

Canadian Institute of
Resources Law

Institut canadien du
droit des ressources

**Instream Flow Protection and
Alberta's Water Resources Act:
Legal Constraints and
Considerations for Reform**

by
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Edmonton

Discussion Paper

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FOREWORD

This paper was selected as the 1991 winner of the Institute's annual national Essay Prize. The Prize, established in 1983, is awarded to the best student essay in Canadian natural resources law submitted to the Institute. The winning entry was selected from among twelve submissions by a Selection Committee, chaired by Professor Nigel Bankes of The University of Calgary Law Faculty, together with Al Hudec of the Calgary law firm of Blake, Cassels & Graydon, and Kemm Yates, a lawyer with the Calgary firm Milner Fenerty and a member of the Institute's Board of Directors. The contribution of the Selection Committee is gratefully acknowledged.

Mr. Ferner was a 1991 graduate from The University of Alberta's Faculty of Law and is now with the Edmonton firm McLennan Ross.

This is the fourth time that the winning essay, or a work based upon it, has been published by the Institute. The Institute has published *Maritime Boundaries and Resource Development: Options for the Beaufort Sea* by Donald Rothwell (1986), *Surrounding Circumstances and Custom: Extrinsic Evidence in the Interpretation of Oil and Gas Industry Agreements in Alberta* by David E. Hardy (1988), and *Successor Liability for Environmental Damage* by Terry Davis (1989).

This paper is a thorough, well-researched piece of work that contributes to the existing literature and will be of great interest to practitioners of water law and environmental law; the law is stated as it was available to the author on 1 January 1992.

J. Owen Saunders
Executive Director
Canadian Institute of Resources Law

AVANT-PROPOS

La présente étude a gagné en 1991 le prix de dissertation décerné chaque année par l'institut. Ce prix, offert depuis 1983, est attribué à l'étudiant en droit canadien ayant présenté à l'institut la meilleure dissertation en droit des ressources naturelles. La dissertation gagnante a été choisie parmi douze soumissions par le comité de sélection, présidé par le professeur Nigel Bankes, de la Faculté de droit de l'Université de Calgary, assisté par Al Hudec du cabinet d'avocats Blake, Cassels & Graydon, et Kemm Yates, avocat au cabinet Milner Fenerty et membre du conseil d'administration de l'institut. Nous remercions sincèrement le comité de sélection pour sa contribution.

M. Ferner a obtenu son diplôme de la Faculté de droit de l'Université d'Edmonton en 1992 et il est maintenant associé au cabinet d'avocats d'Edmonton McLennan Ross.

C'est la quatrième fois que l'institut publie la dissertation gagnante, ou un travail réalisé à partir de cette dissertation. L'institut a publié *Maritime Boundaries and Resource Development: Options for the Beaufort Sea*, par Donald Rothwell (1986), *Surrounding Circumstances and Custom: Extrinsic Evidence in the Interpretation of Oil and Gas Industry Agreements in Alberta*, par David E. Hardy (1988), et *Successor Liability for Environmental Damage*, par Terry Davis (1989).

La présente étude est un travail approfondi, bien documenté, qui contribue à la littérature existante et intéressera beaucoup les spécialistes du droit des eaux et du droit de l'environnement; la législation citée est celle dont disposait l'auteur le 1^e janvier 1992.

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ABSTRACT

Techniques available in Alberta's *Water Resources Act* to protect instream flow are examined. These include the allocation of instream flow rights, emergency expropriation, reservation, attaching conditions to water licences, and protection at the source. It is submitted that in river basins not yet fully allocated, instream flow has the potential to be adequately protected by the utilization of these five techniques. Three changes to Alberta's *Water Resources Act* which would enhance the protection of instream flow are also examined. These include the linking of statutes, market transfer of water rights, and the removal of the preference of use approach found in s.11 of the Act. It is submitted that in order to better protect instream flow in fully allocated river basins, Alberta should adopt a system of water law which allows for the market transfer of water rights. Instream flow rights would compete with all other water rights within this market transfer system. A case study of the Highwood River illustrates why these modifications to Alberta water law are needed, and how they might be applied.

RÉSUMÉ

Cet ouvrage examine les techniques utilisées par la *Water Resources Act* de l'Alberta pour protéger le débit de l'eau. Elles incluent l'allocation de droits au débit de l'eau, l'expropriation en cas d'urgence, la réserve, l'imposition de conditions aux permis et la protection à la source. Il est suggéré que dans les bassins fluviaux qui n'ont pas encore été totalement attribués, le débit de l'eau peut être convenablement protégé par l'utilisation de ces cinq techniques. L'auteur propose trois modifications à la *Water Resources Act* de l'Alberta qui amélioreraient la protection du débit. Il s'agirait d'établir un lien entre les statuts, d'instituer un transfert sur le marché des droits de jouissance de l'eau, et d'éliminer l'approche de la préférence d'usage instituée par l'article 11 de la loi. Il est suggéré qu'afin de mieux protéger le débit de l'eau dans les bassins fluviaux totalement attribués, l'Alberta adopte un système législatif qui autorise le transfert sur le marché des droits de jouissance de l'eau. Dans ce système de transfert sur le marché, les droits au débit de l'eau feraient concurrence aux autres droits de jouissance de l'eau. Une étude de cas de la Highwood River illustre la raison pour laquelle ces modifications à la législation albertaine relative à l'eau sont nécessaires, et de quelle façon elles peuvent être appliquées.

INTRODUCTION

Settlers of Alberta in the 1800s found it very difficult to obtain sufficient water for irrigation because of the common law doctrine of riparian water rights in place at the time. Riparian water law limited the expansion of irrigation because it allowed only land owners situated along the river to obtain a water right, and required that water use did not substantially diminish the quantity of flow or impair water quality.¹ To overcome these limitations, the federal *North West Territories Irrigation Act*,² the legislation from which Alberta's 1980 *Water Resources Act*³ is derived, was passed as law in 1894. The aim of the legislation was to suppress the existing system of riparian law, and to accelerate water development in two ways: to invoke a system of law which allowed for and encouraged water diversion to land away from the rivers, and to allow for an increased quantity of water to be diverted.⁴

History has caught up with itself. Just as riparian water law was unsuitable for the early settlers of Alberta, Alberta's *Water Resources Act*, largely unchanged in principle since 1894, is also unsuitable to regulate the modern day use of water in the province or to protect instream flow. This should come as no surprise, as the legislation was passed to facilitate the offstream use of water in support of irrigation expansion in the southern prairies.

As in the United States,⁵ instream flow has become a matter of concern in Alberta in response to greater environmental awareness and greater competition over water use. The concern is particularly acute in southern Alberta, where drought has been prevalent in the latter part of the 1970s and 1980s, and where water rights have been fully allocated in some river-basins.⁶ Simply stated, in a low-flow year, much of the

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1. D.R. Percy, "Principles of Western Canadian Water Law" in *Border Waters, U.S.-Canada Transboundary Management* (49th Parallel Institute for Canadian-American Relations, Montana State University, 1987) at 51.
 2. *Northwest Territories Irrigation Act*, S.C. 1894, c.60.
 3. *Water Resources Act*, R.S.A., 1980, c.W-5.
 4. Percy, *supra*, note 1.
 5. Instream flow was recognized as a concern in the United States in U.S. National Water Commission, *Water Policies for the Future* (Washington, D.C.: U.S. Govt. Printing Office, No.5248-00006, 1973) at 271 to 279, and was an issue of concern in some states prior to 1973. For example, in 1955, Oregon created the legal means to reserve instream flow when it passed a minimum streamflow law. Washington state passed a *Minimum Water Flows and Levels Act* in 1967. See K. Brandes, ed., *Opportunities to Protect Instream Flows in Idaho, Oregon and Washington* (Washington, D.C.: U.S. Dept. of the Interior, Fish and Wildlife Service, Biological Report 85(9)) at 126 and 60.
 6. Alberta Environment, News Release No.111, "Irrigation Moratorium Placed on Oldman River

streamflow in the Oldman and Bow River systems in southern Alberta is diverted out of the rivers to users with vested water rights, leaving only “minimum flow” in some reaches of the main river channel for instream uses. If these minimum flow levels need to be raised to accommodate instream uses (for example, the increased sewage dilution requirements of a growing city such as Lethbridge, or the restoration of fish habitat on the Highwood River), a very difficult problem arises. After so many years of having allocated water out of the rivers for offstream uses to the point of full allocation, how can some of that water be “de-allocated” (or “re-allocated”) back into the river for instream uses?

SCOPE OF THE PAPER

Although five statutory techniques to protect instream flow are recognized in Alberta’s *Water Resources Act*, Alberta Environment has relied mainly on non-statutory engineering and administrative techniques. The purpose of the paper is to evaluate the existing law and practice of instream flow protection in Alberta, and then to determine if any additional techniques could be utilized to better protect instream flow in Alberta.

The paper defines “instream flow”, outlines the Government of Alberta’s instream flow policy, and describes the complexity of determining instream flow needs. The five statutory instream flow protection techniques found in the Alberta *Water Resources Act* and the non-statutory engineering and administrative techniques used by Alberta Environment are examined. Examples are given to contrast the practices in Alberta and the United States. The paper then assesses the techniques used to solve instream flow problems on the Highwood River in southern Alberta. Possible alternative legislative solutions, which are specifically designed to protect instream flow, are examined, including the “linking” of water-rights and water-quality statutes, and the market transfer of water rights. The paper concludes with a summary of policy and statutory (*Water Resources Act*) recommendations for reform. All the provisions of the *Water Resources Act* referenced in the paper are provided in the Appendix.

Basin” (30 June 1988).

INSTREAM FLOW

This section defines “instream flow”, describes the Government of Alberta’s instream flow policy and the action to enact that policy, and briefly describes the difficulty of establishing instream flow needs.

“Instream flow” is defined as the safe flow amount needed to assimilate wastes, provide water for downstream users, maintain aquatic life and viable fish populations on a continuing basis, support recreational uses, or meet the requirements for special flows such as ice control.⁷ Instream flow amounts should also include an allowance for future water-oriented development and population growth in the basin (that is, there must be flexibility for future adjustments to the instream flow amounts).⁸

Maintaining instream flow is a political endeavour. It is necessary to balance the needs of conflicting interests, that is, offstream versus instream water use, irrigation versus fish habitat, development versus conservation. At the simplest level, it is a trade-off between leaving water in the river or taking it out of the river.

In 1984, the Water Resources Commission held public hearings on water management in southern Alberta. Instream flow received a lot of attention during the hearings, with over 100 presentations referring directly to the need to maintain adequate flow levels.⁹ The Government of Alberta has recognized the instream flow needs problem, and, in 1990, Alberta Environment announced a Water Management Policy for the South Saskatchewan River Basin which incorporates an Instream Flow Needs Process. This Instream Flow Needs Process recommends the determination of “preferred” and “minimum” flows to protect instream uses.¹⁰

7. Alberta. Water Resources Commission, *Water Management in the South Saskatchewan River Basin, Report and Recommendations* (Edmonton: 1984) at 118.

8. *Id.*, at 66.

9. *Id.*, at 65.

