

Characterisation of Water Allocation Systems in Canada

Technical Report 1

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**Guelph Water Management Group
University of Guelph**

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This report reflects the views of the lead researchers, and is based on the review of legislation, policies and programs as of April 2007. Responsibility for any errors or omissions rests entirely with study authors.

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Preface

In Canada, water users and managers at all levels, from individuals to government and non-government agencies (NGOs), face water security challenges on a number of fronts, including growing demands for water; increasing variability in supplies; threats to water quality from sources such as land uses and activities; and a rapidly evolving institutional environment, where local agencies are expected to have greater responsibilities for water management. Water allocation systems, the rules and procedures through which rights to use scarce water resources are assigned, are critical determinants of water security.

Effective, efficient, and equitable water allocation systems are critical to maintaining and enhancing environmental quality, economic productivity, and social well being. In Canada, water allocation occurs at a variety of levels and scales, and there is considerable variation in water allocation systems from region-to-region. To varying extents, all Canadian provinces and territories have recognized that water allocation systems contribute to water security – today and into the future. This recognition is reflected in changes that have been made, or are being proposed.

This document is the first of two technical background reports produced for a project funded by the Walter and Duncan Gordon Foundation: *Water Allocation and Water Security: A Canadian Assessment*. The aim of the project was to undertake a comprehensive, national assessment of provincial and territorial water allocation arrangements, with the goal of assessing how these water allocation systems may contribute to Canada's water security.

This technical report provides background information on water allocation systems in each of Canada's provinces and territories. It identifies legislation, regulations and policies, and characterizes each system according to a common set of environmental, economic, and social attributes.

Every attempt was made to ensure that the information in this document is complete and up-to-date as of March 2007. However, users of this document must keep two important caveats in mind:

- Law and policy relating to water allocation is in transition in Canada. Therefore, parts of this characterization already may be dated. Users should verify for themselves whether or not our characterization continues to be accurate.
- In this report, we characterized systems primarily based on law and policy (i.e., formal institutional arrangements), with insights as appropriate from officials responsible for implementing those systems. *Evaluating the actual performance of the systems, and whether or not actual practices conformed to laws and policies, was beyond the scope of this study.*

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Glossary of Terms

The characterization of water allocation systems in Canadian provinces and territories is organized around the following main categories.

Primary agency responsible for water allocation	Main agency responsible for water allocation (often established within the legislation).
Legal authority	Where the legal authority for water allocation lays. List of acts and regulations, policies, manuals, and strategies, etc.
Clarity of roles	Other agencies that play a role in water allocation decisions, and whether roles are clearly specified.
Basis of allocation	Covers what is allocated, the basis of allocation, and the system of allocation
Priorities for water use	Type of doctrine, system of water allocation, and the stated rank of priorities for water use.
Limits/duration of allocation	Expiry dates or limits on licenses/permits. Whether bulk removals are allowed.
Fees/charges	Types of fees/charges collected, if any, and where collected fees/charges go (i.e., general revenue or to support water management)
Monitoring of water use	Who monitors, what is monitored, and how monitoring occurs (e.g., frequency and reporting).
Environmental protection	Attention to environmental needs (i.e., types and levels of protection).
Enforcement of allocations	Responsibility for enforcement, whether mechanism of enforcement is proactive or reactive, and types of uses enforced. Penalties for non-compliance.
Transferability of allocations	Conditions and mechanisms (i.e., legal basis) for transferability.
Compensation if allocations are reduced	Compensation for reduced allocations (excluding non-compliance). Who compensates whom?
Provisions for stakeholder input	Role of stakeholders in allocation decisions, and mechanism to provide for stakeholder input.
Notification of allocation decisions	How and to whom is notification of decisions regarding allocations provided?
Dispute resolution	Agency that hears appeals, if right to appeal granted in legislation. Type of dispute resolution, if mentioned.
Other issues	E.g., climate change, drought management, integration.

1. Alberta

Verified March, 2007

1.1. Primary agency responsible for water allocation

Alberta Environment is a provincial ministry whose responsibilities include legislation and policies related to Alberta's water quality and quantity.

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1.2. Legal authority

Alberta Environment issues water licenses for surface water and groundwater withdrawals under the *Water Act* (Revised Statutes of Alberta 2000, chapter W-3). Regulations applicable to the licensing process are found in the *Water (Ministerial) Regulation* (205/1998), and in regulations that apply to specific watersheds (e.g., Oldman River Basin Water Allocation Order (319/2003), *South Saskatchewan Basin Water Allocation Regulation* (307/1991)).

- *Water Act* s.3 “The property in and the right to the diversion and use of all water in the Province is vested in Her Majesty in right of Alberta except as provided for in the regulations.”

1.3. Clarity of roles

The role of Alberta Environment is clearly established in the *Water Act*. However, applications for approvals and licenses may also be referred to other agencies that have interest in the projects (CVCA and GRCA, 2003). Section 7 of the *Water Act* directed the province to prepare a framework for water management planning for the province. The Framework directs Alberta Environment not only to formulate and coordinate water management plans, but also to authorize and approve plans developed by other government departments, NGOs, or stakeholder groups (Alberta Environment, 2001).

Other agencies/boards that might have a role in issues related to water allocation are:

- Ministry of Agriculture, Food and Rural Development: matters related to the formation, dissolution, and governance of irrigation districts and standards for irrigable soils.
- Ministry of Energy: public utilities and related matters (e.g., oil and gas extraction policies).
- Ministry of Municipal Affairs: coordinates local governments (including dealing with public utilities, emergency response and recovery).
- Ministry of Sustainable Resource Development: responsible for the administration of all public land and fish resources, including science related to determining Instream Flow Needs.
- Ministry of Community Development: responsible for managing ecological reserves and controlled buffer zones, as well as some reservoirs and land in parks and recreation areas.
- Prairie Provinces Water Board: composed by one representative each from Alberta, Saskatchewan, and Manitoba, and two from the federal government (Environment Canada and the Prairie Farm Rehabilitation Administration (PFRA)). The Board administers the Master Agreement on Apportionment and ensures, among other things, that eastward flowing inter-provincial streams are, in accordance with the provisions of that Agreement, shared equitably (PPWB, 2002).
- Mackenzie River Basin Board: provided for by The Mackenzie River Basin Transboundary Waters Master Agreement, signed by Alberta, Saskatchewan, British Columbia, Yukon, the Northwest Territories, and the government of Canada on 24 July 1997. This board was appointed to address transboundary water management issues such as flow regulation and water quality, but it does not have the legal authority to regulate the water resources of the provinces, territories, or the federal government (Bruce et al., 2003).
- Provincial Water Advisory Council, Watershed Planning and Advisory Councils, and Watershed Stewardship Groups: a key focus of Water for Life, Alberta's Strategy for Sustainability, is a shift to shared responsibility through a network of partnerships. While Alberta Environment will remain accountable and will continue to oversee water and watershed management activities in the province, Water for Life envisions these three

types of partnerships (listed above) to have different but compatible roles in the planning and implementation of improved water and watershed management throughout the province (Alberta Environment, 2003b).

- Self-forming water user groups. An example, is the Southern Tributaries Water-sharing Committee: In November of 2000, the St. Mary River, Raymond, and Taber irrigation districts (which combined represent approx 80% of the area irrigated area by the southern tributaries of the Oldman River basin) formed a committee of all irrigation users within the sub-basin, including a technical advisory group from Alberta Agriculture, Food & Rural Development and Alberta Environment, to develop a water-rationing mitigation plan (Alberta Agriculture, Food & Rural Development, 2002). This group disbanded in 2001.
- Fisheries and Oceans Canada (DFO): can play a role in regulating water withdrawals to minimise impacts on fish and fish habitat under the *Fisheries Act* (1985, ss. 22.3, 32, 35(1)).

1.4. Basis of allocation

Water licences are issued for all water withdrawals. Traditional agricultural water diversions for livestock rearing and application of pesticides to crops, up to a maximum of 6,250 m³/year, do not require a licence (ss. 19, 24); however, some of these diversions were registered in order to ensure priority of use (s.73). Riparian landowners diverting water for household purposes are exempt from the need for a licence (s.21). Licenses for temporary diversions of water may be issued for a period of time of no more than one year (s.63).

- *Water Act* s.1(x) “household purposes” means the use of a maximum of 1250 cubic metres of water per year per household for the purposes of human consumption, sanitation, fire prevention and watering animals, gardens, lawns and trees”
- *Water Act* s.49 “(1) Subject to subsection (2), no person shall (a) commence or continue a diversion of water for any purpose, or (b) operate a works, except pursuant to a licence unless it is otherwise authorized by this Act. (2) A person who commences or continues the diversion of water or operates a works (a) for household purposes in accordance with section 21, (b) pursuant to a registration, (c) pursuant to an approval, (d) that is designated or is part of a class of diversions or works that is designated in the regulations as exempt from the requirement for a licence, or (e) that is in

an area of the Province that is designated in the regulations as an area where a licence is not required for that diversion or operation of works or that class of diversions or operation of works, is not required to hold a licence for that diversion of water or operation of works.”

- Water (Ministerial) Regulation s.11 “A licence may be issued for any or all of the following purposes: (a) municipal; (b) agricultural; (c) irrigation; (d) commercial; (e) industrial; (f) water power; (g) dewatering; (h) management of fish; (i) management of wildlife; (j) implementing a water conservation objective; (k) habitat enhancement; (l) recreation; (m) water management; (n) any other purpose specified by the Director.”

Irrigation districts are recognized as independent corporations that are owned by their rate payers. Districts are licensed with a certain amount of water, and are responsible for its management, including deciding how water is distributed to ratepayers (CVCA and GRCA, 2003).

