected to be fully operational by the time the limits of the local water sources are reached and by 1991 at the latest.
- All oil sands users with major withdrawals will be required to switch their source of supply to the pipeline when it becomes operational.
- Alberta Environment will meet with the industry to assist with selection and implementation of the pipeline supply system.
- Withdrawal limits for the surface water sources set out in the short-term plan will be strictly enforced.
- Withdrawal limits for groundwater sources will be set to include recently-defined regional aquifers; withdrawals will be permitted on a site-specific and limited-duration basis within these limits until the pipeline is operational.
- Increased recycling of produced water will be required.
- No oil sands surface-water discharges in the Beaver River Basin will be permitted.
- Limits will be established for deep well disposal.

Although the pipeline is the most expensive alternative, the additional costs are offset by the advantages it offers in terms of impacts on water quality, recreation and fisheries; reliability of supply; and public acceptability.

Valuable lessons relevant to water licensing can be learned from planning exercises like the Cold Lake-Beaver River planning study. They include:

- a) Rational allocation of water amongst competing uses on a basin or watershed-wide basis is possible only through integrated basin planning. In this manner, the greatest possible number of competing water uses and in-stream demands can be considered together, both for the short term and the long term. The planning process requires potential water users and the regulators to go further afield than the nearest water-course to ensure that local water supplies are not overdrawn. Otherwise, the potential exists for the licensers to over-allocate from local supplies. Historically some waters have been over-allocated because a merely licensing approach has tended to focus on the one reach of one stream and, additionally, has been

subjected to other pressures such as socio-economic and political factors. In reality, the granting of every individual application requires a basin-wide perspective.

- b) The complexity of interplay between water quantity and quality management is much clearer to the water controller/licenser if he is following a planning exercise such as the Cold Lake-Beaver River. In particular, seasonal adjustments to licensed water quantities can be better dealt with by taking the time to plan on a regional or watershed scale. The downstream obligations to other provinces are best taken care of within the context of an integrated plan for water resources. The "first come, first served" allocation system in interprovincial basins has not adequately accounted for the needs of downstream provinces.

The Cold Lake-Beaver River planning exercise was very successful even though it did not have any basis in the Water Resources Act. This in fact presented no problems in the implementing of the plan – in large part due to the cooperation of the industry with the planning process and the involvement from an early stage of the affected public. A statutory basis for the water resources planning process would be a valuable addition to the Water Resources Act.

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## Around the Institute

- On September 15, the Institute sponsored a seminar on "The Removal of Offshore Installations on the Norwegian Continental Shelf with Emphasis on Taxation." The speaker was Jan Syversen of the Scandinavian Institute of Maritime Law, University of Oslo. Following the seminar, he spoke with Calgary oil company personnel at a meeting organized by the Tax Department of Bow Valley Industries Ltd.
- The Institute has recently hosted a number of other visitors, including several from Australia. During the summer, Institute staff met with Donna Craig, an environmental lawyer and law lecturer from Australia's MacQuarie University. More recently, Institute researchers met with Peter Wright of the Environmental Unit, Conservation Commission of the Northern Territory, Darwin, Australia. Mr. Wright, a graduate student at Dalhousie University, was interested in comparing the Northern Canadian and Australian experiences. Another Australian visitor was Bruce W. Davis, Head of the University of Tasmania's Department of Political Science. Mr. Davis discussed performance assessment of Crown corporations with representatives of the Institute and the University of Calgary. Ciaran O'Faircheallaigh, of the Northern Australian Research Unit of the Australian National University, also paid the Institute a recent visit. Mr. O'Faircheallaigh had previously spent several months visiting the Centre for Resource Studies at Queen's University. He discussed aboriginal claims and the Canadian mineral industry with Institute staff. The Institute researchers also had the opportunity to discuss aboriginal land claims with a Canadian visitor: David Nutter, General Manager of the Northwest Territories Chamber of Mines.
- In July, the Institute submitted a brief to the House of Commons Legislative Committee on Bills C-92 and C-94. The brief addressed: the impact of the Bills on private contractual arrangements, Canadian ownership, amendments to the Oil and Gas Production and Conservation Act, effect of surrender on liability, and consistency between the legal/administrative regimes governing lands offshore Newfoundland and elsewhere. The brief was prepared by Institute Executive Director Constance Hunt and Christian Yoder, now a lawyer with the Calgary firm of Macleod Dixon.

- On August 21, the Institute and the Canadian Bar Association (CBA) Natural Resources and Energy Section convened a symposium on the topic "Energy and Resources: Values of Science, Law and the Community in Conflict." The symposium took place as part of the CBA's 1986 Annual Meeting. However, as a result of the Institute's participation, the symposium was opened to non-lawyers as well as to CBA members, attracting about 50 people to one of the Annual Meeting's more well-attended sessions. Among the speakers featured at the symposium were: lawyer and native rights advocate Thomas Berger; Science Council of Canada Chairman Dr. Stuart Smith; Michael I. Jeffery, Chairman of the Environmental Assessment Board of Ontario; Raymond M. Robinson, Executive Chairman of the Federal Environmental Assessment Review Office; Yukon Minister of Renewable Resources David Porter; and Albert H. Malouf, Justice of the Quebec Court of Appeals. The symposium was organized and chaired by Institute Research Associate J. Owen Saunders and Yude M. Henteleff, Chairman of the CBA's National Committee of the Natural Resources and Energy Section.

- Second-year University of Calgary law student Charles McGee is a 1986-87 recipient of a Joe Rudd Scholarship from the Rocky Mountain Mineral Law Foundation. The scholarships are awarded annually to four North American law students who are judged to have the potential to make a significant contribution to the field of natural resources law. The University of Calgary is a Governing Member of the Rocky Mountain Mineral Law Foundation.

## Publications

***Liability for Drilling- and Production-Source Oil Pollution in the Canadian Offshore***, Christian G. Yoder. Working Paper 12. 1986. ISBN 0-919269-20-6. 85 p. \$15.00. (Plus postage and handling of \$3.00 Canada, \$4.50 USA, \$6.00 outside North America.)

Oil spills arising from the offshore drilling and production activities of the petroleum industry can cause property damage and generate cleanup costs and accordingly, statutes have been enacted to regulate the rights of the various parties involved in such incidents. In Canada, three statutes, the Oil and Gas Production and Conservation Act, the Arctic Waters Pollution Prevention Act, and the Fisheries Act, apply to offshore spills emanating from the drilling or production activities of the petroleum industry. This book is about the liability-imposing provisions of these statutes.

In the first part of the book, the leading statutes are introduced by reviewing their political origins. The underlying liability concepts utilized in the statutes are then identified and compared with each other. This is followed by detailed comparative analysis of the civil and criminal liability features of the statutes. Several additional dimensions to the topic of liability for offshore drilling pollution are then referred to before general conclusions are drawn.

The underlying theme of the book is that the overlapping of the three statutes raises statutory interpretation questions which makes assessing liability exposure and recovery possibilities difficult. Variations in the statutes offer both claimants and defendants fertile ground for advantage-seeking arguments. This is unfortunate for all parties concerned, because the reason behind the enactment of each of the statutes was the same: to provide a fair and practical basis for determining pollution liability.

***A complete list of publications is available from:*** Canadian Institute of Resources Law, 430 Bio-Sciences Building, The University of Calgary, Calgary, Alberta, Canada T2N 1N4. Telephone (403) 220-3200.