10. Alberta Environment, News Release No.28, “Water Management Policy Announced for South Saskatchewan River Basin” (28 May 1990). The setting of “preferred” and “minimum” instream flow levels is the type of approach which may be administratively practical, but which, from a biological perspective, is not effective for maintaining fish populations. The setting of a “two tier” instream flow requirement is recommended by the U.S. report (*Water Policies for the Future*, *supra*, note 5, at 287-289) and is noted by D.R. Percy, *The Framework of Water Rights Legislation in Canada* (Calgary: Canadian Institute of Resources Law, University of Calgary, 1989) at 68. Two criticisms of this two tier approach are: 1. that the “minimum” flow becomes the ultimate target flow, and 2. it does not accommodate the natural responses of fish to variations in natural flow conditions, river reach, or the life stage of the fish which are being protected. An optimum approach may be to have a variable flow requirement based on biological and hydrologic

Five government departments (led by Alberta Environment) and the Water Resources Commission will evaluate and establish instream flow needs on a priority basis for rivers throughout the South Saskatchewan River Basin, and consider amendments to the *Water Resources Act*. A flow chart depicting the Instream Flow Needs Process is provided in Figure 1.

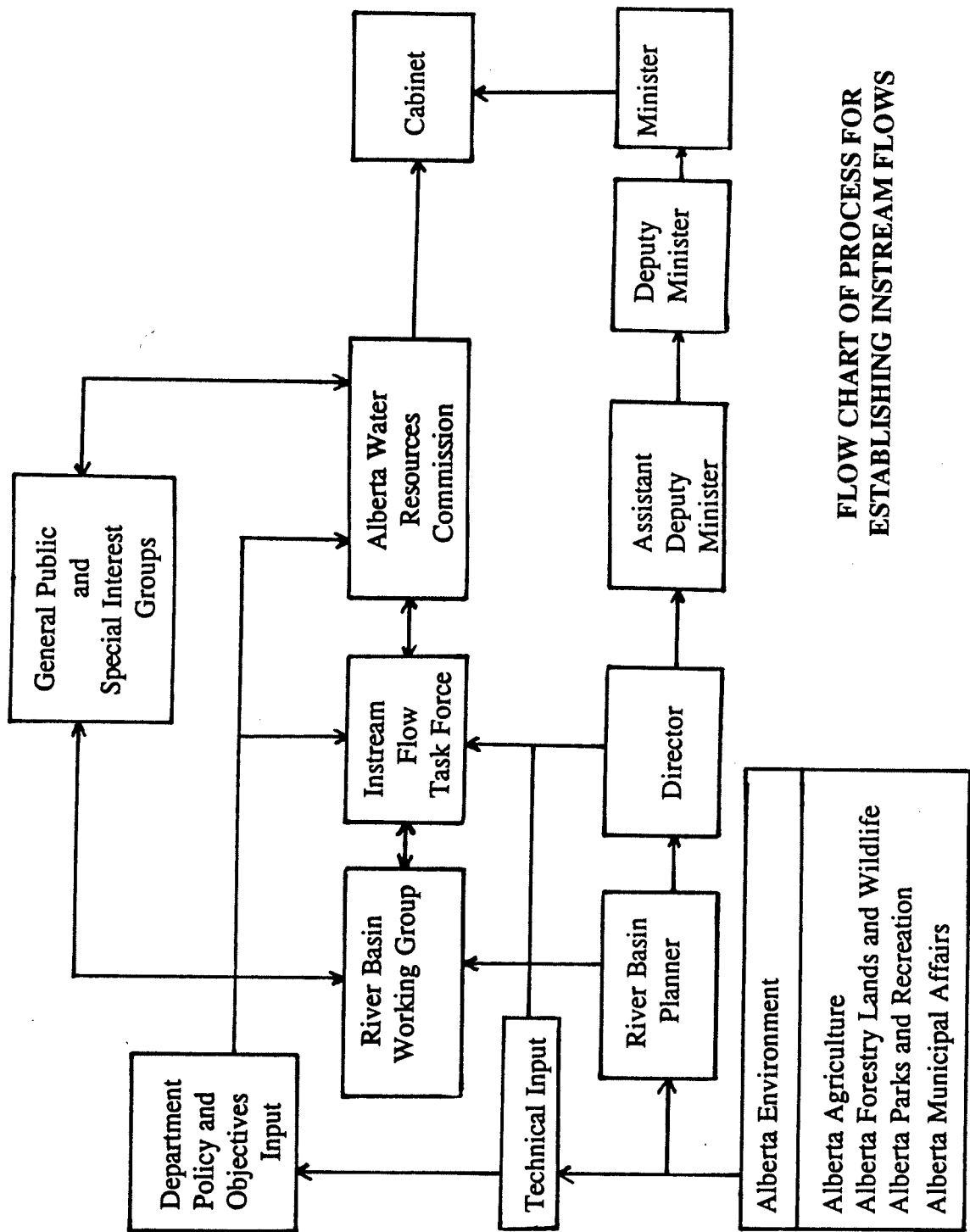
The Government of Alberta has long supported a policy of irrigation expansion in southern Alberta. This policy must now be tempered with the government's 1990 policy to protect instream flow. New and innovative ideas will be required to best utilize water to the benefit of both uses. Determining instream flow needs will be a first step.

Determining instream flow needs is a complex and time consuming scientific endeavour.¹¹ For example, instream flow needs to support fish populations in Alberta are evaluated by modelling fish habitat conditions at incremental streamflow levels, and by modelling water parameters such as dissolved oxygen, water temperature, and ammonia to determine conditions harmful to fish. The preservation of "flushing" flows is a consideration on dammed rivers. Annual flood peaks from snowmelt runoff in spring trigger migratory behaviour in fish and scour the river bottom, "flushing" silt from spawning areas.¹² The modification of streamflow conditions during winter and its impact on fish is but another complexity pertinent to Alberta fish habitat.

Fish habitat is but one consideration. Determining instream flow requirements to dilute sewage effluent or to disperse pollutants is equally complex. Once instream flow needs have been determined, the question arises as how to protect them.

considerations rather than a set flow level. (Observations by Alfred Birch, Water Resources Commission, and Alan Locke, Alberta Forestry, Lands and Wildlife — interviews conducted by author in February 1991).

11. B.L. Lamb & H.R. Doerksen, "In Stream Flow Use in the United States — Water Laws and Methods for Determining Flow Requirements" in *National Water Summary 1987 (U.S.) — Water Supply and Use: Instream Water Use* (Washington, D.C., U.S. Geol. Surv. Water Supply Paper 2350, 1987) at 109.
12. A.G. Locke, *Instream Flow Requirements for Fish in the Highwood River* (Edmonton: Alberta Forestry, Lands and Wildlife, No.T/211, 1989).



FLOW CHART OF PROCESS FOR ESTABLISHING INSTREAM FLOWS

Figure 1

Source: Unpublished Alberta Environment Memorandum, April 1987

INSTREAM FLOW PROTECTION LAW AND PRACTICE IN ALBERTA

An analysis of the statutory instream flow protection techniques available in the Alberta *Water Resources Act*, and the non-statutory techniques used by Alberta Environment, as of January 1992, is followed by a discussion of the instream flow protection problems in the Highwood River.

Statutory Instream Flow Protection in Alberta

There are five techniques in the Alberta *Water Resources Act* to protect or to restore instream flow. These techniques are the allocation of instream water rights, emergency expropriation, reservation, attaching conditions to water licences, and protection at the source. Each of these statutory techniques is examined below to provide an overview of the existing law of instream flow protection in Alberta.

Allocation of Instream Water Rights

The first statutory technique which the Alberta government can use to protect instream flow is the allocation of instream flow rights to individuals by the granting of instream flow licences. Section 11(1)(c) of Alberta's *Water Resources Act* allows any person to apply for "a licence 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".¹³ This provision potentially allows one to obtain a water right for instream flow.¹⁴

There are both advantages and disadvantages to allocating instream flow rights,

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13. Note that the granting of instream flow or "natural state" licences under s.11(1)(c) is only available for rivers outside the South Saskatchewan River Basin. Alta. Reg. 307/91, the *South Saskatchewan River Basin Water Allocation Regulation*, which has reserved all unallocated water in the South Saskatchewan River Basin under s.12 of the *Water Resources Act*, does not allow the reserved water to be allocated under s.11(1)(c) of the *Water Resources Act*. See the section of this paper entitled "Reservation".
 14. D. Tingley "Natural State Water Licensing" (1986) 16 Resources 4, as cited in Environmental Law Centre, *Water Law For the 1990's: Water Resources Act and Policy Review* (Edmonton: October 1991) at A-5, notes that as of 31 March 1991, at least five instream flow licence applications have been submitted to Alberta Environment, only one of which was successful. Carrie Bews, in "Equal Rights for Highwood", High River Times, 19 February 1991, at 2, notes that one application for an instream flow licence has been made to Alberta Environment by environmental groups wanting to protect instream flow on the Highwood River.

depending on whether or not the basin is fully allocated. If the allocation of instream flow rights were applied to its full statutory potential, it would be a powerful mechanism for preserving instream flow on rivers which are not yet fully allocated. Section 35 of the *Water Resources Act* stipulates that senior licensees (earliest priority date) must receive the whole of their water supply before a junior licensee receives any. The priority of the licensee is determined by the date of application (s.11(2)). Section 35 of the Act has been applied on occasion in Alberta to curtail water use on smaller river systems during periods of low flow.¹⁵ As water becomes more heavily used, more scarce, and more valuable, people with vested water rights will more frequently rely on s.35 of the *Water Resources Act* to enforce claims.

The advantage of allocated instream flow rights would be, as for any other water right, that an instream flow right would be a senior right to all subsequent rights allocated on the river by virtue of s.35. In times of low flow, instream flow rights with a higher priority than offstream water rights would be enforced and water would remain in the river for instream uses.

The disadvantage of allocated instream flow rights in Alberta is that, in fully allocated basins, instream flow rights will be a junior right. In a low-flow year, the water allocated to the junior instream flow licensee will be made available to more senior licence holders. The result is that instream flow is lost to offstream use during times of low flow, when instream flow is most critical. This problem could be corrected by allowing for the transfer of senior water rights to instream water rights, so that instream flow rights get senior priority. This solution is discussed in the section of this paper entitled "Market Transfer of Water Rights".

The allocation of instream flow rights is the best technique to protect instream flow in river basins not yet fully allocated. In river basins which have been fully allocated, the allocation of instream flow rights must be accompanied by the ability to transfer senior water rights to instream water rights in order to protect instream flow during low-flow periods.

15. For example, on Willow Creek in southern Alberta, water users are requested to shutdown their diversions based on the priority of their licence in times of low flow. (Observations by Lewis Fahner, Controller of Water Resources Administration, Alberta Environment – interview conducted by author in April 1992). In addition, see *infra*, note 37.

The allocation of instream flow rights has been recognized as a method of protecting instream flow in ten U.S. states:¹⁶ Alaska, Arizona, Colorado, Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming.¹⁷

16. In principle, the Canadian statutory scheme of prior allocation “differed from the American doctrine of prior appropriation because water rights depended upon the grant of a licence by the Crown, whereas under prior appropriation both water rights and their priority were determined without state control by the date at which water was first put to beneficial use.” David R. Percy, *The Framework of Water Rights Legislation in Canada* (Calgary: Canadian Institute of Resources Law, University of Calgary, 1988) at 13-14.

17. Cited in E. Gray, “A Reconsideration of Instream Appropriative Water Rights in California” (1989) 16 *Ecology Law Quarterly* 667 at 703-704. The Colorado Water Conservation Board is vested by statute “with the exclusive authority, on behalf of the people of the state of Colorado, to appropriate ... such waters of natural streams and lakes as the board determines may be required for minimum stream flows or for natural surface water levels ... to preserve the natural environment to a reasonable degree”. Colo. Rev. Stat. 37-92-102(3) (1981).