Allocation arrangements are affected by apportionment agreements that guarantee minimum annual volumes (as a percent of natural flow) across the Albertan border to Saskatchewan and Montana (Master Agreement on Apportionment, 1969; CVCA and GRCA, 2003). There is also an agreement to work closely with all jurisdictions involved in managing water in the Mackenzie River Basin (Mackenzie River Basin Transboundary Waters Master Agreement, 1997).

Under section 35 of the *Water Act*, the Minister may reserve unallocated water for any purpose, but may also issue licences for specific uses for license reservation. The Oldman River Basin Water Allocation Order (319/2003) and *South Saskatchewan Basin Water Allocation Regulation* (307/1991) set out reservations for the Oldman River basin and the South Saskatchewan River basin, respectively.

Under section 164 of the *Water Act*, the Director may establish water management areas for administrative practices. Under section 53, the Director may decide to refuse applications for new licences in a water management area.

In Alberta, a licence can be refused if the Director believes that the proposed allocation is not in the public interest. “[R]egulators *must* consider whatever restrictions or guidance an approved water management plan provides, and *may* consider any existing, potential, or cumulative effects on the aquatic environment; hydraulic, hydrological, and hydrogeological effects; and effects on household users, other licen-

sees, and traditional agriculture users that may result from the diversion of water. Regulators may also consider effects on public safety, the suitability of the land for irrigated agriculture, and any other relevant matters such as any applicable water guideline, water conservation objective, and water management plan. Alberta's criteria for issuing groundwater [allocations] for oilfield injection and for coalbed methane are contained in guidelines." (Nowlan 2005:143)

1.5. Priorities for water use

The water allocation system in Alberta is based on the principle of prior appropriation. Licence applications are labelled with priority numbers "that correspond to the date and time that the Director received the complete applications" (*Water Act* s. 29(1)). The *Water Act* protects existing traditional agricultural users of water through a voluntary registration process that ended in 2001, which assigned the relative priority of their water rights according to the date when the water was first used (s.28). Licenses and registered traditional water users have priority among themselves according to the priority number that was assigned to their licence or registration (s.30). Riparian household water use is recognized by providing these users with a statutory right that has priority over all other uses (s.27).

In 2001, the Southern Tributaries of the Oldman River faced a projected water supply of only 50% to 60% of the normal demand. A water sharing agreement (as per s.33) was initiated by senior licensees to provide a rationed amount of water to be available for all users, instead of full allocations for the senior licensees. In 2002, a similar agreement was created (Alberta Agriculture, Food & Rural Development, 2002).

1.6. Limits/duration of allocation

Under section 51 of the Act, the Director may place terms and conditions on licences that he/she issues. Licences must be issued with an expiry date (s. 51), but registrations for traditional agricultural uses do not have expiry dates (s. 74). Licence expiry dates may be dictated by approved water management plans; in the absence of a plan, section 12 of the *Water (Ministerial) Regulation* sets out criteria for assigning 10 year or 25 year expiry dates to licences. Duration of licenses is 1, 2, 10, or 25 years depending on the purpose; also historic licenses remain in perpetuity. Restrictions may be attached to the licence allowing the licensee to only take water from the source when the flow is

above a specific threshold rate of flow, especially in heavily licensed basins (CVCA and GRCA, 2003).

- *Water Act* s.11 (3b) Approved water management plans may stipulate "(i) the number of households permitted on a parcel of land for the purposes of section 21, (ii) authorization of the ability to transfer an allocation of water under a licence, (iii) authorization of the ability to withhold water under section 83, and (iv) a provision on the maximum amount of water that may be diverted under a registration."

The South Saskatchewan Basin Water Allocation Regulation regulates water use for irrigation and establishes limits on the amount of land to be irrigated by each irrigation district within the sub-basins of the South Saskatchewan. According to s.4 of this regulation, the volume of water that may be diverted to irrigate this fixed land surface is determined by the Director in consideration of (a) water required at the farms, (b) canal losses within the district, (c) evaporation for district reservoirs, and (d) water flows returning to rivers. Furthermore, s.7 of the regulation allows for limits on licensed withdrawals for the purpose of maintaining minimum instream flows of 80 ft³/s in the Waterton River, 33 ft³/s in the Belly River, and 97 ft³/s in the St. Mary River. This regulation will be updated as a result of the South Saskatchewan River Basin (SSRB) Water Management Plan (Alberta Environment, 2006d).

The *Water Act* prohibits the export of bulk water outside of Canada (s. 46), and inter-basin transfers of water between Alberta's major river basins (s. 47).

1.7. Fees/charges

Section 168 of the *Water Act* gives Alberta Environment the power to charge fees for applications and issuing licences and registrations, as well as charge for water used for the production of power. Currently, there is no application fee for processing water licences. There is a one-time licence fee charged to users that divert in excess of 62,500 m³/year of water (Alberta Environment, 2005b): \$90 for 62,501-75,000 m³, \$105 for 75,001-87,500 m³, \$120 for 87,501-100,000 m³, \$135 for 100,001-112,500 m³, \$150 for 112, 501-125,000 m³. Revenue collected through licence fees go to the government's general revenue account (CVCA and GRCA, 2003). New fees can be dedicated to the operations group.

1.8. Monitoring of water use

Licences issued under the *Water Act* may contain conditions requiring licensees to submit water-monitoring data and quantities of water diverted, to investigate users impacted by the licensee's diversion, and to monitor nearby sources (Alberta Environment, 2005b). Monitoring/reporting requirements were usually attached to licences for irrigation districts, large municipalities, and industrial users (CVCA and GRCA, 2003) but are now placed on all licenses.

Alberta Environment recently implemented an electronic Water Use Reporting system (WUR) to collect better information on actual water use by all license holders, and report actual water use by all sectors on an on-going basis. This reporting system is related to one of the key actions identified within Water for Life, proposed to achieve the outcome of "maintaining a reliable, quality water supply for a sustainable economy." (Alberta Environment, 2006c)

Licensees in areas where shortages have occurred in the past, are typically asked to monitor the dates and number of hours when water withdrawal is taking place (CVCA and GRCA, 2003) In the case of the agricultural sector, the Irrigation Branch of Alberta Agriculture, Food & Rural Development has collaborated with several irrigation districts to develop a software package, the District Data Information Tool, to track water allocation use and transfers (Chinn, 2002).

Alberta Environment maintains an inventory of groundwater resources, including a provincial observation well network, from which data on water quality and water level fluctuations are recorded continuously (Alberta Agriculture, Food & Rural Development, 2001). "In Alberta there was a reduction in the number of groundwater monitoring wells in the early 1990s due to budget cuts. The department is trying to improve monitoring, and there are approximately 200 deep wells and 100 shallow wells in the quality monitoring well network which are monitored especially for long-term changes." (Nowlan 2005:52).

1.9. Environmental protection

Section 7 of the *Water Act* directs the provincial government to develop a framework for water management planning that includes a strategy for the protection of the aquatic environment (water quantity, water quality, habitat, aquatic species). According to the current Strategy for the Protection of the Aquatic Environment, which applies to all provincial activities

and decisions that could affect the aquatic environment, protection will occur through maintaining, restoring, or enhancing present conditions (Alberta Environment, 2001). Under the Framework, and according to section 11 of the Act, water management plans may authorize holdbacks of water allocations during licence transfers under section 83. Under section 15 of the Act, the director may also establish water conservation objectives, defined in section 1(hhh) as "the amount and quality of water established by the Director under Part 2, based on information available to the Director, to be necessary for the (i) protection of a natural water body or its aquatic environment, or any part of them, (ii) protection of tourism, recreational, transportation or waste assimilation uses of water, or (iii) management of fish or wildlife, and may include water necessary for the rate of flow of water or water level requirements." Protection of the aquatic environment is also a goal of the provincial Water for Life strategy (Alberta Environment, 2003b).

Under section 51 of the Act, in making a decision on a licence, the director must consider a variety of factors, including matters specified in applicable water management plans, and s. 51(4) "(b) may consider any existing, potential or cumulative (i) effects on the aquatic environment, (ii) hydraulic, hydrological and hydrogeological effects..." Also under section 51 of the Act, the Director may place terms and conditions on licences that he/she issues. Since 1977, some northern basin and all southern basin (including municipalities) licensees have instream flow restrictions.

Under section 53 of the Act, the director may decide to halt allocation of water in a specific geographic area, for a period of time, if necessary, subject to notice and appeal by anyone planning on filing an application.

Under section 55 of the Act, "2) Subject to the regulations, the Director may suspend or cancel a licence issued under this Act if, in the opinion of the Director, a significant adverse effect on the aquatic environment occurred, occurs or may occur that was not reasonably foreseeable at the time the licence was issued, and compensation may be payable under section 158."

Under section 83 of the Act, the Director may hold back up to 10% of a licensed allocation being transferred under section 82 of the Act, for the purposes of environmental protection. Water that has been held back may remain unallocated, may be added to a new or existing reservation, or be put into a Water Conservation Objective (WCO). A WCO retains pri-

ority from the license from which it was taken and so can prevent junior licenses from using it.

- *Water Act* s. 83(1): “If the Director is of the opinion that withholding water is in the public interest to protect the aquatic environment or to implement a water conservation objective, and the ability to withhold water has been authorized in an applicable approved water management plan or order of the Lieutenant Governor in Council, the Director may withhold up to 10% of an allocation of water under a licence that is being transferred.”