Idaho Code 42-1501 (1988). The Idaho Legislature has empowered the State Water Resources Board to appropriate water for the purpose of “preserving the minimum stream flows required for the protection of fish and wildlife habitat, aquatic life, recreation, aesthetic beauty, transportation and navigation values”. Although the State Water Resources Board is the only agency authorized to hold a water right, any member of the public may request the Board to apply for such a permit.

Montana Code Ann. 85-2-316 (1987). Montana employs a somewhat broader system of instream appropriations. In Montana, the state, any state agency, any political subdivision, or the United States may apply to the Board of Natural Resources and Conservation to reserve the waters of six designated rivers and their tributaries “for existing or future beneficial uses or to maintain a minimum flow, level, or quality of water throughout the year or at such periods or for such length of time as the board designates”.

Or. Rev. Stat. 537.336 (1988). Oregon allows the Dept. of Fish and Wildlife, the Dept. of Environmental Quality, and the Parks and Recreation Division of the Dept. of Transportation to request that Water Resources Commission “issue water rights certificates for instream water rights” on any water course in which there are public uses relating to “(1) the conservation, maintenance and enhancement of aquatic and fish life, wildlife and fish and wildlife habitat; (2) water quality; and (3) recreation and scenic attraction”. The statute also authorizes any person to purchase, lease, or accept as a gift “an existing water right for portion thereof for conservation to an instream water right”. (*Id.*, 537.348).

Utah Code 73-3-3 (11)(a). Utah has a much more limited system. The Division of Wildlife may apply to the State Engineer for permission to convert existing perfected water rights to instream uses if the Division already owns the right or has acquired the right from another appropriator. The legislation specifically prohibited the Division from appropriating unappropriated water “for the purpose of providing instream flows”. *Id.*, 73-3-3 11(e).

Wash. Rev. Code. Ann. 90.22.010 (1988). In Washington, the Dept. of Ecology and the Dept. of Water Resources are authorized “to establish minimum flow levels for streams, lakes and other public places for the purposes of protecting fish, game, birds, or other wildlife resources, or recreational or aesthetic values of said public waters whenever it appears to be in the public interest to establish the same”. The Dept. also have the power to set minimum flow levels to protect water quality. These administrative reservations of water are defined as appropriations for the purposes of Washington’s permit system, carrying priority date “as of the effective dates of their establishment”. *Id.*, 90.03.345.

Wyom. Stat. 41-3-100(3) (1987). The Wyoming Division of Water Development of the State Economic Development and Stabilization Board may appropriate, in the name of the state, water for instream flow in rivers or river segments recommended by the Game and Fish Commission.

See also P.R. Williams & S.J. McHugh, “Water Marketing and Instream Flows: The Next Step

The Alberta government can use the following four statutory techniques — emergency expropriation, reservation, attaching conditions to water licences, and protection at the source — in addition to the allocation of instream water rights.

Emergency Expropriation

A second statutory technique which the Alberta government can use to protect or to restore instream flow is the emergency expropriation of existing water licences during low-flow periods, and the use of the recovered water to satisfy instream flow needs. Section 13 of the *Water Resources Act* allows the Lieutenant Governor in Council, under conditions declared to be an emergency, to suspend a licence for any period of time and to designate the purpose for which the water is to be used. Persons affected by this order are entitled to compensation in a manner authorized by the Lieutenant Governor in Council. As of March 1991, the s.13 emergency expropriation power had never been applied in Alberta.¹⁸

The emergency expropriation power is a useful tool to protect instream flow. However, is the emergency expropriation power an essential or even a desirable tool to restore or protect instream flow? California has and actually uses the emergency expropriation power,¹⁹ but Colorado forbids the use of the emergency expropriation power.²⁰ Why the sharp contrast?

The difference between California and Colorado is explained by the type of water law system in place and the underlying philosophy of the government. California has retained and uses its emergency expropriation power because instream flow rights are

in *Protecting California's Instream Values*" (1990) 9 *Stanford Environmental Law Journal* 132 at 165; and MacDonnell, *infra*, note 63, at 11, 164, and 177.

18. A review of all orders in Council passed under s.13 of the *Water Resources Act* was conducted by the Attorney General's Department in March of 1991 as requested by the author.

19. Cal. Water Code 1440-1441 (West Supplement 1990), as cited in P.R. Williams & S.J. McHugh, "Water Marketing and Instream Flows: The Next Step in Protecting California's Instream Values" (1990) 9 *Stanford Environmental Law Journal* 132 at 163. "If the California State Water Resources and Conservation Board determines that there is an 'urgent need' to allow changes in the use of water rights, that the proposed change is in the public interest, and that the proposed change will not harm other water users or instream beneficial uses, the Board may approve changes without requiring the applicant to comply with other procedural requirements of the Water Code. Cal. Water Code 1435(c) (West Supplement 1990)." A "temporary urgency change" expires after 180 days, but the Board may renew the change as long as it finds the urgent condition still exists.

20. As of 1983, as reported in Anderson & Huffman, *infra*, note 31, at 271.

not legally recognized in California, and although the state Water Resources Conservation Board considers instream flow in granting licences, it has no mandate to set aside an amount of water to satisfy instream flow needs.²¹ Thus, the state must periodically intervene during low-flow periods and expropriate water to protect water quality and instream flow needs. This approach requires great political will, the cooperation and understanding of water users, and the expenditure of money for compensation during the emergency period.

In contrast, in Colorado, instream flow rights are recognized, and are purchased by the state prior to low-flow conditions occurring.²² The clear intention is for the state to participate in the water rights system as any other prospective water rights owner. Once senior water rights have been purchased to protect instream flow, there is no need for the state to exercise an emergency expropriation power, as instream flow needs are protected prior to the emergency occurring.²³ Water users in Colorado are secure in the knowledge that their water rights can be sold if they so choose, and that their water rights will not be expropriated. This type of certainty is required for the proper operation of any business or farm.

The contrast between California and Colorado with regards to the emergency expropriation power can be characterized as a “pay now or pay later” dichotomy, with

21. Williams & McHugh, *supra*, note 19, at 134 and 141.

22. L. Potter, “The Public’s Role in the Acquisition and Enforcement of Instream Flow” (1988) 23 Land and Water Law Review 419 at 432. The Colorado Water Conservation Board is vested “with the exclusive authority, on behalf of the people of the state of Colorado, to appropriate ... such waters of natural streams and lakes as the board determines may be required for minimum streamflows or for natural surface water levels ... to preserve the natural environment to a reasonable degree. Colo. Rev. Stat. 37-92-102(3) (1981). In 1987, the Colorado law was amended to clarify that the traditional water rights may convey to the C.W.C.B. by grant, sale, lease, exchange, or contractual agreement for dedication as instream flows. (Gray, *supra*, note 17, at 701). Private parties such as the Nature Conservancy may transfer water rights to the Board or obtain dedication to instream uses. For example, in March 1988, a mining company conveyed storage rights of 20,000 acre-feet per year and flow rights of 300 cubic feet per second to the Nature Conservancy for the purpose of maintaining instream flows in the Black Canyon of the Gunnison River. (Williams & McHugh, *supra*, note 19, at 166). In December 1987, Congress approved \$1 million for acquiring water rights in the Upper Colorado River Basin in an effort to protect three endangered fish species.

23. R. McElyea, “A Case For Private Instream Appropriations in Colorado” (1989) 60 University of Colorado Law Review 1087 at 1090. Contrary to this line of reasoning, the following has been observed: “The Colorado Conservation Board has appropriated instream flow rights on more than 6400 miles of streams and 400 lakes. Yet in spite of this seemingly extensive program, most of the flows appropriated average between one and three cubic feet per second. Modest flows of this sort represent only token gestures towards instream preservation”.

variations in the degree and type of political intervention applied. In Colorado, public money is spent for the purchase of a water right, whereas in California public money is spent to compensate the emergency expropriation of a water right.

The emergency expropriation of water rights is a political minefield which requires political will. Whether Alberta retains and uses the emergency expropriation power will depend on the type of water law system it adopts. If the California model of not granting instream flow rights is followed, the province must retain and expect to use (as California does) the emergency expropriation power contained in s.13 of the *Water Resources Act*. As Colorado has shown, the need to use an emergency expropriation power can be avoided if instream flow rights are recognized and allocated. Politically, the Colorado approach seems preferable.

Reservation

A third statutory technique which the Alberta government can use to protect instream flow is the “reservation power” found in s.12 of the *Water Resources Act*. The philosophy behind the use of the reservation power to protect instream flow and to accommodate new water uses in the South Saskatchewan River Basin was stated by the Alberta Water Resources Commission in 1984:

In the future there will be the potential for shifts in water requirements between segments of society, such as the growth of high-tech industrial developments, changes in agricultural products and markets, and new recreational initiatives. To allow for such potential changes in demand, together with ensuring capacity to absorb the effects of unexpected occurrences, natural or otherwise, it is suggested that the water resources management process should retain a reasonable quantity of water in reserve and uncommitted.²⁴

In a river (or river reach) not yet fully allocated, the Lieutenant Governor in Council may under s.12 of the *Water Resources Act* “reserve” water out of the allocation system to remain in the river as instream flow, and thereafter authorize the allocation of the water as he thinks best in the public interest. However, to be effective as a method of protecting instream flow, water which is reserved must *remain* unallocated, or must be specifically allocated as an instream flow water right.

From 1980 to 1990, only one s.12 Order in Council was filed to allocate water which had been reserved to a farmer along the Bow River.²⁵ A 1991 s.12 Order in

24. Alberta. Water Resources Commission, *supra*, note 7, at 105.

25. All Orders in Council passed from 1980 to 1990 which are filed at the Legislature Library in

Council (the *South Saskatchewan River Basin Water Allocation Regulation*)²⁶ significantly impacts the allocation of water, including instream flow, in the South Saskatchewan River Basin. The Regulation reserves all water that is not the subject of an existing licence or other authorization in the South Saskatchewan River Basin, which includes the Oldman, the Bow-Highwood, and the Red Deer River basins. The Regulation designates and limits the area of land within various irrigation districts for which reserved water may be allocated, and also sets minimum instream flow levels at three locations in the Oldman River Basin.²⁷ The *South Saskatchewan River Basin Water Allocation Regulation* precludes the Alberta government from issuing instream flow or “natural state” licences under s.11(1)(c) in the South Saskatchewan River Basin. Any licence issued in accordance with the Regulation may contain conditions limiting the amount of water that may be diverted and used in order to maintain instream flows.²⁸ Alberta Environment officials state that the Regulation is “an interim measure only that was necessary to cap irrigation expansion and protect basic instream flow”.²⁹

However, Arlene Kwasniak of the Environmental Law Centre suggests that the Regulation actually limits the protection of instream flow:

Section 6 of the SSRB [South Saskatchewan River Basin] Regulation sets out the permitted allocations for water reserved by it. ... noticeably absent from permitted allocations is s.11(1)(c) of the *Water Resources Act*, “a license 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”.

... by not carrying forward the natural state license into the Regulation, the Alberta Government forsook a potentially important tool to enhance instream protection over and beyond legislated instream flows. ...