“In Alberta, the *Water Act* allows the government to apply for a water licence to maintain a rate of flow for the purpose of implementing a water conservation objective. There are also regulations specifying minimum instream flows for rivers, such as the South Saskatchewan Basin Water Allocation Regulation, which allows conditions to be placed on licences limiting the amount of water that may be diverted and used for the Waterton, Belly, and St. Mary Rivers” (Nowlan 2005:45).

In 2006, a water conservation and allocation policy and guidelines were released to reduce impacts of oilfield injection on other water users and the environment (see Government of Alberta 2006c&d).

1.10. Enforcement of allocations

Alberta Environment enforces the *Water Act* and its regulations, as provided by s. 119 of the Act. The *Water (Offences and Penalties) Regulation* (193/1998) is the institutional arrangement that establishes offences and penalties regarding compliance with the *Water Act* and its regulations. A proactive compliance assessment plan for evaluating compliance with the *Water Act* is evolving (CVCA and GRCA, 2003). There is no provincial auditing carried out currently (CVCA and GRCA, 2003). Reactive reports of non-compliance include public complaints/reporting, compulsory reporting and observations by Alberta Environment staff, and formal requests for investigation made in accordance with legislation. There is a proactive auditing process for watershed basins in the south through which unused licenses are cancelled.

1.11. Transferability of allocations

The *Water Act* allows for the transfer of an allocation of water held under a license to another parcel of land or project (Alberta Environment, 2003a). A transfer is a voluntary process between a buyer and a seller, but may only occur where, as stated in s. 81 of the Act, an

approved water management plan or an Order of Cabinet provides for transfers to take place.

In Alberta, all or part of a licensed water allocation can be reallocated on a temporary or permanent basis without affecting the priority of the license (refer to *Water Act*, s.82(2)b). The *Water Act* permits two kinds of reallocations: “assignments” (temporary reallocations from one licensee to another for a specific period of time), and “transfers” (temporary or permanent reallocations of all or part of an existing licensed allocation to another person). Transfers and assignments can be made from one parcel of land to another. In the case of transfers, provisions exist for the Director to withhold up to a 10 percent conservation holdback under s.83 of the Act. Both transfers and assignments are subject to a review by Alberta Environment, with transfers receiving the most scrutiny (*Water Act*, s. 82). Rights for riparian household water use and registrations pertaining to traditional agricultural uses are not subject to transfer provisions, and will always remain attached to the land (Alberta Environment, 2003a).

“The water-stressed area chosen for the first transfer program is in the province’s prime agricultural land, the South Saskatchewan Basin. Either an approved water management plan or cabinet approval is required before a transfer will be considered. The province is clear that “what is being transferred is the right to divert a volume of water from a source of water supply under a certain priority... A transfer of all allocation of water under a licence is voluntary, with a willing seller and willing buyer. [The province also clearly explains] that any transfers will be closely monitored, and that due to public concern transfers cannot be made of the rights related to [riparian] household purposes and traditional agriculture uses”(Nowlan 2005:49, 51). The South Saskatchewan River Basin Water Management Plan is an approved water management plan that establishes a system for water allocation transfers in the South Saskatchewan River Basin (Alberta Environment, 2006d). It provides Alberta Environment direction on factors to be considered when reviewing an application for a water allocation transfer in that basin. So far, 25 transfers have occurred.

1.12. Compensation if allocations are reduced

Under sections 54 and 55 of the *Water Act*, the Director may amend, suspend, or cancel a license if there has been unforeseen impairment of the aquatic environment, and licensees are eligible for compensation.

- *Water Act* s.158(1) “If the Director (a) amends a licence under section 54(2), suspends or cancels a licence under section 55(2) or cancels a preliminary certificate under section 71(1)(i), or (b) issues a water management order under section 97(1)(i) with respect to a licence issued under this Act, the Director must, subject to the regulations, authorize the payment of compensation to the licensee for any losses incurred as a result of the amendment, suspension or cancellation or the water management order, in the manner and amount that the Director considers appropriate.”
- *Water Act* s.54(2) “Subject to the regulations, if an amendment of a licence issued under this Act does not increase the volume of the diversion of water specified in the licence, the Director may amend the licence if, in the Director’s opinion, an adverse effect on the aquatic environment occurred, occurs or may occur that was not reasonably foreseeable at the time the licence was issued, and compensation may be payable under section 158.”
- *Water Act* s.55(2) “Subject to the regulations, the Director may suspend or cancel a licence issued under this Act if, in the opinion of the Director, a significant adverse effect on the aquatic environment occurred, occurs or may occur that was not reasonably foreseeable at the time the licence was issued, and compensation may be payable under section 158.”

Section 19 of the Water (Ministerial) Regulation provides licensees the ability to appeal the amount of compensation authorized by Alberta Environment when amending, suspending, or cancelling a licence, by filing a notice of appeal to the Land Compensation Board. According to subsection 21(1) of the same regulation, this Board must conduct a hearing of the appeal, and within 30 days after the completion of the hearing, make a written decision on the matter.

1.13. Provisions for stakeholder input

The *Water Act* allows for regional differences in water management to be reflected through the development of water management plans (Alberta Environment, 2005a). Public consultation is a key component for the development of these plans, and is to include opportunities for local and regional involvement (s. 7). Stakeholder input to water management plans is addressed in more detail in Alberta’s Framework for Water Management Planning (Alberta Environment, 2001). Partnerships for planning and implementation

of water and watershed management throughout the province are one of three core areas of focus of Water for Life, Alberta’s Strategy for Sustainability (Alberta Environment, 2003b).

Under section 15 of the *Water Act*, in establishing a water conservation objective, the Director is required to consult the public. Public consultation is also required to amend the sections of the Act that limit bulk transfers of water outside of Canada (s. 46), and interbasin transfers among Alberta’s major river basins (s. 47).

- *Water Act* s.15 “(1) The Director may establish water conservation objectives. (2) The Director must engage in public consultation that the Director considers appropriate during the establishment of a water conservation objective. (3) Information on a water conservation objective established by the Director must be made available to the public in a form and manner satisfactory to the Director.
- *Water Act* s.48 “Before a Bill to amend section 46 or 47 or to enact a special Act described in those sections is introduced into the Legislative Assembly, the Minister must consult with the public, in a form and manner satisfactory to the Minister, with respect to such a Bill.”

During the processing of licence applications, written statement of concerns by directly affected stakeholders, provided within 30 days of the application notification, are considered before a licence can be issued (s. 109). A copy of the decision is sent to those who submitted a concern, and an appeal may be requested within 30 days. Applications for transfers of water allocations may be referred for comment to other agencies and are, according to s.81 of the *Water Act*, subject to public review as appropriate for the issues identified (Alberta Environment, 2003a).

- *Water Act* s.109 “(1) If notice is provided (a) under section 108(1), any person who is directly affected by the application or proposed amendment, and (b) under section 108(2), the approval holder, preliminary certificate holder or licensee, may submit to the Director a written statement of concern setting out that person’s concerns with respect to the application or proposed amendment. (2) A statement of concern must be submitted (a) in the case of an approval, within 7 days after the last providing of the notice, and (b) in every other case, within 30 days after the last providing of the notice, or within any longer period specified by the Director in the notice.”

“Accessible information about groundwater [and surface water] use is another important function that government agencies perform. Alberta collects and

consolidates its information on water licences and presents it in easy-to-understand forms, broken down by “specified purpose,” though there are no records for the amount of [any] water used for [riparian household] purposes or unregistered agricultural use. The figures that Alberta reports represent the gross allocations for each category, not the actual usage [for licensed allocations]” (Nowlan 2005:58-59). With the new monitoring system, actual uses will be known.

“Alberta fully discloses everything in the possession of the department, subject to certain confidentiality exceptions, and requires the department to house the information at a location specified by the regulations. No location is established by the regulations. For the approvals and licences already issued, the public has online access, but as the reports submitted with applications are too large to file online with the rest of the application, interested people need to file a request in writing for permission to view these technical reports. The Alberta Groundwater Information System contains a hyperlink to the telusgeomatics site which has all the water well drillers reports” (Nowlan, 2005:59).

1.14. Notification of allocation decisions

After Alberta Environment receives an application, they may refer the application to other agencies that have interest in the project; notification is required in the form the Director deems appropriate (e.g., public notice in appropriate newspapers or postings at specified locations) (CVCA and GRCA, 2003).

- *Water (Ministerial) Regulation, s.13* Requires the director or an applicant (for a licence, etc) to do one or more of the following: “(a) publish notice of the application, decision or order in one or more issues of a newspaper that has daily or weekly circulation in the area of the Province in which the activity, diversion of water or operation of a works that is the subject of the application, decision or order is or will be carried out; (b) provide notice of the application, decision or order through a registry established by the Government for that purpose; (c) provide notice of the application, decision or order through a telecommunication system or electronic medium; (d) publish notice of the application, decision or order in The Alberta Gazette; (e) make available a copy of the application, decision or order in one or more branch offices of the Department in the area of the Province in which the activity, diversion of water or operation of a works that is the subject of the application, decision or order is or will be carried

out; (f) provide notice of the application, decision or order, in the form and manner and within the time period specified by the Director, to (i) any persons determined by the Director, and (ii) the local authority of the municipality in which the land on which the activity, diversion of water or operation of a works is located; (g) provide notice in any other form and manner considered appropriate by the Director.”

1.15. Dispute resolution

Under section 93 of the *Water Act*, parties to a complaint or dispute with respect to a matter under the Act may request that the Director review the matter. If the complaint or dispute is not resolved after review, Alberta Environment may appoint a mediator to assist (s. 94).