Although we see legislating instream flow needs as a step towards water conservation, we see the failure to carry forward the natural state licence as a permitted allocation as a step backward.³⁰

In the future, if the water reserved in the South Saskatchewan River Basin under this Regulation is allocated for offstream uses, offstream uses will continue to have

Edmonton were reviewed by the author in March 1991.

26. *South Saskatchewan River Basin Water Allocation Regulation*, Alta. Reg. 307/91, filed 20 September 1991.

27. This setting of instream flow levels is also permissible under s.72(h) of the *Water Resources Act*.

28. The attaching of conditions to a licence is also permitted under s.33 of the *Water Resources Act*.

29. A.J. Kwasniak, “The South Saskatchewan Basin Allocation”, (1992) 7(1) Environmental Law Centre News Brief 6 at 8.

30. *Id.*, at 7 and 8.

senior priority to instream uses, and the reservation power will have accomplished little to protect instream flow.

That the reservation power can effectively protect instream flow is illustrated by the use of the reservation power in Montana. In the United States, Montana has assumed by far the most aggressive state role in the setting of minimum stream flows.³¹ For example, in 1974, the Montana Department of Fish and Game applied for a reservation of 8.2 million acre-feet per year on the Yellowstone River for fish habitat maintenance,³² but the Board of Natural Resources and Conservation only granted the Department a reservation of 5.4 million acre-feet per year, an amount that in some years would exceed the total annual flow in the river. Other reservations were made for consumptive uses and agriculture, but the lion's share of the water was reserved for instream flow.³³ Under the provisions of the reservation statute,³⁴ the Board is required to review its reservation decisions at least once every ten years.

Attaching Conditions to Water Licences

“Attaching conditions to water licences” is a fourth statutory technique which can be applied by the government to protect instream flow in Alberta. Section 33 of Alberta's *Water Resources Act* requires that the Minister shall issue a licence after certain criteria are met subject to any terms and conditions the Minister prescribes. Section 18(1) of Alberta's *Water Resources Act* allows the Minister to attach any conditions to an interim licence, and s.14 of the Act allows any terms of the licence to be amended. Section 7 of the *South Saskatchewan River Basin Water Allocation Regulation* allows conditions “limiting the amount of water that may be diverted and used when necessary to maintain minimum instream flows” to be attached to licences issued in the South Saskatchewan River Basin. It should be noted that any conditions

31. T.L. Anderson & J. Huffman, *Water Rights, Scarce Resource Allocation* (Cambridge, Mass.: Pacific Institute for Public Policy and Research, Ballinger Pub. Co., 1983) at 263.

32. *Id.*, at 265.

33. *Id.*, at 265.

34. *Water Use Act*, Montana Laws, c.452, s.2. (1973). The Act authorizes the United States, the state, and its political subdivisions to apply for water reservations for existing or future beneficial uses to maintain minimum flows, levels, or quality of water. Reservation applications, like ordinary applications to appropriate water, are made to the Dept. of Natural Resources and Conservation with approval to come from the Board of Natural Resources. Anderson & Huffman, *id.*, at 264.

which change the priority of licences as found in s.35 of the Act would be *ultra vires* and unenforceable.³⁵

Protection at the Source

“Protection at the source” is a fifth statutory technique which can be applied by the government to protect instream flow in Alberta. The Minister of Environment may, under s.73(3)(a), take any steps he thinks necessary “to protect the sources of water supply and the prevention of any act likely to injure the supply”. This section of the Act has not been judicially considered. The author’s opinion, on a narrow interpretation, is that “sources of water supply” likely refers to rain, snow, runoff, and seepage. This section of the Act is designed to curtail any human activity such as logging or weather modification, which may diminish the natural runoff volume at its source. On a broad interpretation, “the prevention of any act likely to injure the supply” would likely encompass such matters as blocking the flow or excessive diversion.

The five statutory techniques of instream flow protection (allocation of instream water rights, emergency expropriation, reservation, attaching conditions to licences, and protection at the source) can be used together. Although the five statutory techniques are available in the *Water Resources Act* to protect instream flow, in practice, Alberta Environment has relied mainly on non-statutory engineering and administrative techniques.

Non-statutory Instream Flow Protection in Alberta

Alberta has minimum streamflow requirements on various rivers throughout the province. This has been accomplished by non-statutory engineering and administrative techniques — which include an interprovincial agreement,³⁶ coordinating multi-

35. As described by Alastair R. Lucas in *Security of Title in Canadian Water Rights* (Calgary: Canadian Institute of Resources Law, University of Calgary, 1990) at 64-65, “It is clear that the licence condition and water management powers cannot be used to protect the water rights of unlicensed or junior appropriators. This cuts to the heart of the time priority system.”

36. Alberta and Saskatchewan have in place a “Master Agreement on Apportionment”, signed in October 1969. Article 3, Schedule A, of the Agreement defines the general apportionment principle that Alberta shall permit one-half of the natural flow of each water course to flow into Saskatchewan. Two additional constraints are also required. When the natural flow at the South

reservoir operations to facilitate instream flow, negotiating cutbacks with water users,³⁷ and examining the licenced and unlicenced use of water. One could argue that the arbitrary way the minimum flow levels have been set is flawed (although this is to be corrected with the government's 1990 Instream Flow Needs Process), but, for the most part, the engineering and administrative techniques have been effective at maintaining the arbitrarily-set minimum flow levels.³⁸ The non-statutory engineering and administrative approach has been used to solve the instream flow protection problem on the Highwood River.

Low Instream Flow on the Highwood River — A Case Study

One river in Alberta where instream flow needs are a particular concern is the Highwood River downstream of High River. The Highwood River originates in the Rocky Mountains east of the continental divide, and flows east out of the mountains (unregulated) onto the plains, where irrigation farming is practised. Peak streamflow and seasonal runoff volume varies from year to year, and largely depends on snow accumulation in the mountains, rainfall in the summer, and soil moisture conditions.³⁹ Peak streamflow typically occurs in May or June, as a result of snowmelt from the

Saskatchewan River at the boundary is greater than 85 cubic meters per second (3,000 cubic feet per second), minimum flow is 42.5 cubic meters per second (1500 cubic feet per second). When the natural flow at the boundary is less than 85 cubic meters per second, minimum flow would be one-half the natural flow at the boundary. As shown by A.J. Chen & R.B. Godwin, "Interprovincial Water Management in Drought Periods" in *Drought — the Impending Crisis*, proceedings of Canadian Hydrology Symposium No.16 (Regina, Sask.: National Research Council, 1986) at 256, Alberta has never had any problems in meeting this Agreement on the South Saskatchewan River Basin.

37. Alberta Environment may apply a "negotiation approach" in times of water shortages. For example, when water shortages have occurred on the Highwood River, all water users have voluntarily cut back and shared the burden (without compensation), rather than forcing the shut-down of junior water rights as dictated by s.35(3) of the *Water Resources Act* (observations by Bruce MacLock, Alberta Environment — interview conducted by author in February 1991).
38. The following is a partial list of current minimum streamflow targets in Alberta:
 - Red Deer River below Dickson Dam — 565 cubic feet /second (c.f.s.)
 - Bow River below Bassano Dam — 100 c.f.s.
 - Waterton River above the Belly River confluence — 80 c.f.s.
 - St. Mary River above the Oldman River confluence — 97 c.f.s.
 - Belly River above the Waterton River and Oldman River confluence — 33 c.f.s.
39. S. Ferner, "Hydrologic Aspects of Recent Low Flow Years on the Oldman River in Southern Alberta" in *Drought — the Impending Crisis*, proceedings of Canadian Hydrology Symposium No.16 (Regina, Sask.: National Research Council, 1986) 175-188, provides an examination of the role these three factors play on streamflow volume.

mountains. Early runoff of a much smaller volume may occur in March or April from snowmelt at low elevation in the plains and foothills. Floods, if they do occur, will typically occur in June as a result of intense rainfall. Irrigation demand on the plains is highest in the drier months of July and August.

A tributary of the Bow River, the Highwood River enters the Bow River downstream of Calgary. The Highwood River supports one of the best trout fisheries in the province. The upper Highwood and Sheep River (a tributary of the Highwood River) provide an estimated 90% of the available spawning and rearing areas for Bow River rainbow trout populations. The world-class Bow River trout fishery is highly dependent upon the maintenance of suitable habitat in the Highwood and the Sheep rivers.⁴⁰

Water is diverted out of the Highwood River at two locations: at the town of High River into the Little Bow River, and upstream of High River into Mosquito Creek via Squaw Coulee. Mosquito Creek is a tributary of the Little Bow River and the two combined are referred to as the "Little Bow River system". The demand for water as a result of irrigation expansion has increased dramatically on the Little Bow River system in the 1980s. For example, from July 1981 to November 1983, allocation on the Little Bow River system increased from 6,745 acre-feet to 15,475 acre-feet. The 1990 allocation in the Little Bow River system is 20,438 acre-feet. This is expected to increase an additional 20,000 acre-feet upon completion of the Little Bow River Reservoir and enlargement of the Squaw Coulee and Little Bow River diversions.

On several occasions, low flow in the Highwood River downstream of High River has lead to fish kills. The diversion of water out of the Highwood River, if not the direct cause of the fish kills, certainly compounded the problem. As stated in a 1987 Alberta Environment report:

In 1984 and 1985, up to 60% of the Highwood River flow in late July and early August was diverted to the Little Bow basin through the Little Bow and Squaw Coulee diversions. These heavy withdrawals have been implicated in exacerbating undesirable water quality and fish habitat conditions in the Highwood River below the diversions. Excessive weed growth, decreased assimilation capacity, reduction in physical habitat and lethal temperature and/or oxygen conditions for fish have been periodically experienced.⁴¹

40. Locke, *supra*, note 12, at 1.

41. Alberta. Dept. of Environment, Planning Services Branch, "Highwood River Instream Flow Needs

Circumstances on the Highwood River illustrate that the instream flow dilemma which has been experienced for years in the United States has arrived in Alberta. The Highwood River also provides a revealing look at the difficulties water users and the government face in trying to balance the opposing forces of irrigation expansion and instream flow protection. Figure 2 shows the diversion locations on the Highwood River, and highlights irrigation expansion in the Little Bow River basin and fish kills on the Highwood River.

A Short History of Diversions out of the Highwood River into the Little Bow River System⁴²

- 1899:
 - Little Bow River diversion is constructed. Capacity is 50 cubic feet per second (c.f.s.)
- 1933:
 - Squaw Coulee diversion is constructed. Capacity is 20 c.f.s.
- 1950:
 - Irrigation development on the Little Bow River and Mosquito Creek begins to expand.
 - The 1899 Little Bow River diversion works are abandoned and a new diversion constructed. Capacity is increased from 50 to 100 c.f.s.
- 1974-1978:
 - Little Bow River diversion is operated at 20 to 30 c.f.s. between May and September. Prior to 1978, Squaw Coulee had been operated at 20 c.f.s. between May and September.
- 1977:
 - A very dry winter. A record low snowpack accumulates in the headwaters of the Highwood River over the winter. The lowest streamflow on record occurs. Annual streamflow peak in the Highwood River at the mouth is 16% of the 1970-1986 average and at High River is 39% of the 1956-1985 average.
 - Fish kills downstream of High River occur in late July and early August.
 - A moratorium on the issuance of water licences is imposed on the Little Bow River and Mosquito Creek on October 15, 1977.
- 1979:
 - Squaw Coulee diversion is upgraded. Capacity is increased from 20 to 60 c.f.s. Squaw Coulee is operated at 60 c.f.s., or at 10% of the Highwood River flow (whichever is less).
 - Little Bow River diversion rate is modified to operate at 100 c.f.s., or at 10% of the Highwood River flow (whichever is less).