Decisions regarding license applications including authorisations, cancellations, and refusals, are subject to appeal to the Environmental Appeal Board (EAB). The applicant, a person who submitted a statement of concern within 30 days of the last showing of public notice, or an individual who is directly affected and had expressed concern, may submit an appeal to the EAB, according to subsection 115(1) of the *Water Act*. The EAB holds a pre-hearing. “If the EAB determines that the party submitting the notice of appeal is not “directly affected” by the decision of the Director, the notice of appeal may be rejected. Some decisions cannot be appealed (e.g., temporary licenses, some amendments, orders of the minister). The EAB makes recommendations to the minister. The EAB may initiate mediation to resolve the notice of appeal, or may hold a formal hearing” (Nowlan 2005:64-65).

1.16. Other issues

The Framework for Water Management Planning and The Strategy for the Protection of the Aquatic Environment, which aim to be consistent with an integrated approach to resource management, came into effect on January 1, 2002 (CVCA and GRCA, 2003). All future water management planning must adhere to the Framework (Alberta Environment, 2001). In the case of the South Saskatchewan River Basin Water Management Plan, it was determined that water quality and the linkages between surface and groundwater will be among the factors to be considered by Alberta Environment when reviewing applications for water allocation transfers (Alberta Environment, 2002).

Some of the action items outlined in Water for Life, Alberta's Strategy for Sustainability reflect a vision of an integrated approach (Alberta Environment, 2003b):

Short-term Actions (2004/05-2006/07):

- Establish a provincial, multidisciplinary water research centre;
- Develop a provincial water research plan;
- Establish a Provincial Water Advisory Council.

Medium-term Actions (2007/08-2009/10):

- Establish a provincial water information centre that brings together information from both private and public sources
- Long-term Actions (2010/11-2013/14):
- Understand the state of the quality and quantity of all surface water supply in all major basins
- Understand the state of the quality and quantity of Alberta's groundwater supply
- Establish an adaptive management system for identifying issues, gathering information, developing and implementing action plans, and evaluating management actions

The Alberta Government is currently engaged in the development of a Land-Use Framework through a cross-ministry initiative including the following ministries: Sustainable Resource Development; Energy; Municipal Affairs and Housing; Environment; Agriculture and Food; Tourism, Parks, Recreation and Culture; and International, Intergovernmental and Aboriginal Relations (Alberta Environment, 2007). Alberta's Land Use Framework will be operationalized and implemented through the Integrated Land Management (ILM) Program. The ILM program will also integrate the Land-Use Framework and Water for Life Strategy (Alberta Sustainable Resource Development, 2007).

"In Alberta enhanced oil recovery allocation represents 26.4% of groundwater allocations" (Nowlan 2005:56). An example of integrated water management with other sectors is the new allocation policy and guidelines for water use in enhanced oil recovery. Allocation of water for oilfield injection considers the impact on water resources and the probability of the impact to determine a tier level. Each of the three tier levels has a different application and a different set of goals associated with it. All tiers require a description of how the proposed project maximizes water recycling (Government of Alberta 2006a&b).

The Agriculture Drought Risk Management Plan for Alberta outlines a framework for drought response

coordinated by a committee of representatives from provincial ministries and corporations and the Prairie Farm Rehabilitation Administration (Alberta Agriculture, Food and Rural Development et al., 2001). During times of drought, representatives from councils of affected municipalities will be sought, and partnerships with agricultural industry organizations will be developed. Activities of the committee are to vary with drought conditions, and include developing educational materials; monitoring drought conditions; assessing demand for, and supply of, water resources at the municipal level; advising provincial ministers; informing the agricultural community about drought conditions; and making recommendations to producers, ministers, and others on drought response options. Drought response options outlines in the Plan include a variety of voluntary measures, such as water rationing and programs to provide feed and financial assistance to farmers.

Climate change is built into the legislation through its consistent approach to dealing with the repercussions of water shortages, including the principle of prior allocation, transferability of licenses, and/or moratoriums. Most water sources in southern Alberta have been highly allocated to a level of risk that shortages have occurred and are likely to occur, limiting the potential for growth or expansion (UMA Engineering Ltd., 2003). Climate change has the potential to make this better or worse. "A moratorium on irrigation expansion in southern Alberta has existed since 1991 under Alberta Regulation 307/91 due to over allocation of water supplies in the region's rivers and streams, and the inability to meet minimum instream flow needs to protect aquatic habitat" (de Loë and Moraru, 2004:21).

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2. British Columbia

Verified December 2006

2.1. Primary agency responsible for water allocation

The Ministry of Environment (MOE) is responsible for water resources; within the MOE, the Water Stewardship Division (WSD) is responsible for water allocation.

Water Stewardship Division
5th Fl 2975 Jutland Rd, Victoria, BC V8T5J9
Phone: 250 356-9443 Fax: 250 953-3414

2.2. Legal authority

Responsibility of issuing water use approvals (for short-term use) and licences (terms and conditions under which rights are granted) falls under the Ministry of Environment (MOE), Water Stewardship Division (WSD). Water licences are issued under the *Water Act* (Revised Statutes of British Columbia 1996, chapter 483). Groundwater withdrawals are not currently licensed. Regulations applicable to the licensing process are found in the *Water Regulation* (BC Reg. 204/88).

- *Water Act* s.2 “(1) The property in and the right to the use and flow of all the water at any time in a stream in British Columbia are for all purposes vested in the government, except only in so far as private rights have been established under licences issued or approvals given under this or a former Act. (2) No right to divert or use water may be acquired by prescription.”
- *Water Act* s.3 “The Lieutenant Governor in Council may, by regulation, fix a day on which this Act begins to apply to ground water in a part of British Columbia the Lieutenant Governor in Council designates.”
- The *Groundwater Protection Regulation* under the *Water Act* came into force on November 1, 2004. “The primary purpose of the *Ground Water Protection Regulation* is protection of the quantity and quality of the province’s valuable ground water resource by setting out standards to safeguard and maintain the integrity and efficient use of the ground water resource, and ensuring activities related to well water and ground water are undertaken in an environmentally safe manner.” (BC

Ministry of Environment 2005). “However, its application is limited to well drilling, well registration, [well flood proofing,] and maintenance and well closure” (Christensen and Magwood 2005:15).

- At present, the Water Stewardship Division of MOE is preparing a water strategy (as per their service plan).

2.3. Clarity of roles

The Water Stewardship Division (WSD) within the Ministry of Environment (MOE) is responsible for water allocation. They also administer the *Water Protection Act*, which focuses on water quality and manages ecological reserves and parks, the *Fish Protection Act* and is responsible for monitoring the levels of both surface and groundwater in British Columbia, and the *Environmental Management Act*, which deals with water quality components.

Other agencies/boards that may play a role in water allocation include:

- Columbia Basin Trust: addresses long-term water quality and quantity issues according to the Columbia Basin Management Plan
- Okanagan Basin Water Board: a combination of 3 regional districts instituted in 1970, provides leadership on water issues related to water quality and quantity.
- Environment and Land Use Committee: established under the *Environment and Land Use Act* (R.S.B.C. 1996), ensures that all aspects of the preservation and maintenance of the natural environment are fully considered in the administration of land use and resource development.
- Water Users' Communities: public corporate bodies incorporated under s.51 of the *Water Act*, which may acquire, hold, and control property and water licences; and acquire, construct, hold, maintain, improve, replace, and operate works.
- Mackenzie River Basin Board: provided for by The Mackenzie River Basin Transboundary Waters Master Agreement, signed by Alberta, Saskatchewan, British Columbia, Yukon, the Northwest Territories, and the government of Canada on 24 July 1997. This board was appointed to address transboundary water management issues such as flow regulation and water quality, but it does not have the legal authority to regulate the

water resources of the provinces, territories, or the federal government (Bruce et al., 2003).

- Oil and Gas Commission: authority to issue water approvals under the *Water Act* for oil and gas activities.

2.4. Basis of allocation

Water licences required for surface water withdrawals are issued under the *Water Act* (Revised Statutes of British Columbia 1996, chapter 483). Groundwater withdrawals are not currently licensed.

- *Water Act* s.5 “A licence entitles its holder to do the following in a manner provided in the licence: (a) divert and use beneficially, for the purpose and during or within the time stipulated, the quantity of water specified in the licence; (b) store water; (c) construct, maintain and operate the works authorized under the licence and necessary for the proper diversion, storage, carriage, distribution and use of the water or the power produced from it; (d) alter or improve a stream or channel for any purpose; (e) construct fences, screens and fish or game guards across streams for the purpose of conserving fish or wildlife”
- *Water Act* s.7 “A licence for any one, 2 or 3 of the purposes defined in section 1 may be issued by the comptroller or the regional water manager to any of the following: (a) an owner of land or a mine; (b) a holder of a certificate of convenience and necessity issued under the Public Utilities Act, R.S.B.C. 1960, c. 323, or under the Water Utility Act; (c) a municipality, improvement district, water users' community or development district; (d) the Crown as represented by a minister appointed by the Governor General or the Lieutenant Governor; (e) a commission, board or person having charge of the administration of any land, mine or other property owned or controlled by a ministry, department, branch or other subdivision of the government of Canada or of British Columbia; (f) the Greater Vancouver Water District or the Greater Nanaimo Water District, or any other water district incorporated by an Act of the Legislature; (g) the British Columbia Hydro and Power Authority”

Water approvals may be issued, rather than licences, for water diversions taking place over a term of less than one year (*Water Act*, s.8) or for changes in and about a stream (*Water Act*, s. 9).

- *Water Act* s.8 “(1) If diversion or use of water is required for a term not exceeding 12 months, the

comptroller or a regional water manager may, without issuing a licence, grant an approval in writing, approving the diversion or use, or both, of the water on the conditions the comptroller or regional water manager considers advisable, but the diversion or use, or both, are subject to the same provisions as if the approval were a licence. (2) Even though a licence has not been issued, a person is not prohibited from diverting or using water in accordance with an approval given under this section.”

- *Water Act* s. 9 “(1) The comptroller, a regional water manager or an engineer may grant an approval in writing authorizing on the conditions he or she considers advisable (a) a person to make changes in and about a stream, (b) a minister of the Crown, either in right of Canada or of British Columbia, to make changes in and about a stream, or (c) a municipality to make changes in and about a stream. (2) A minister, municipality or other person may only make changes in and about a stream in accordance with an approval under this section or in accordance with the regulations or a licence or order under this Act.”

Under section 42 of the *Water Act*, it is not an offence to use “unrecorded water” for domestic needs, mineral prospecting, or firefighting. However, these water users will have no recourse in case the water is licensed (West Coast Environmental Law, No Date) Unrecorded water is water in a stream that is neither licensed nor reserved for other purposes (*Water Act*, s.1). Under section 44 of the *Water Act*, all or part of the unrecorded water of a stream may be reserved from being allocated in order “to investigate the suitability of a stream for any purpose, or in order to make provision for a water supply for a waterworks, irrigation or power system or project, or for the use of the Crown for any purpose”.

In considering applications for a water licence, officials must ensure that an allocation is diverted or used for beneficial purposes (section 5), that it is developed in a timely manner, and that the licensee continues to make regular beneficial use of the water (section 22.01) (CVCA and GRCA, 2003). Beneficial use is not defined within the Act.

BC has a “quick licensing” system for small domestic (max 500 gallons/day) and irrigation or agricultural (max 2,500 gallons/day) allocations on streams with sufficient supply that will not disrupt fish habitat (section 12.1) (LWBC, 2005b).

Under section 62 of the *Water Act*, an area may be designated for developing a water management plans. These plans may be considered in allocating water.

- *Water Act* s. 65 “(1) For the purposes of implementing a water management plan, the Lieutenant Governor in Council may, by regulation applicable in relation to all or part of the designated area for the plan, do one or more of the following: (a) require that persons making decisions or classes of decisions under a specified enactment must consider the plan in making those decisions; (b) restrict the issuance or amendment of licences, approvals, permits or other authorizations under a specified enactment; (c) restrict the exercise of a power under a specified enactment.”

2.5. Priorities for water use

BC’s water allocation system is based on the principle of prior appropriation.

- *Water Act* s.15: “(1) Except as otherwise provided in subsections (2) and (3), the respective rights exercisable under 2 licences authorizing the diversion of water from the same stream have precedence in law according to the respective priorities of the dates from which the licences take precedence as set out in them. (2) The respective rights exercisable under 2 licences taking precedence from the same date have precedence in law according to the ranking of the respective purposes for which water is authorized to be used under the licences respectively, and the ranking of the several purposes for which water may be used under licences are, from highest rank to lowest rank: domestic, waterworks, mineral trading, irrigation, mining, industrial, power, hydraulicking, storage, conservation, conveying and land improvement purposes. (3) The rights exercisable under 2 licences taking precedence from the same date and authorizing the diversion of water from the same stream for the same purpose have equal precedence in law.”

2.6. Limits/duration of allocation

Water licenses are legal documents specifying the terms and conditions of water use. According to section 5 of the *Water Act*, licensees may “divert and use beneficially, for the purpose and during or within the time stipulated, the quantity of water specified in the licence...”

The terms and conditions of a typical water licence include the maximum quantity of water that may be used or stored, and the time of the year during which the water may be used (LWBC, 2005a). Water licenses

do not have expiry dates and are therefore active unless revoked for reasons such as non-payment, non-compliance, non-beneficial use or non-use (CVCA and GRCA, 2003). Water approvals, permits issued to authorize short-term use of water for periods of less than one year or approvals for instream works, have expiry dates.

Restrictions on water use are applied in areas where demand for water threatens the sustainability of the water supply. Restrictions range from minimum fish flow clauses to suspending the issuance of any further licenses on a water body. Approximately 28% of licensed stream length in British Columbia is currently restricted (Ministry of Land, Water and Air Protection, 2002).

Under the *Water Protection Act* (Revised Statutes of British Columbia 1996, chapter 484), large scale water transfers outside the province are prohibited as are large scale transfers between major watersheds. Projects that were already built, or were under construction when the Act came into effect, are excluded from this prohibition (CVCA and GRCA, 2003).

Part 5 of the *Environmental Assessment Act* (S.B.C. 2002, chapter 43) outlines the types of water management projects that trigger environmental assessments. For example, Water Diversion Projects (“subject to subsection (2), a facility incorporating new works that (a) are constructed for the diversion of water, and (b) under the *Water Act*, are permitted to divert water at a maximum rate of > 10 million m³/year” and Groundwater Extraction Projects (“subject to subsection (2), a new facility that (a) consists of one or more works for the extraction of groundwater to be used for the same project or where, in the reasonable opinion of the executive director, the works are so closely related they can be considered to form a single project, (b) is operated intermittently or continuously for > 1 year, and (c) is designed to be operated so that groundwater is extracted at a rate of > 75 litres/second.”

2.7. Fees/charges

Section 100 of the *Water Act* authorizes “fees, rentals and charges in respect of applications, petitions, claims, complaints, proceedings, licences, approvals, permits, and other things filed, applied for, taken or issued under this or any former Act, and in respect of water diverted or used from a stream, whether diverted under authority of a licence or under a special or private Act or without authority.” The charges are set out in Schedule A of the *Water Regulation*. One-time licence application fees range from \$100 to

\$10,000 depending on water use purpose and amount. Annual “rental” fees for the right to divert, use and or store water range, according to the sector of water use, from \$0.01 to \$1.10 per 1,000 cubic metres. The annual rental for Local Authorities, which are primarily large-scale water suppliers, such as municipalities, private utilities and irrigation districts is based on the amount of water which is reported used.

Revenue collected from application and water rental fees is generally directed into British Columbia’s Consolidated Revenue Fund.

Water users’ communities may establish their own set of fees to cover maintenance and operation of works, and to pay the debts (Act s. 56).

Water licences are also issued to private waterworks utilities, which can also levy water use fees in accordance with British Columbia’s *Utility Commission Act* and the *Water Utility Act*.

The Water Conservation Strategy for British Columbia, initiated in 1997 as a collaborative effort between different levels of government and stakeholder groups, describes various economic tools to promote water conservation, including water pricing. Its strategic directions included reviewing pricing structures of water allocation “to address the full social, environmental and economic costs, benefits and value of water” (Water Conservation Strategy Working Group, 1998).

The Freshwater Strategy for British Columbia, released in 1999, superseded the 1997 Water Conservation Strategy. Included in the Freshwater Strategy as a “principle for action” is the user pays principle, such that “user pays acknowledge the intrinsic social environmental value of water. Users of water resources should pay fair value for the use of this natural capital, and should exercise this privilege with care and consideration for other living things.”

The Water Use Efficiency Catalogue, a compilation of water conservation activities underway or planned throughout the province, includes reports on different pricing structures and metering initiatives at the provincial, regional, and municipal levels (Water Conservation Strategy Working Group, 2002).

In 2001, the provincial Cabinet directed agencies to review the fee structures according six criteria: simplicity and fairness, appropriate amount, consolidation, competitiveness, cost justification, and enhanced service. After a five-year review period the *Water Regulation* was amended to bring into force a new sector-based water rent structure for 2006.

Water fees are also influenced by an amendment to a water licence. For example, “When appurtenant land has been subdivided it becomes necessary to amend the existing water rights and apportion those rights in a manner that is both fair and equitable. Licensees are assessed a fee for apportionments which are carried out under Section 20 of the *Water Act*. Apportionments can be categorized into two types; those cases which involve distributing water rights on subdivided land for irrigation or storage purposes and those cases where the diversion and use of water is tied to a structure or specific location on a property” (LWBC 2003:2).

2.8. Monitoring of water use

Licence and approval holders must keep and make available for inspection any records prescribed by the comptroller, a regional water manager, or an engineer (section 22). However, very few licenses have metering requirements, except those for large users such as municipalities, water districts, and industrial users, who typically report water use annually (CVCA and GRCA, 2003).

Licensees may be required to complete a Beneficial Use Declaration, to provide a detailed summary of how water has been used in accordance to the terms of the licence over the preceding 3 years (section 22.01).

Monitoring data storage is centralized and shared internally, but it is not readily accessible to other agencies or the public (CVCA and GRCA, 2003).

“In BC since 1960, 350 observation wells have been established, with 163 active today. Some observation wells have close to 50 years of record. Reporting of eighteen key observation wells is done in the Snow Survey Bulletin. Access to month end data is on the ministry website” (Nowlan 2005:52).

2.9. Environmental protection

Under the *Fish Protection Act* (Statutes of British Columbia 1997, chapter 21), a stream may be designated as “sensitive” when the sustainability of a population of fish is at risk due to inadequate streamflow (section 6); under the *Water Act*, these streams are considered “excluded.” Licences for water use from excluded streams are exempt from the “quick licensing” process. Under the *Sensitive Streams Designation and Licensing Regulation* (BC Reg. 89/2000), a regional water manager may require the applicant for a licence on a sensitive stream to submit additional information, such

as a fish inventory, flow analysis, seasonal distribution of water demand, habitat assessment, water conservation measures; and to monitor constructed works and mitigation activities.

MOE considers environmental protection when issuing licences. When assessing the availability of supply for a particular purpose, instream needs at the source are subtracted from the average flow to determine total availability. A licence may be granted if water is available at the requested level without interfering with the instream needs of the aquatic environment and the requirements of other users (CVCA and GRCA, 2003). However, since BC does not have comprehensive groundwater legislation, the impacts of groundwater extraction on fish habitat are not accounted for (Rosenau and Angelo, 2003).