Study" (Edmonton: 1987) at 1.

42. This summary was compiled from the following Alberta Environment reports: Planning Division, "Highwood River Instream Flow Needs, Compendium of Background Information" (Edmonton: February 1990); Planning Services Branch, "Highwood River Instream Flow Needs Study" (Edmonton: May 1987); Planning Services Branch, "A Summary of Biological and Environmental Information Pertaining to Fisheries in the Highwood River System" (Edmonton: May 1986).

Figure 2

Source: Drafted by S. Ferner, March 1991

- 1981:
 - Fish kills downstream of High River occur on July 21.
 - The 15 October 1977 moratorium is lifted on July 1.
 - Licenced allocation in the Little Bow River system prior to July 1 is 6,745 acre-feet (one-foot deep water over one acre).
- 1982:
 - Operating guideline for the Little Bow River diversion is modified to 100 c.f.s., or to 30% of the Highwood flow (whichever is less).
- 1983:
 - Irrigation expands rapidly, and licenced allocation in the Little Bow River system increases to 15,475 acre-feet.
 - Fish kills occur downstream of High River on August 8.
 - A moratorium on the issuance of water licences for the Little Bow River system is imposed on November 14.
- 1984:
 - Fish kills downstream of High River occur on July 19 & 27, and on August 9; a malfunction at the High River Sewage Treatment plant contributed to these fish kills.
 - A temporary gravel groyne is built in the river on July 16 to ensure a diversion of 100 c.f.s.
- 1985:
 - New operating guidelines for diversions are adopted in May. The Little Bow River diversions shall not be less than 70 c.f.s., and the maximum combined diversion at Squaw Coulee and Highwood River shall not exceed 60% of the natural flow in the Highwood River.
- 1986:
 - Fish kills occur downstream of High River on July 6 and 9.
 - The 1985 operating guidelines are revised such that diversions from the Highwood River are reduced (to a range between 44% and 50% of the natural flow) when the natural flow in the Highwood River falls below 360 c.f.s. and the air temperature reaches 30 degrees C or the water temperature reaches 22.5 degrees C.
- 1987:
 - Highwood River instream flow needs study is released.
- 1988:
 - Fish kills occur downstream of High River on June 27-28, and on July 20 & 28.
 - On December 16, Alberta Environment announces the decision to proceed with the Little Bow Water Management Project. The Project includes:
 1. the construction of a 50,000 acre-foot storage reservoir on the Little Bow River,
 2. a 120 c.f.s. diversion canal from Mosquito Creek to Clear Lake to stabilize lake water levels,
 3. an enlargement of the Little Bow River Diversion Canal from 100 to 300 c.f.s.,
 4. the expansion of irrigation by 20,000 acre-feet, and
 5. reduced diversions out of the Highwood River in July and August to protect the trout fishery.

Overwhelming support of the Project was voiced by local farmers and residents at public meetings held in March of 1987.
- 1989:
 - Environmental impact assessment of Little Bow Water Management Project completed by Alberta Public Works & Supply and Services in July, and approved by Alberta Environment in September.

- Report on instream flow requirements for fish in the Highwood River completed by Alberta Forestry, Lands and Wildlife.
- 1990:
- Allocation of water in the Little Bow River system of irrigation is 20,438 acre-feet.
 - Alberta Environment announces the Instream Flow Needs Process.
 - Alberta Environment announces that an environmental impact assessment of Highwood River diversions will be conducted. It is to be completed for public review in the summer of 1992.
- 1991:
- Terms of Reference for Highwood Diversion environmental impact assessment are finalized.

Protecting Instream Flow in the Highwood River

As stated earlier, the Alberta government's approach to protecting instream flow has largely been a non-statutory engineering and administrative approach; solutions to the instream flow problem on the Highwood River have been no exception. The Little Bow Water Management Project proposed by Alberta Environment is a rather ingenious approach. Contrary to what seems logical (that is, that diversions out of the Highwood River be curtailed to reduce fish kills), it is proposed that the Little Bow and Squaw Coulee diversions be more than tripled in capacity. By enlarging the diversions, more water can be extracted from the Highwood River in May and June when the Highwood River is at its peak flow. This water will be stored in the Little Bow Reservoir and in Clear Lake for release later in the summer. The diversions out of the Highwood River will be cut back in July and August, when low-flow conditions in the Highwood River typically occur, and when the threat to fish habitat is more prevalent. How far might the diversions have to be cut back during low flow? As stated by Alan Locke, Habitat Biologist, at Alberta Forestry, Lands and Wildlife:

The Highwood River is stressed under natural conditions and therefore requires careful management to maintain the fish populations. The Fish and Wildlife Division is willing to negotiate with other water users during "average to wet" year conditions. However under low-flow conditions, fish populations are most susceptible to trauma and it is necessary to maintain flow at a level that will prevent severe losses of the habitat or create hazardous water quality conditions resulting in fish kills. During these dry years, no abstractions should be permitted.⁴³

If the diversion out of the Highwood River is shut down in July and August, farmers located upstream of the Little Bow Reservoir are going to be left without

43. Locke, *supra*, note 12, at 39.

water during a period of greatest water demand. Alternative engineering techniques will be applied to ensure that the vested water rights of those farmers are met: water will be diverted earlier in the season, and will be stored offstream for use later in the summer.

In an average runoff year, the proposed Little Bow Water Management Project will perform well. The irrigators in the Little Bow River system (downstream of the reservoir) will have their vested water rights satisfied, and the fish in the Highwood River will flourish. However, in a low-flow year, water shortages on the Highwood River will persist for these reasons:

1. The engineering approach adopted by Alberta Environment does nothing to solve (nor should it be expected to solve) the difficult issue of ensuring that instream flow will be securely protected in the Highwood River during a low-flow year. To compound matters, the legislation in Alberta does little to alleviate the problem. Based on Alberta's system of priority of water rights as found in s.35 of the *Water Resources Act*, the irrigators in the Little Bow River system, which have senior water rights, *would* have a priority to water ahead of any instream water rights on the Highwood River (*none currently exist and none may be allocated due to the South Saskatchewan River Basin Water Allocation Regulation*). It is possible that the irrigation farmers on the Little Bow River will enforce these rights.
2. The Alberta Fish and Wildlife Division is legally in no position to "negotiate" with other water users based on the water law system which Alberta has in place.
3. A wild card in this whole affair may come from downstream water users (such as the Eastern Irrigation District) on the Bow River, who have vested water rights senior to those water rights held by irrigators in the Little Bow River system. In a low-flow year, the Eastern Irrigation District may curtail diversions out of the Highwood River based on seniority and, in the process, incidentally preserve instream flow in the Highwood River downstream of High River. This will impact irrigators on the Little Bow River System.

An instream flow right could be allocated to the Alberta government⁴⁴ in the

44. This would require that Alta. Regulation 307/91 be amended or that the instream flow or "natural state" allocation be authorized for the Highwood River by Order in Council.

Highwood River before granting any new water licences to users in the Little Bow River system. The instream flow right in the Highwood River would have a priority ahead of any new water rights obtained in the Little Bow River system. However, the instream flow right in the Highwood River would be a junior right, subordinate to already existing senior rights in the Little Bow River system.

The problem of junior government instream water rights could be corrected by allowing for the transfer of senior water rights to instream water rights, so that the instream flow rights get senior priority. This solution is discussed in the section of this paper entitled “Market Transfer of Water Rights”. With this modification (and over time), senior water rights could be transferred from the Little Bow River system (particularly those irrigators upstream of the Little Bow Reservoir) to the Highwood River for the purpose of maintaining instream flow.

As more and more water is allocated out of the Highwood River and into the Little Bow River system without the legal recognition of instream flow rights, the possibility of protecting instream flow in the Highwood River will become more difficult and more expensive.

RECOMMENDED CHANGES TO ALBERTA’S WATER RESOURCES ACT TO IMPROVE INSTREAM FLOW PROTECTION

Although the Alberta *Water Resources Act* contains five techniques to protect instream flow, the statutory techniques are not utilized, and even if the techniques were fully utilized, there would still be some gaps in the law. This paper recommends that three amendments be made to the *Water Resources Act*:

1. the addition of one statutory technique to improve instream flow protection in Alberta – the linking of statutes;
 2. the deletion of s.23 (which prohibits the market transfer of water rights), which would have the effect of adding the statutory technique of allowing the public or private market transfer of water rights; and
 3. the deletion of s.11(4) and s.11(1)(a) (the “preference of use” approach).
- Administrative considerations which may accompany these reforms are noted.

Linking of Statutes

The first amendment would add an instream flow protection technique to the *Water Resources Act*: the ability to link water-right and water-quality statutes, so that the effect of the statutes is enhanced instream flow protection.

Although this paper focuses on instream flow protection techniques in the Alberta *Water Resources Act*, the protection afforded by that Act could be enhanced if it were “linked” with other statutes. In California, state water rights have been consolidated with federal and state water pollution control laws to enhance the protection of instream flow.⁴⁵ In Alberta, however, the *Water Resources Act* and the water quality legislation found in the *Clean Water Act*⁴⁶ (to be replaced by the *Environmental Protection and Enhancement Act*⁴⁷ in 1993) are separate entities. The *Water Resources Act* provides the legislative authority to regulate water quantity and use, while the *Environmental Protection and Enhancement Act* is the primary legislative authority for the prevention and control of water pollution. Because of the relationship between water quantity and quality, the *Water Resources Act* and the *Environmental Protection and Enhancement Act* should be linked somehow in order to strengthen the protection of rivers which suffer from water quality problems as a result of depleted flow.⁴⁸ Statutory linkings of this type in Alberta would protect instream flow by enforcing water quality objectives.

Although the federal *Fisheries Act*⁴⁹ operates outside of provincial water resources legislation, the *Fisheries Act* can be used to enhance instream flow for the protection of fish on regulated rivers. Section 20(10) of the *Fisheries Act* provides:

The owner or occupier of any slide, dam or other obstruction shall permit to escape into the river bed below the said slide, dam or other obstruction, such quantity of water, at all times, as will, in the opinion of the Minister, be sufficient for the safety of fish and for the flooding of

45. Gray, *supra*, note 17, at 678.

46. *Clean Water Act*, R.S.A. 1980, c.C-13.

47. Bill 23, the Alberta *Environmental Protection and Enhancement Act*, consolidates and updates nine existing statutes into one, and introduces a new provincial environmental impact assessment process. The Act received Royal assent on 26 June 1992; as of September 1992, only a limited part of the Act is in force (S.A. 1992, c.E-13.3).

48. See Alberta Environment, *Water Resources Planning* (Edmonton: Background Paper #5, 12 August 1991) at 9-10. This paper is one of a series of twelve papers provided to the public for input to revisions to the *Water Resources Act*.

49. *Fisheries Act*, R.S.C. 1985, c.F-14.

the spawning grounds to such depth as will, in the opinion of the Minister, be necessary for the safety of the ova deposited thereon.