Ecosystem integrity is one the principles for action listed in A Freshwater Strategy for British Columbia, released in 1999 by the provincial government to provide direction to future water management (Ministry of Environment, Lands and Parks, 1999). Healthy aquatic ecosystems were among the long-term goals of this strategy.

Some types of water development projects require environmental assessments and an environmental assessment certificate under the *Environmental Assessment Act* (Statutes of British Columbia 2002, chapter 43). These projects, including water diversions and groundwater extraction projects, are defined under the *Reviewable Projects Regulation* (BC Reg. 370/2002).

- *Water Act* s. 62 “(1) The minister may, by order, designate an area for the purpose of developing a water management plan if the minister considers that a plan will assist in addressing or preventing (a) conflicts between water users, (b) conflicts between water users and instream flow requirements, or (c) risks to water quality.”
- *Water Act* s. 9 “(1) The comptroller, a regional water manager or an engineer may grant an approval in writing authorizing on the conditions he or she considers advisable (a) a person to make changes in and about a stream, (b) a minister of the Crown, either in right of Canada or of British Columbia, to make changes in and about a stream, or (c) a municipality to make changes in and about a stream. (2) A minister, municipality or other person may only make changes in and about a stream in accordance with an approval under this section or in accordance with the regulations or a licence or order under this Act.”
- *Water Act* s. 1 "changes in and about a stream" means (a) any modification to the nature

of a stream including the land, vegetation, natural environment or flow of water within a stream, or (b) any activity or construction within the stream channel that has or may have an impact on a stream.

2.10. Enforcement of allocations

Ministry officials and Conservation Officers enforce the *Water Act* and *Environmental Management Act* and associated regulations (West Coast Environmental Law, No Date).

A licence may be cancelled or suspended, in whole or in part, for noncompliance with the conditions of a licence, non-payment of water rental fees, or not making beneficial use of water during 3 successive years, among other things (*Water Act*, section 23). Currently, licences are rarely audited; conflicts and/or violations under are primarily identified on a reactive basis, through complaints of non-compliance (CVCA and GRCA, 2003).

2.11. Transferability of allocations

Amendments to a licence may be granted to authorize transfer the water rights to another property, divide and reassign water rights to land within the original appurtenancy of the licence, or change the purpose for which the water is used (CVCA and GRCA, 2003).

- Under section 16 of the *Water Act* “(1) A licence, approval or permit that is made appurtenant to any land, mine or undertaking and any rights and obligations granted and imposed under the licence, approval or permit pass with a conveyance or other disposition of the land, mine or undertaking. (2) A person conveying or otherwise disposing of land, a mine or an undertaking to which a licence is appurtenant, or in respect of which an approval or permit was issued or, in the case of a transmission of land, a mine or an undertaking to the personal representative or other person representing the owner, the personal representative or other person must give written notice of the conveyance or other disposition to the comptroller or regional water manager.”
- Under section 19 of the *Water Act* “(1) On the application of the holder of a licence, approval or permit and on compliance by the holder and by the proposed transferee with the comptroller's or the regional water manager's directions as to giving notice, the comptroller or the regional water

manager, on the terms he or she considers proper, may (a) transfer all or part of the rights and obligations granted and imposed under the licence, approval or permit from the holder to the proposed transferee, and (b) issue a new licence, approval or permit to the transferee or transferor, or both, and determine the appurtenancy of the licence, approval or permit.”

2.12. Compensation if allocations are reduced

With the negotiation of water use plans, BC hydro had to give up some of their power generation rights to allow negotiated fish flow downstream. Provisions for compensation of lost revenue are provided in s.23.1 and 23.2. of the *Water Regulation*.

- Water Regulation s. 23.1 “(1) In this section and in section 23.2, "power development" includes storage recognized in a licence for storage purpose as supporting storage for that power development. (2) Authorization is given for remission of a part of the annual rentals payable in respect of a power development on the following conditions: (a) the comptroller is conducting a review of the licences in respect of the power development and of the operation of the power development; (b) during the preceding calendar year the diversion, rate of diversion, storage, carriage, distribution and use of water by the licensee has been regulated by an order under section 39 of the Act, and (i) the effect of the order has been to reduce the power benefits to the licensee in favour of other benefits, which may include benefits for fish, fish habitat, flood protection, recreation or otherwise, and (ii) the comptroller is satisfied that the licensee has operated the power development in accordance with the order; (c) the licensee has begun to prepare a water use plan for the power development in accordance with water use plan guidelines published by the government; (d) the licensee has provided information on the operation of the power development during the preceding calendar year as required by the comptroller.”
- Water Regulation s. 23.1 23.2 “(1) In this section, "increased costs" includes increased costs to a licensee resulting from a condition of an order, new licence or amended licence referred to in subsection (2) (c) that requires a licensee to collect, analyze or report specified information to the comptroller. (2) Authorization is given for remission of a part of the annual rentals payable in respect of a power development on the following conditions:

(a) the comptroller has completed a review of the licences in respect of the power development and made any changes to the licences that are necessary to (i) provide a clear description of the rights granted and obligations imposed in respect of the power development, and (ii) provide a basis for monitoring compliance with and enforcement of the licences and the terms and conditions of the licences; (b) the licensee has (i) completed a water use plan in respect of the power development in accordance with water use plan guidelines published by the government, and (ii) submitted the water use plan to the comptroller for review; (c) the comptroller has ordered or authorized the licensee to operate the power development as contemplated by the water use plan as submitted or as modified by the comptroller, including by or as a condition of (i) an order made under section 39 of the Act, (ii) a new licence issued under section 12 of the Act, or (iii) a licence amended under section 18 of the Act; (d) the order, new licence or amended licence referred to in paragraph (c) was in effect during the preceding calendar year; (e) compliance with the order, new licence or amended licence referred to in paragraph (c) has caused (i) a net loss of revenue to the licensee from power production, or (ii) increased costs to the licensee at the power development that is the subject of the order, new licence or amended licence, in favour of benefits other than power benefits, which may include benefits for fish, fish habitat, flood protection, recreation or otherwise; (f) the licensee has provided information as required by the comptroller on (i) the operation of the power development, or (ii) any other aspect of the power development during the preceding calendar year; (g) the comptroller is satisfied that the licensee has, during the preceding calendar year, substantially complied with the order, new licence or amended licence referred to in paragraph (c); (h) the total amount of the remission over the period of the remission schedule, as determined under subsection (3), (i) in respect of the Peace River Water Use Plan, (A) is approved by the Lieutenant Governor in Council, or (B) is varied by, and approved as varied, by the Lieutenant Governor in Council, or (ii) in respect of all other water use plans, is approved by the chair of Treasury Board.”

2.13. Provisions for stakeholder input

- *Water Act, s.11* “(1) A licensee, riparian owner or applicant for a licence who considers that his or her rights would be prejudiced by the granting of an application for a licence may, within the prescribed time, file an objection to the granting of the application. (2) The comptroller or the regional water manager has authority to decide whether or not the objection warrants a hearing, and he or she must notify the objector of his or her decision. (3) If the comptroller or the regional water manager decides to hold a hearing, the applicant and objectors are entitled to be notified, to be heard and to be notified of his or her decision following the hearing.”

Provisions for third party objections do not apply to quick licensing procedures; however, these applications must be accompanied by a signed Landowner's Consent Form for each parcel of land that may be "physically affected" by the proposed works (LWBC, 2005c).

Under s.7 of the *Fish Protection Act*, the development of a recovery plan in a sensitive stream for the purposes of fish and fish habitat protection must include a process for public participation.

Proponents of reviewable projects requiring an environmental assessment under the *Environmental Assessment Act* must conduct a public consultation program, as described in the *Public Consultation Policy Regulation* (BC Reg. 373/2002).

A Freshwater Strategy for British Columbia, released in 1999 by the government of British Columbia to provide an overview of the future direction of water management in the province, is intended to be implemented in cooperation with the ministries of Employment and Investment, Fisheries, Forests, Health, and Municipal Affairs; BC Hydro; regional and municipal governments; First Nations; the federal departments of Environment and Fisheries and Oceans; professional associations; industry representatives; environmental stewardship organizations; and the public (Ministry of Environment, Lands and Parks, 1999). According to the strategy, stakeholder consultations were to be undertaken prior to implementing priority activities.

Partnerships are deemed to be a key factor in the implementation of the Water Conservation Strategy for British Columbia, which aims for a coordinated, province-wide approach to water use management to

ensure efficient use of the resource (Water Conservation Strategy Working Group, 1998).

“BC’s *Water Act* authorizes the creation of water management planning areas, which must be developed with public consultation. One potential groundwater management plan is under consideration for the Township of Langley, a major municipality in the Lower Mainland. The water management plan can address quantity or quality for surface water and groundwater. If groundwater quantity is the issue, there are provisions in the *Water Act* to develop specific regulations on drilling authorizations or groundwater licensing, if required” (Nowlan 2005:41).

2.14. Notification of allocation decisions

Generally, licence applications are referred to other resource management agencies and other licensees, applicants, or landowners whose rights may be affected if the application is granted (LWBC, 2005c).

Applicants may be required, under s.10 of the *Water Act*, to post signed copies of the application at specified locations or to post notice of the application in appropriate newspapers. The *Water Regulation* provides for notice of applications to be given to: (a) any licensee or applicant for a water licence whose rights will not be protected by the precedence of his licence or application, (b) any riparian owner whose rights may be prejudiced by the granting of the application, (c) any owner whose property may be physically affected by the applicant’s works, and (d) any other person, agency or minister of the Crown whose input the comptroller or regional water manager considers advisable.”

Under the *Water Regulation*, a licensee, riparian owner, or licence applicant that feels that his or her rights would be prejudiced by the granting of a licence, for which he/she was not given notice, may file an objection prior to the granting of the licence.

The comptroller or regional manager may amend a licence, after notice has been given to all persons whose rights would be affected, after consideration of any objections filed, and after notifying the objectors of the decision (*Water Act*, s.18). Similar procedures exist for cancelling licences (*Water Act*, s.23).

2.15. Dispute resolution

Under section 40 of the *Water Act*, orders issued by the comptroller, regional water manager, or an engi-

neer, may be appealed to the Environmental Appeal Board established under s.11 of the *Environment Management Act* (Revised Statutes of British Columbia 1996, chapter 118). Orders may be appealed by the person who is subject to the order; the owner of land that is, or is likely to be, physically affected by the order; or a licensee, riparian owner, or licence applicant who feels their rights are or will be prejudiced by the order.

Water users' communities typically deal with conflicts through the coordinated efforts of all community users (CVCA and GRCA, 2003).

Water use planning is a supplementary process that can be used to address conflicts among water licensees and non-licensed uses of water, such as fish and aquatic resources. A Water Use Plan is a technical document, ratified by Comptroller of Water Rights, which defines the detailed day-to-day operating parameters of facilities such as hydroelectric, agricultural, or commercial water diversions (Rosenau, and Angelo, 2000). Water Use Plan Guidelines were developed by the province to instruct licensees and licence applicants in plan preparation and approval procedures; and to inform local governments, First Nations, key interested parties, and the general public, on how to participate in the process (British Columbia, 1998). Water use planning may be required by the Comptroller of Water Rights as a condition of a new licence, as part of a review of an existing licence, or as a result of a conflict with an existing licence. This planning process has been applied to BC Hydro facilities, most of whose licenses were granted before 1962, and do not have clauses or conditions relating to the protection of fish or fish habitat (Rosenau and Angelo, 2000).

2.16. Other issues

One of the strategic directions established in the Water Conservation Strategy for British Columbia, a government initiative to encourage water use efficiency, involves long-term planning for water supply to ensure a reliable, cost-effective water services for communities (Water Conservation Strategy Working Group, 1998). The strategy recommends development of contingency plans to cope with unusual events or emergencies. Key areas to implement the strategy include "areas where there is a high demand for surface or ground water relative to supply sources, seasonally low or sensitive in-stream flows, water use conflicts, critical fish streams and aquatic habitats, and areas experiencing surface or ground water quality problems."

In response to the 2003 drought, and as part of the Provincial Drought Action Plan, the BC government is providing up to \$2 million in funding to local governments in 2004, and has produced the *Dealing with Drought Handbook* for water suppliers (LWBC, 2004). The Handbook outlines a voluntary set of steps for municipal drought response, including forming local multi-stakeholder drought management teams and creating drought management plans (LWBC, 2004).

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3. Manitoba

Verified March 2007

3.1. Primary agency responsible for water allocation

Manitoba Water Stewardship is the provincial department created in November 2003 to manage water resources, fish resources and clean water initiatives. Prior to this, water issues were the responsibility of Manitoba Conservation.

Manitoba Water Stewardship
Box 11, 200 Saulteaux Crescent,
Winnipeg MB R3J 3W3
1-866-626-4862 (toll-free)
1-204- 945-5965
email: wsd@gov.mb.ca
Water Licensing Branch
Box 16 - 200 Saulteaux Crescent
Winnipeg MB, R3J 3W3
204-945-3983

3.2. Legal authority

Water licenses and permits for surface water and groundwater withdrawals are issued by the Manitoba Water Stewardship, under the authority of the *Water Rights Act* (Continuing Consolidation of the Statutes of Manitoba 2005, chapter W80). Additional guidance is provided by the *Water Rights Regulation* (Regulation 126/87).

- *Water Rights Act* s.2 “Except as otherwise provided in this *Act*, all property in, and all rights to the use, diversion or control of, all water in the province, insofar as the legislative jurisdiction of the Legislature extends thereto, are vested in the Crown in right of Manitoba.”

3.3. Clarity of roles

The role of the Manitoba Water Stewardship in water allocation is clearly established in the *Water Rights Act*. Manitoba Water Stewardship also administers *The Water Power Act*, *The Water Resources Administration Act*, *Water Resources Conservation Act*, *The Drinking Water Safety Act*, and *The Water Protection Act*. Comments and concerns of other government departments regarding applications for licenses may be considered (CVCA and GRCA, 2003). Other agencies/boards that may

have a role in issues related to water allocation include (Little and Bodnaruk, 2001):

- Manitoba Intergovernmental Affairs: administers *The Conservation Districts Act*
- Manitoba Agriculture and Food: matters related to water use in agriculture
- The Manitoba Water Council is established under the authority of the *Water Protection Act* (s. 24) with the following responsibilities outlined in section 25 “(a) to monitor the development and implementation of watershed management plans in the province; (b) to review regulations respecting water quality management zones, and provide advice to the minister; (c) to advise the minister about matters relating to water generally; (d) to coordinate the activities of advisory boards and similar entities that perform functions relating to water, including advisory boards and other entities specified by regulation; (e) to assist in reporting sustainability indicators relating to water. The water council must also perform any other duties assigned to it by an Act or regulation.” Membership in the water council is as following “at least five members appointed by the Lieutenant Governor in Council, who in the opinion of the Lieutenant Governor in Council are representative of the regional diversity of Manitoba and of local government, agricultural and environmental perspectives” (s. 26(1)).
- The Manitoba Round Table for Sustainable Development: under the authority of subsection 4(2) of the *Sustainable Development Act*, its duties include developing a strategy for sustainable use of natural resources in the province, including water.
- The Manitoba Habitat Heritage Corporation: under the authority of s.3 of the *Manitoba Habitat Heritage Act*, “the objects of the corporation are the conservation, restoration and enhancement of Manitoba fish and wildlife habitat...”
- Prairie Provinces Water Board: composed by one representative each from Alberta, Saskatchewan and Manitoba, and two from the federal government, Environment Canada and the Prairie Farm Rehabilitation Administration (PFRA). The Board administers the Master Agreement on Apportionment and ensures among other things, that eastward flowing inter-provincial streams are, in accordance with the provisions of that Agreement, shared equitably (PPWB, 2002).

- The Environmental Approvals Branch of Manitoba Conservation administers the *Environment Act*. Large water requests trigger an environmental assessment, at which point the Environmental Approvals Branch of Manitoba Conservation takes the lead on assessing the allocation request.
- The *Manitoba Floodway Authority Act* is now administered by Manitoba Infrastructure and Transportation. This is the former Department of Highways that was recently expanded to include infrastructure that water stewardship managed previously, such as weirs, diversion channels, and the bridges over these structures.

Section 27 of the *Water Rights Act* states “Where there is a conflict between this *Act* and *The Municipal Act*, this *Act* prevails.”

3.4. Basis of allocation

Water licences and permits are issued for surface water and groundwater withdrawals. There are two components to the water licence program: one focusing on water use and the other on drainage. The license system has been in use, at least in parts of Manitoba since 1894 (CVCA and GRCA, 2003). Domestic users of surface water or groundwater are exempt from the need for a licence. Domestic use covers the use of water at a rate of less than 25,000 litres per day for household and sanitary purposes, for watering lawns and gardens, and for the watering of livestock and poultry (*The Water Rights Act*). Irrigation use covers primary water production that requires more than 25,000 litres per day.

- *Water Rights Act* s.3 “(1) Except as otherwise provided in this Act or the regulations, no person shall (a) in any manner whatsoever use or divert water, unless he or she holds a valid and subsisting licence to do so; or (b) construct, establish, operate or maintain any works, unless he or she holds a valid and subsisting licence to do so; or (c) control water or construct, establish, operate or maintain any water control works, unless he or she holds a valid and subsisting licence to do so.”
- *Water Rights Act* s.3 “(2) Subsection (1) does not apply (a) to a person exercising a right under any other Act of the Legislature or any Act of the Parliament of Canada; or (b) to a person using water for domestic purposes, where the person has lawful access to the water; or (c) to a person who constructs a well to obtain water for domestic purposes.”
- *Water Rights Act* s.5 “(1) Subject to section 7, the minister may issue a licence to any person who

applies therefore, authorizing (a) the use or diversion of water for any purpose; or (b) the construction, establishment, operation or maintenance of works for any purpose; or (c) the control of water and the construction, establishment, operation or maintenance of water control works.”

- *Water Rights Act* s.12 “Subject to the approval of the minister, a person who has a licence to use or divert water for industrial, agricultural or irrigation purposes may use or divert, or permit others, with or without a fee or charge therefore, to use or divert part of the water for domestic purposes.”

Under the *Water Rights Act*, the Minister may reserve water from allocation for any purpose. Water reserves have mostly been set up for municipal and industrial use purposes.

- *Water Rights Act* s.13 “(1) Notwithstanding any other provision of this Act, the minister may reserve any unlicensed water (a) in order that a survey may be made as to how the water may be used or diverted to the greatest advantage of the residents of the province; or (b) for such uses and purposes specified by the minister as in his opinion will be of the greatest advantage to the residents of the province; and may fix a period of time within which the reservation may be utilized. (2) Where water has been reserved under subsection (1), the minister shall not issue a licence in respect thereof except in accordance with the terms of the reservation.”