Section 20(10) of the *Fisheries Act* has been used to protect the salmon fishery on one river in British Columbia. In *A.G. Can. v. Aluminum Co. of Canada Ltd.*,⁵⁰ an Order was granted allowing the Attorney General of Canada to compel Alcan, the operator of a dam on the Nechako River in British Columbia, to comply with the directions of the Minister and to release the quantity of water required to ensure the safety of fish and the flooding of spawning grounds to the necessary depth. Justice Berger, of the B.C. Supreme Court, held this provision of the *Fisheries Act* to be *intra vires* the powers of the federal Minister, and found that “if the Minister reaches the opinion that he must act to preserve the fishery, then he is not overstepping the boundary of federal jurisdiction if he gives orders for the discharge of water in order to flood the spawning grounds”.⁵¹

Both provincial statutes, such as the *Environmental Protection and Enhancement Act*, and federal statutes, such as the *Fisheries Act*, can be applied to protect instream flow in Alberta. Where possible, it would be beneficial to link other Alberta legislation with the *Water Resources Act* to protect instream flow, and to recognize that the federal *Fisheries Act* is a powerful tool to protect instream flow over and above provisions in Alberta’s *Water Resources Act*.

Market Transfer of Water Rights

The second amendment would delete s.23, which prohibits the market transfer of water rights; the deletion would, in fact, have the effect of adding another instream flow protection technique to the *Water Resources Act*: the market transfer of water rights. “Transfers” occur when water users agree to reallocate water voluntarily, by purchase or by lease, from relatively low-value existing uses to new uses that are of greater economic or social value.

In ten states (Arizona, California, Colorado, Idaho, Montana, Nebraska, Nevada,

50. *A.G. Can. v. Aluminum Co. of Canada Ltd.*, (1980) 115 D.L.R. (3d) 495 (B.C.S.C.). Appealed on other grounds (re the status of interveners and adding other parties), *A.G. Can. v. Aluminum Co. of Canada Ltd.*, *A.G. B.C. and B.C. Wildlife Federation (Intervener)*, (1986) 15 C.P.C. 8 (B.C.S.C.), rev'd (1987) 10 B.C.L.R. (2d) 371 (B.C.C.A.).

51. *Id.*, (1980) 115 D.L.R. (3d) 495 at 497.

New Mexico, Utah, and Wyoming), the market transfer of water rights from one user to another is allowed without having to also transfer the land or maintain the same use as specified in the licence.⁵² In contrast, in Alberta, by virtue of s.23 of the *Water Resources Act*, water rights are appurtenant to the land or to the undertaking specified in the licence and cannot be transferred. The ability to use the market transfer technique to convert the use of a senior right to the preservation of instream flow would be a major improvement to the protection of instream flow in Alberta.

It is important to note that the transfer of water rights by itself will not enhance instream flow.⁵³ For example, in California, it has been observed that the transfers which have taken place (23 transfers from 1981 to 1989) have not significantly augmented instream flow or created a net benefit for instream values. In other words, the transfer of water rights leads to a more efficient use of water, but does not “free-up” water for instream flow. Essentially, water is transferred from one consumptive use to another, and the same amount of water is consumed.⁵⁴

The advantage of transferring water rights — either by purchase or by lease — is conspicuous in fully allocated river basins. Without market transfers, it is impossible to secure a senior instream water right in a *fully allocated* river basin. If an instream water right is obtained in a fully allocated basin, the instream flow right will always be a junior right to existing senior rights. Based on the priority system, in a low-flow year, the water allocated to the junior instream flow licensee will be made available to more senior licence holders.

If Alberta were to adopt the market transfer of water rights, it would be necessary to determine who should be allowed to obtain instream water rights: government agencies, private individuals, or both. The arguments for private or public purchase of

52. L.J. MacDonnell, “The Water Transfer Process as a Management Option for Meeting Changing Water Demands” (Washington, D.C.: U.S. Geological Survey, #14-08-0001-G1538, 1990) v.1 at 42.

53. One way for transfers to enhance instream flow is to “tax” water in water transfer transactions. For example, in South Australia there is a “check-off” on all transfers: between irrigators, 90% is transferred, 10% is returned to “unallocated”; between sectors, 30% is transferred, 70% is returned (observations by Alfred Birch, Alberta Water Resources Commission — interview by the author in February 1991). *See also* Tingley, *supra*, note 14, at A-20. Oregon Rev. Stat. §§537.455-537.480 (1988) encourages conservation by enabling appropriators to lease or sell water they conserve. However, they must subtract from the saleable amount a portion (typically 25%) to be allocated to the state for instream flow needs.

54. Williams & McHugh, *supra*, note 19, at 165.

instream flow are intertwined — they do not fall neatly into one category or the other. The features of the debate as to whether or not instream water rights should be privately or publicly purchased (or leased) are expense, government ownership, economics, the public trust doctrine, the stampede by environmentalists, the free-rider problem, and the philosophies underlying private and public purchase.

Expense. The California and Colorado examples discussed earlier⁵⁵ illustrate that the restoration of instream flow will involve government expenditure in the form of either purchase money or compensation.⁵⁶ On the one hand, although some find it repugnant that a government has to pay money to get back that which it owns, it seems one logical way to restore instream flow without major political unrest. On the other hand, if it is going to cost money to restore instream flow, why not let those that wish to protect instream flow help pay for it? The government could save money.⁵⁷ However, private interest groups do not have the large financial base which the government has to purchase instream flow rights, and, as in Colorado, the government may have to take a lead role in the purchase of senior water rights to protect instream flow.

Government ownership. One approach typical of many U.S. jurisdictions⁵⁸ is that water rights may only be purchased by government agencies for the purpose of protecting instream flow.⁵⁹

55. In the section of this paper entitled “Emergency Expropriation”.

56. One exception to this is the restoration of instream flow by compulsion. For example, a certain percentage of each water right could be given up to restore instream flow, or a “check-off” or tax system such as that described in *supra*, note 53, could be implemented.

57. For example, in Nevada, the Nevada Waterfowl Association purchased 35 acre-feet of water at \$214 per acre-foot from an irrigation district to compensate for decreased instream flows in the Carson River. In Idaho, a group of public and private entities led by the Nature Conservancy purchased 3,200 acre-feet of water from the Upper State Water Bank for the protection of trumpeter swans. Participants in the purchase included the U.S. Fish and Wildlife Service, the Idaho Department of Fish and Game, the City of Grand Prairie, Alberta, and the trumpeter swan society. Irrigators in the water district controlling the water bank donated an additional 10,000 acre-feet to augment the instream flows. Williams & McHugh, *supra*, note 19, at 166-167.

58. *Supra*, note 17.

59. For example, in Montana in 1987, the Fish, Wildlife and Parks Department signed a purchase contract for 10,000 acre-feet of water at \$2 per acre-foot to protect rainbow and brown trout fisheries in the Bitterroot River. In Lader County, Nevada, 3,000 acre-feet of a senior irrigation right was purchased in 1987 at \$217 per acre-foot to maintain a stable shoreline for recreational boating and fishing. In December 1987, Congress approved \$1 million for acquiring water rights in the upper Colorado River Basin in an effort to protect three endangered fish species. In 1988, the Bureau of Reclamation funded the purchase of 9,500 acre-feet of water at \$50 per acre-foot for

Economics. Two strong proponents of private ownership to protect instream flow in the United States, Terry Anderson and James Huffman, have examined in detail many aspects of water allocation from an economic perspective.⁶⁰ Economic analysis is beyond the scope of this paper and no effort will be made to justify the merits of the privatization of instream flow from an economic analysis. Suffice to say that, based on the analysis of Anderson and Huffman, the privatization of instream flow is a worthwhile technique which can be justified from an economic perspective.

The Public Trust Doctrine. Rather than advocating private instream flow rights, environmental and recreational interest groups have made attempts to use the public trust doctrine to preserve instream flow.⁶¹ The basic idea of this common law doctrine is that the state is a trustee of the environment, the subject matter to be held in trust and preserved is flowing water, and the public is the beneficiary of that water. As such, any private rights to water are subordinate to public rights which are held in trust by the state. The state has the obligation as trustee to rightfully restore water to the rivers for the public benefit.

The leading case advocating the application of the public trust doctrine to restore instream flow is the 1983 *Mono Lake* case of the California Superior Court.⁶² In the *Mono Lake* decision, Broussard J recognized that the public trust doctrine and the appropriation doctrine were on a "collision course",⁶³ but concludes that the collision can be avoided and doctrinal harmony achieved if the California courts will integrate the two doctrines. However, as Harrison Dunning notes, nothing has been accomplished since this landmark decision of 1983 to further integrate the public trust

release from Deer Creek Reservoir in Utah for the purpose of maintaining a prime fishing stretch of the Provo River. Williams & McHugh, *supra*, note 19, at 167.

60. T.L. Anderson, "Water Crisis, Ending the Policy Drought" (Baltimore, Maryland: John Hopkins University Press, 1983). *See also* Anderson & Huffman, *supra*, note 31; T.L. Anderson & D.R. Leal, "Going With the Flow: Marketing Instream Flows and Groundwater" (1988) 13 Columbia Journal of Environmental Law 317; and J.L. Huffman, "Allocating Water to Instream Uses: Private Alternatives" in *Water Resources Law*, proceedings of the National Symposium on Water Resources Law, 15-16 December 1986 (Chicago, Ill.: American Society of Agricultural Engineers, 1986) at 143.
61. Anderson & Leal, *id.*, at 321.
62. *National Audubon Society v. Superior Court*, 658 P.2d 709 (Cal. 1983) [*Mono Lake* case].
63. *National Audubon Society v. Superior Court*, *id.*, at 712, as described by R. Johnson, "Public Trust Protection for Stream Flows and Lake Levels" (1980) 14 U.C. Davis Law Review 233, as cited in L.J. MacDonnell, T.Z. Rice & S.J. Shupe, *Instream Flow Protection in the West* (Boulder, Colo: Natural Resources Law Center, University of Colorado School of Law, 1989) at 106.

doctrine and the prior appropriation doctrine.⁶⁴

In Canada, the application of the public trust doctrine seems even more formidable than in the United States. There are legal obstacles in Canadian jurisprudence which will be difficult to overcome (such as certainty of the subject matter of the trust, standing, and lack of recognition). In the words of Constance Hunt (Executive Director of the Canadian Institute of Resources Law, as she then was):

It may be possible to overcome some of the legal obstacles, but the practical problems could prove insurmountable. If citizen actions to protect the environment are desirable, it seems ill-advised to await the establishment of the public trust through the courts. Ultimately that may prove possible, but the road ahead is rocky, long, and uncertain. The only viable alternative is to press for the passage of legislation which would establish the notion of a public trust in the environment, and provide a means by which citizens could enforce it.⁶⁵

The public trust doctrine is in a developmental stage in the United States and Canada. Although the full application of this common law doctrine seems remote, it has the potential of undermining the very foundations upon which Alberta's water law system is built: the certainty of a secure water right based on priority as provided by statute. Allowing private individuals to purchase water rights for instream flow is viewed as a positive alternative to the public trust doctrine, and one way of curtailing its application.⁶⁶

The Stampede by Environmentalists. One concern consumptive users have with privatization is that water rights will be bought up and dominated by environmental organizations. As of 1990, only four private instream flow applications had been approved.⁶⁷ The stampede by environmentalists to tie up water at the expense of traditional consumptive users has not occurred. This is both positive and negative. On the positive side, it illustrates that the interest groups of consumptive rights and instream flow rights can co-exist. On the negative side, it illustrates that the restoration of instream flow cannot be satisfied by purely private interests alone. The government must assist in protecting instream flow.

64. Harrison C. Dunning, "Instream Flows and the Public Trust" in MacDonnell, Rice & Shupe, *id.*, at 113.

65. C.D. Hunt, "The Public Trust Doctrine in Canada" in J. Swaigen, ed., *Environmental Rights in Canada* (Toronto: Butterworths, 1981) at 186.

66. Williams & McHugh, *supra*, note 19, at 158.

67. One in Idaho and one in Nevada (*see* Williams & McHugh, *supra*, note 19, at 165), and two in Arizona (*see* MacDonnell *supra*, note 63, at 11 and 177). Alaska allows for the private purchase of instream flow, but no one has bought one (MacDonnell *supra*, note 63, at 11 and 164).

Free-rider problem. The private purchase of water, like any other public good,⁶⁸ is hampered by what is known as the “free-rider problem” (that is, one buys, all benefit). To illustrate, if a fisherman were to buy a right to a number of cubic meters per second of flow along the Highwood River, he would benefit not only himself, but hundreds of other fisherman along the river. If fisherman number 1 has purchased the instream flow right, there is no incentive for fisherman number 2 to purchase an additional right — he will just enjoy the benefits of the first fisherman’s instream flow right at no cost. All the financial burden is placed on one individual. Some measures would have to be taken by the government to equitably distribute costs among all users.

The philosophy underlying the private purchase of instream flow rights is that, if instream uses are to compete effectively with consumptive uses in a fully allocated basin, they must have the same legal status as consumptive uses. If consumptive rights can be purchased or leased by private individuals, it follows that instream flow rights must also be able to be purchased or leased by private individuals.

The philosophy underlying the public purchase of instream water rights is that water is a public good which requires government control and the assistance of government funding in order to maximize the public benefit. Whether instream rights are publicly or privately held is a policy decision of the government, and laws can be written to reflect this. In the words of James Huffman:

An important question is not whether it is possible to privately allocate water to instream uses, but whether it is desirable. The answer to this question rests in the ongoing debate between privatization versus regulation and public management. Many have made the case for privatization. Whether they are right or wrong, there is little reason to oppose the legal facilitation of private allocation of instream uses. From the point of view of instream flow advocates, every additional drop of water in the stream, whether publicly or privately provided, will serve the objective of streamflow maintenance.⁶⁹

As new allocations on fully allocated basins will not be capable of protecting instream flow, given the existence of senior rights to divert water for consumptive uses, the purchase (or leasing) of senior rights for instream flow may be the only

68. The term “public good” refers to resources characterized by non-rivalry in consumption, meaning the resource can simultaneously benefit many individuals. B.G. Colby, “The Economic Value of Instream Flows — Instream Values Compete in the Market for Water Rights”, as cited in MacDonnell, Rice & Shupe, *supra*, note 63, at 95.

69. Huffman, *supra*, note 60.

option for assuring minimum flows.

Based on the experience in the United States,⁷⁰ where only a few private purchases have been completed to date, it seems that governmental support is needed to purchase or lease senior water rights for instream flow needs, and this should be considered in future law reform to the *Water Resources Act*.

Repeal of Section 11 “Preference of Use”

The third amendment to the *Water Resources Act* which would increase the protection of instream flow in Alberta would be to repeal the cancellation power of the Minister based on the “preference of use” found in ss.11(4) and 11(1)(a) of the Act. The order of preferred uses as set out in s.11(1)(a) is domestic, municipal, irrigation, industrial, power, and other like purposes. As stated in s.11(4), the Minister may only cancel a licence from a lower preferred use (with compensation) in order to allocate that water to a higher preferred use. For example, a municipality could have an irrigation licence cancelled, but the reverse is not possible (that is, an irrigator could not have a municipal licence cancelled). Professor Ellis, former holder of the Chair of Natural Resources Law at The University of Calgary, is very critical of this “preference of use” approach in the allocation of water:

Analogous provisions can be found in the constitutions and statutes of some American prior appropriation states. However, in the American statutes these limitations pertain to the allocation of shortages among water rights, not to the allocation of the rights themselves. The Alberta Act, on the other hand, does not limit the allocation of shortages according to this list, but employs purpose categories only to limit the allocation of licences themselves under s.11.

Trying to limit all future allocation of water in this way is a very bad idea, and the way in which the Act will require it may be the worst yet. It is one thing to say that industry, or irrigation or whatever use, is important to the economy of the Province and to instruct the Minister to give it a preference with regard to water within reasonable bounds. It is quite another thing to say that irrigation will always have a better right to water at all times and in all places without exception. Yet this is essentially what the Alberta Act provides, foreclosing attainment of optimum allocations. It ties the Minister’s hands and substitutes a blind hand from the past.⁷¹

Existing water licences cannot be cancelled with compensation by the Minister upon the application of an instream flow licence, as “other like purposes” (including instream uses) are last on the preference of use list in s.11(1)(a).

70. Colby, *supra*, note 68, at 92-94.

71. W.H. Ellis, *Legal Constraints on Alberta Water Management* (Calgary, Canadian Institute of Resources Law, University of Calgary, 1984) at 12-13.

Administrative Considerations

The utilization of existing provisions in the *Water Resources Act* to protect instream flow and law reform which allows for the transfer of water rights must also recognize the administrative difficulties which may accompany such changes.

Difficulties include:

1. determining instream flow needs for each water course,
2. monitoring streamflow to assure the maintenance of instream flow,
3. creating a central registry of water rights, and
4. creating a Board to oversee the impact of water transfers on instream flow, water quality, and other water users.

Much to the credit of the Alberta government, Alberta has a head start with regard to the administrative adjustments which are required. With regard to 1. above, a committee involving five government departments (headed by Alberta Environment) has been formed to determine instream flow needs and to set minimum and preferred instream flow levels.⁷² With regard to 2. above, Alberta Environment (River Forecast Centre and Irrigation Headworks Branch) has a system in place to extensively monitor on a day-to-day basis streamflow levels, reservoir operations, major diversions and return flow, as well as the capability to accurately predict streamflow levels three to four days in advance with the use of river routing models.⁷³ With regard to 3. above, Alberta Environment (Water Resources Administration Division) has a Water Resources Information System in place with a data bank of all the province's water licences and permits.

With regard to 4. above, if Alberta were to adopt a water law system which allows for the transfer of water rights, a "Water Board" (which would hear proposals and grievances) would have to be set up to oversee the impact that transfers would have on instream flow and other water users.⁷⁴ For example, the transfer of a consumptive water right from a downstream location to an upstream location may deplete river flow

72. "Water Management Policy Announced for South Saskatchewan River Basin", *supra*, note 10.

73. B. Kuhnke, "An Overview of Water Management Operations in the South Saskatchewan River Basin in Alberta" in *Drought – the Impending Crisis*, proceedings of Canadian Hydrology Symposium No.16 (Regina, Sask., National Research Council, 1986) at 227-236.

74. D.R. Percy, *The Framework of Water Rights Legislation in Canada* (Calgary: Canadian Institute of Resources Law, University of Calgary) at 46-47.

below established minimum instream flow levels and may effect water quality. The Board would have the right to curtail such transfers. It should be noted that Alberta Regulation 210/91, filed 6 June 1991, gives the Natural Resources Conservation Board jurisdiction to review any water resources project capable of diverting 15 cubic metres or more per second.

Summary

The Alberta government needs to adopt a policy (the practice) of *utilizing* the statutory powers available to them in the *Alberta Water Resources Act*; in addition, both policy and statutory changes are needed to improve instream flow protection in Alberta. This section summarizes the Alberta government's practice of non-statutory instream flow protection techniques, the instream flow protection techniques in the *Water Resources Act*, and the recommended policy and statutory changes to protect instream flow in Alberta:

Existing Policy and Law

1. Non-statutory Engineering and Administrative Approaches

- The principal method of protecting instream flow in Alberta has been by the application of non-statutory engineering and administrative techniques.
- The setting of minimum flow levels has been done on an arbitrary basis historically, but:
 - this will change as a result of the government's 1990 Instream Flow Needs Process.
 - Instream flow levels have been set at three locations in the Oldman River Basin by the *South Saskatchewan River Basin Water Allocation Regulation*.

There are five instream protection techniques in the *Alberta Water Resources Act* (the allocation of instream water rights, the emergency power, the reservation power, the attachment of conditions to licences, and protection at the source), but they are rarely applied. The techniques are:

2. Allocation

- The allocation of instream flow rights is the best technique to protect instream flow in river basins not yet fully allocated. Instream flow rights would be a senior right to all subsequent rights allocated on the river by virtue of s.35. In times of low flow, instream flow rights with a higher priority than offstream water rights would be enforced, and water would remain in the river for instream uses.
- One disadvantage of allocated instream flow rights is that, in fully allocated basins, instream flow rights will be a junior right. In a low-flow year, the water allocated to the instream flow licensee will be made available to more senior licence holders.
- The allocation of instream flow licences for rivers which are fully allocated is not enough to protect instream flow because:
 - any instream flow licence will have a junior priority (like any other new applicant) to senior users under s.35(1);
 - s.35(1) allows each senior licensee to receive the whole of the supply to which each licensee is entitled;
 - there is no mechanism in place which allows a senior user to transfer his water right to another for the protection of instream flow.

3. Expropriation

- Expropriation requires great political will, the cooperation and understanding of water users, and the expenditure of money for compensation during the emergency period.
- If Alberta does not allocate instream flow, the province must retain and expect to use (as California does) the emergency expropriation power contained in s.13 of the *Water Resources Act*. However, Colorado has shown that the need to use an emergency expropriation power can be avoided if instream flow rights are recognized and allocated. Politically, the Colorado approach seems preferable.
- As of March 1991, the s.13 emergency expropriation power had never been applied in Alberta.

4. Reservation

- In a river (or river reach) not yet fully allocated, the Lieutenant Governor in Council may “reserve” water out of the allocation system to remain in the river as instream flow, and thereafter authorize the allocation of the water as he thinks best in the public interest.
- The most significant reservation under s.12 of the *Water Resources Act* was the 1991 *South Saskatchewan River Basin Water Allocation Regulation*, which impacts the allocation of water, including instream flow, in the South Saskatchewan River Basin; the Regulation also precludes the allocation of water for instream flow or “natural state” licences under s.11(1)(c). If reserved water is allocated for offstream uses, the reservation power will have accomplished little to protect instream flow.

5. Conditions of Licences

- An effective way to protect instream flow is to attach conditions to a licence which limit diversions during time of low flow. Conditions which alter the priority of water rights would be *ultra vires* and unenforceable.

6. Protection at the Source

- The Minister of Environment may take any steps to protect the “source” and “supply” of water. This gives the Minister a broad discretion to protect instream flow.

In summary, it can be said that:

- Instream flow for rivers outside the South Saskatchewan River Basin in Alberta has the potential to be adequately protected by:
 - the possible allocation of instream flow licences under s.11(1)(c);
 - the s.12 reservation power if applied to reserve water for instream flow;
 - and the s.73(3)(a) Ministerial power to preserve the sources of water supply.
- Instream flow for rivers located inside the South Saskatchewan River Basin in Alberta has the potential to be adequately protected by attaching conditions to water licences to protect instream flow, the use of the emergency expropriation

power, and the s.73(3)(a) ministerial power to preserve the sources of water supply.

Policy and Statutory Recommendations to Improve Instream Flow Protection in Alberta

1. Instream flow rights are a legitimate water right, as recognized in s.11(1)(c), and the government should allocate instream flow rights. Section 11(1)(c) should be taken out of s.11 and should be given more prominence to indicate the importance of instream flow rights to the province and to the public interest. To accommodate the allocation of instream flow rights from water reserved in the South Saskatchewan River Basin, the *South Saskatchewan River Basin Water Allocation Regulation* should be amended to include the allocation of instream flow licences.
2. The government will have to decide whether instream flow rights should be allocated to individuals or to government agencies. As of January 1992, the *Water Resources Act* allows for the allocation of instream flow licences outside the South Saskatchewan River Basin to both individuals and government agencies.
3. On river basins which are *not* fully allocated, the province should be granting instream flow licences to ensure instream flow is afforded protection as a senior water right to any water rights issued later in time.
4. In river basins which are fully allocated, the government should make the purchase of senior water rights for instream flow part of its water management policy. As in Colorado, this will limit the need to use the emergency expropriation power.
5. Section 23, which prohibits the transfer of water rights, should be repealed. Market transfer would enable water rights to be transferred from one user to another (public or private), and from any one type of use to any other type of use. This will allow water users to obtain more senior rights and reduce the risk of emergency expropriation interrupting water supply during periods of low flow.
6. With the adoption of a market-transfer system, the Alberta government would have to create a Board to oversee the impact of water transfers on instream flow, water quality, and on other water users.
7. Once instream flow needs have been determined by the government's Instream

- Flow Needs Process, they should be legally recognized in the legislation or the regulations (as they are in the *South Saskatchewan River Basin Water Allocation Regulation*) as the amount of water which must remain in the rivers to protect instream uses. It must be anticipated that these flow levels will be subject to change, based on new scientific findings and on future changes in water use.
8. The Alberta government should continue to extensively monitor streamflow to assure the maintenance of instream flow. In times of drought, as in California, water will be expropriated from offstream users when streamflow drops below instream flow needs levels. This should be designated as a condition of the licence for the offstream user.
 9. The province should be exercising its reservation power to protect instream flow. It is far easier to create an instream water right or reservation and leave that water in the river, than it is to restore instream flow after it has been allocated out of the river.
 10. The Alberta government ought to link water-right and water-quality statutes, so that the effect of the statutes is enhanced instream flow protection.
 11. The “preference of use” approach to cancel a water licence found in s.11(4) and s.11(1)(a) should be repealed.

Alberta is in the enviable position of being able to have effective legislation in place to fully protect instream flow before it becomes too large (and costly) a problem. Adoption of the recommendations above will ensure that instream flow can be protected to its full potential, and will provide administrators of the *Water Resources Act* greater flexibility to remedy this difficult problem.

APPENDIX

Provisions of the Water Resources Act Cited

Licence or permit

Section 11:

- (1) On application being made as provided in this Act and the regulations, a person may acquire, subject to any valid and subsisting rights,
 - (a) a licence to divert and use water for any of the following purposes:
 - (i) domestic purposes;
 - (ii) municipal purposes;
 - (iii) irrigation and other agricultural purposes;
 - (iv) industrial purposes;
 - (v) water power purposes;
 - (vi) other like purposes;
 - (b) a licence to impound water for the purpose of water management, flood control, erosion control, flow regulation, conservation, recreation or the propagation of fish or wildlife or for any like purposes;
 - (c) a licence 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;
 - (d) a licence to divert water, otherwise than by impoundment or storage, for the purpose of water management, flood control, drainage, erosion control or channel realignment or for any like purpose;
 - (e) a permit
 - (i) to lay, place, build or erect in, over, under, on or adjacent to any water any structure, device, contrivance or thing, or any earth, sand, gravel or other material, which will interfere with or will be capable of interfering with the present or future development, conservation or management of that water, or
 - (ii) to remove or disturb any earth, sand, gravel or other material forming the bed, shore or banks of any water, where the removal or disturbance will interfere with or will be capable of interfering with the present or future development, conservation or management of water.
- (2) Applications for licences or permits under subsection (1) have priority as between themselves according to the dates of their filing with the Minister, and they shall be numbered consecutively in the order in which they are filed.
- (3) When 2 or more applications for licences under subsection (1) for water from a common source are filed on the same date, they shall be assigned priority as between themselves in accordance with the purpose applied for and subject to the order in which the purposes for which a licence may be acquired are set forth in subsection (1).
- (4) When a person requires water from a common source for a purpose that in the order in which purposes for which a licence may be acquired are set forth in subsection (1) precedes the purpose for which water from that source has been allocated under an interim licence or licence, that person may apply to the Minister
 - (a) to have that interim licence or licence cancelled, in whole or in part, to the extent necessary to meet his requirements, and

- (b) for a licence for his purpose having the same priority as that interim licence.
- (5) If the Minister approves an application under subsection (4), the interim licence or licence may be cancelled in whole or in part as the Minister considers proper, and the applicant may be issued a licence under subsection (1) for his purpose in accordance with his application and, notwithstanding section 35(1), that licence has the same priority as the wholly or partly cancelled interim licence or licence.
- (6) The holder of an interim licence or licence that has been cancelled in whole or in part under subsection (5) and any person who lawfully obtained water from the holder are entitled to be paid compensation by the applicant for any loss or damage sustained by him or them as a result of the cancellation, in whole or in part, of the interim licence or licence.
- (7) If the applicant and the parties described in subsection (6) are unable to agree as to the compensation payable, the compensation payable shall be determined in a manner the Minister authorizes.
- (8) A licensee of water for irrigation purposes, or any person who has acquired from a licensee water for those purposes is entitled to use water for domestic purposes.

RSA 1980 cW-5 s11

Unallocated Water

Section 12:

- (1) Notwithstanding anything in this Act, the Lieutenant Governor in Council may reserve any unallocated water, the property in which is vested in the Crown, in order that he can determine how the water may be used to the best advantage and may thereafter authorize the allocation of the whole or any part of the water so reserved among the applicants therefor or otherwise, as he thinks best in the public interest.
- (2) The Lieutenant Governor in Council may fix a period of time within which advantage may be taken of the allocation and may prescribe the relative order of precedence of the allotments made in the allocation.
- (3) Without limiting the generality of subsections (1) and (2), the Lieutenant Governor in Council may authorize the granting of a permit or licence for the diversion and use for any purpose mentioned in section 11(1) of the whole or any part of the water reserved under subsection (1), which permit or licence and the rights granted thereby are not subject to cancellation or diminution by reason of the water being substantially required for any other purposes, unless it is so provided in the permit or licence.
- (4) Section 11(3), (4), (5) and (6) do not apply to a permit or licence or to a renewal or extension thereof, but a permit or licence granted under subsection (3) may provide for its cancellation or diminution and the rights granted thereby on payment of compensation to be fixed in a manner that the Lieutenant Governor in Council may authorize, and as set out in the permit or licence.
- (5) No applicant shall acquire under this section the right to divert and use any water until he has complied with the provisions of this Act and the regulations respecting the procedure to be followed in obtaining permits or licences.

RSA 1980 cW-5 s12; 1981 c40 s5

Emergencies

Section 13:

- (1) Notwithstanding anything in this Act or any interim licence or licence issued under this Act, the Lieutenant Governor in Council may, under any conditions declared by him to constitute an

emergency, in all or any specified area of Alberta and for any period of time that he may specify, by order,

- (a) suspend the operation of any interim licence or licence issued under this Act, or
 - (b) designate the purposes for which, and quantities in which, water may be used, or both.
- (2) Holders of interim licences or licences affected by an order under subsection (1) are entitled to compensation for any losses incurred as a result of the operation of the order and that compensation shall be determined in the manner the Lieutenant Governor in Council authorizes.

RSA 1980 cW-5 s13

Agreements

Section 14:

Notwithstanding anything in this Act, the Lieutenant Governor in Council may authorize the Minister by agreement with the licensee to amend

- (a) the terms of any existing licence for the diversion of any water, the property in which is vested in the Crown, whether that licence has been granted pursuant to the *Dominion Water Power Act* or this Act, or
- (b) the terms of any regulations that are incorporated in a licence referred to in clause (a).

RSA 1980 cW-5 s14

Granting of interim licence

Section 18:

- (1) On receipt of the application and plans, properly approved, together with proof
- (a) that the proper notice of filing of the application and plans has been given, and
 - (b) that, if such is the case, the permission referred to in section 15(8)(b), has been granted, and after considering all protests filed, the Minister may grant an interim licence authorizing the construction of the proposed works with any changes and variations and subject to any conditions the Minister considers necessary, and fixing a term within which the construction of the works is to be completed.

Specifications

Section 23:

- (1) Every permit, interim licence and licence issued pursuant to this Act shall specify on it the land or the undertaking to which the licence to divert water is to be appurtenant.
- (2) Every permit, interim licence and licence and all property and easements acquired pursuant thereto and all works constructed thereunder are appurtenant to the land or the undertaking specified in the licence and are inseparable therefrom and pass therewith on any demise, devise, alienation, transfer or other disposition on the land or undertaking whether by operation of law or otherwise, unless the Lieutenant Governor in Council orders to the contrary in any case specified in the order.

RSA 1970 c388 s21; 1975(2) c88 s14

Inspection report and issue of licence

Section 33:

- (1) On the expiration of the time fixed for the construction of any works, or on completion of construction of the works if completion of construction occurs before that time, an inspection shall be made by an engineer or other officer appointed in writing by the Minister for that purpose, and that person shall forward to the Minister a report of the results of his inspection.
- (2) If, on receipt of the inspection report, the Minister is satisfied
 - (a) that the works have been completed in accordance with the interim licence.
 - (b) that
 - (i) any right of way required for the works has been obtained, or
 - (ii) in a case where section 18(3) applies, the required consents have been obtained, and
 - (c) that any necessary agreements have been entered into for the use of the works of, or the supply of water by the applicant to, other persons,the Minister shall issue a licence to the applicant for the diversion or use, or both, of the water, subject to any terms and conditions the Minister prescribes.

RSA 1980 cW-5 s33; 1981 c40 s9

Priority of Right

Section 35:

- (1) Licences have priority among themselves according to the number of their licences, so that each licensee is entitled to receive the whole of the supply to which his licence entitles him before any licensee whose license is of a higher number has any claim to a supply.
- (2) If a complaint is made to the Minister, or to an officer authorized by him to receive complaints, that a licensee is receiving water from a source of supply to which another licensee is entitled by virtue of priority of right, and that the licensee having priority of right is not receiving the supply to which he is entitled, some officer to be named by the Minister, or the officer to whom the complaint is made, as the case may be, shall inquire into the circumstances of the case.
- (3) If, on the inquiry, the officer finds that there is ground for the complaint, he shall cause the head-gates or other works of the licensee who is receiving the undue supply of water to be closed, or take any action that is necessary to ensure that the supply to which the other licensee is entitled passes and flows to his works.

RSA 1980 cW-5; 1982 c34 s3

Regulations

Section 72:

The Lieutenant Governor in Council may make regulations

...

- (h) respecting diversion, storage, pondage, regulation, carriage or utilization of any water and for the protection of any source of the water supply and for the regulation and control, in the interests of all water users, of the flow of water that from time to time passes through, by or over any works;

...

Powers of Minister

Section 73:

- (3) The Minister may direct or order
 - (a) that any steps be taken that he thinks necessary for the protection of the sources of water supply and the preservation of any act likely to diminish or injure the supply, and
 - (b) that the flow or quantity of water used, and of the output of electrical or other form of energy produced from the water used, by any licensee or other person be ascertained.

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