Apportionment agreements are in place for the allocation of flows across the borders among Alberta, Saskatchewan and Manitoba (CVCA and GRCA, 2003).

Transboundary Issues:

- *Water Rights Act* s.21 “(1) “The minister, for and on behalf of the government, may enter into an arrangement or agreement with the government of any other province of Canada or with the Government of Canada or with the Government of Nunavut for the establishment and constitution of a board that, when established and constituted, shall, to the extent permitted by the legislative powers of the governments that are parties to the arrangement or agreement, have jurisdiction and such power and authority as is vested in it by the arrangement or agreement, to regulate and control the use of interprovincial waters, or the use of the boundary waters between the province and the Northwest Territories or between the province and Nunavut, or the use of waters in any stream or streams flowing through more than one of the provinces or through one or more than one of the

provinces and the Northwest Territories or Nunavut.”

3.5. Priorities for water use

Manitoba’s water allocation system is based on prior allocation (“First in time, first in right”). There is an additional system of priority of use under which new licences for higher priority uses may be issued in highly allocated areas, resulting in restriction or cancellation of existing lower priority licences. Licence precedence overrides priorities of water use (Little and Bodnaruk, 2001). However, if two applications are received on the same day and both licences are issued, the higher priority use receives precedence. Furthermore, in a fully allocated situation, a new licence could be issued by displacing an existing licence for a lower priority use, subject to compensation by the new licensee (CVCA and GRCA, 2003).

- *Water Rights Act* s.8 “(1) Licences have precedence in relation to one another according to the date of submission of the application for each licence.”
- *Water Rights Act* s.8 “(4) Where the date of submission established under subsection (2) or (3) in respect of any licence is identical with the date of submission established under subsection (2) or (3) in respect of any other licence, the licences have precedence in relation to one another according to the priority of purpose established for each licence in the order of priority prescribed in section 9.”
- *Water Rights Act* s.8 “(5) Where the priority of purpose established in respect of any licence under subsection (4) is identical with the priority of purpose established in respect of any other licence under subsection (4), the licences have precedence in relation to one another as the regulations may provide.”
- *Water Rights Act* s.8 “(6) A licence that is renewed in accordance with the regulations retains the precedence originally established for it under this section.”
- *Water Rights Act* s.9 “The order of priority of the purposes for which water may be used or diverted, or works constructed, established or maintained, in accordance with this Act is as follows: 1. domestic purposes; 2. municipal purposes; 3. agricultural purposes; 4. industrial purposes; 5. irrigation purposes; 6. other purposes.”
- *Water Rights Act* s.14 “(1) Where a person applies to the minister for a licence to use or divert water at any place or point and all the water available for use or diversion at that place or point has already

been allocated to other licensees, if the purpose for which the applicant will use the water is higher in priority in the order of priority established therefore under section 9 than that of the purpose of one or more of those other licensees, the minister may issue the licence to the applicant and, subject to section 19, may cancel or restrict the rights under the licence of any one or more of those other licensees ranking lower than the applicant in priority of purpose.”

Policies for water use and allocation, proposed by Manitoba Conservation in 1990, included a commitment to use the river basin, watershed, and aquifer planning processes to guide the practical application of the water use and allocation priorities established in *The Water Rights Act* (Manitoba Conservation, 1990). This commitment will be considered during the proposed review and consolidation of water legislation in Manitoba (Manitoba Conservation, 2003).

“In Manitoba, the minister has the power to cancel or restrict existing licences if a new application is for a higher priority use in an area where all the water available for use or diversion has already been allocated to other licensees. In that case compensation will be payable” (Nowlan 2005:49). Since water rights are tied to the land, it is difficult to transfer rights to higher uses.

3.6. Limits/duration of allocation

Under section 26 of the *Water Rights Act*, the Lieutenant Governor in Council may make a regulation “respecting the duration and renewal of licences and permits and prescribing the terms and conditions to which they are subject.” For example, a licence for irrigation water use describes limits on the withdrawal rates and annual water use volumes and on the number of acres of crop that can be irrigated annually (Little and Bodnaruk, 2001). Under the *Water Rights Regulation*, licences are to be issued for a term not exceeding 20 years (section 5).

- *Water Rights Act* s.5 “(2) “Every licence is subject to such terms and conditions as may be prescribed in the regulations and such further terms and conditions as may be required by the minister.”
- *Water Rights Act* s.15 “Where a licensee fails to use or divert water under the authority of and for the purposes authorized by the licence, or fails to use or divert water to the extent authorized by the licence, for a continuous period of 1 year or more, the minister may, subject to section 19, make an order (a) amending the licence to reduce the amount of water that may be used or diverted

there under; or (b) cancelling the licence.” Tarlock 1988: 5-74) states that “[a]ppropriative rights can be lost in whole or in part by non-use. This principle is designed to prevent the speculative holding of water rights by confining the right to the amount of water actually applied to a beneficial use... Appropriative rights are usufructory rights and may be abandoned by non-use”.

- *Water Rights Act* s.19 “(1) In addition to any suspension or cancellation of a licence that may be authorized under any other provision of this Act, the minister or a person authorized by him in writing may, for cause, (a) suspend a licence or permit for any stated period of time or until a condition is met; (b) where in the opinion of the minister it is in the public interest to do so, cancel a licence or permit whether or not it has first been suspended under clause (a).”

Within the Assiniboine River sub-basin, transfers exist from the Assiniboine River to the LaSalle River (water supply) and from the Assiniboine River to Lake Manitoba, via the Portage Diversion (flood control for Winnipeg). Other diversions from the Assiniboine River have been proposed (CVCA and GRCA, 2003).

- *Water Resources Conservation Act* s.2 “No person shall (a) drill for, divert, extract, take or store water for removal; (b) sell or otherwise dispose of water to a person for removal; (c) convey or transport water for removal; or (d) remove water; from a water basin or sub-water basin.” Note: The *Act* does not contain any regulations nor is the term “sub-basin” defined in the *Act*.
- *Water Resources Conservation Act* s.3 “(1) Section 2 does not apply in respect of water (a) that is, or is to be, packaged in Manitoba in a container of not more than 25 L, or any other maximum capacity prescribed in the regulations; (b) that is removed in the ordinary course of carrying the water in a vehicle, vessel or aircraft for the use of persons or animals while they are being transported in it; (c) that is removed in a vehicle, vessel or aircraft and is necessary for (i) the ordinary operation of the vehicle, vessel or aircraft, or (ii) the transportation of food or products in the vehicle, vessel or aircraft; (d) that is removed to meet short-term safety, security or humanitarian needs with the approval of the minister; (e) that is, or is to be, used in Manitoba to manufacture or produce a product; or (f) that is removed by a person who obtained the water outside the water basin and, at the time of the removal, is in possession of evidence to that effect.”

- *Water Protection Act* s.11 “(6) Unless otherwise stated in the regulation or order, a regulation or order under this section prevails over a permit or licence issued under *The Water Rights Act*.”

3.7. Fees/charges

Under section 26 of the *Water Rights Act*, the Lieutenant Governor in Council may make a regulation “prescribing fees and charges that shall be paid in respect of applications, licences and permits” and “regulating the water rates that may be charged by licensees, and the publication of tariffs of rates.” Under the *Water Rights Regulation* there is a \$50 fee for a licence to divert water, and additional annual volumetric fees for diversion of water for industrial purposes (production of goods and services other than primary agricultural products). The volumetric fees use an increasing block rate structure, ranging from \$1 per cubic decametre for the first 100 cubic decametres per year, to \$2 per cubic decametre (for each cubic decametre between 20,000-100,000 cubic decametres per year).

The province currently collects water use charges only for industrial water use projects licensed under the current *Act*, which came into effect in 1987 (Little and Bodnaruk, 2001). Fees are directed into the general provincial revenue (CVCA and GRCA, 2003). Manitoba’s Water Strategy includes among its proposed initiatives, fair and equitable licensing fees and use-based charges as a demand management technique (Manitoba Conservation, 2003). In this case, use of collected revenue for water management activities will be carefully considered (CVCA and GRCA, 2003).

The Manitoba Water Strategy embraces cost recovery principles. It states, “To develop and manage the province’s water resources to ensure that water is available to meet priority needs and support sustainable economic development and environmental quality.” Policy 4.3 of the Water Strategy states “The cost of developing, operating, and maintaining the water resource infrastructure shall be apportioned among the beneficiaries in accordance with their share of the benefits” (Manitoba Conservation 2003).

“In Manitoba, the provincial review on water use and allocation also revealed general support for the water-use charges authorized by provincial legislation. Fees may be used for two purposes: to prevent overuse and for cost recovery. The Water Rights Regulation sets annual fee rates, based on volume, for industrial users whose licences have been renewed since 1988. The review concluded that these fees should stay and

be expanded to recover costs for water use for all users based on a “fair” equation.” (Nowlan 2005:72).

3.8. Monitoring of water use

Under section 26 of the *Water Rights Act*, the Lieutenant Governor in Council may make a regulation “respecting returns, reports and statements to be submitted by licensees and permittees” and “authorizing the establishment or placing or construction of devices for computing or measuring the volume and discharge of water in any place.” Under the *Water Rights Regulation*, section 8 “Every holder of a licence under the *Act* shall keep records of his or her water use on a form approved by the minister.”

Policies for water use and allocation, proposed by Manitoba Conservation in 1990, include a commitment to monitor water supplies and uses (Manitoba Conservation, 1990). A licence condition established in the early 1990s specifies that all water users are required to install monitoring devices and to submit water use records on an annual basis (CVCA and GRCA, 2003).

Manitoba’s Water Strategy includes, among its current initiatives, recording users and uses of groundwater sources in areas of heavy use (Manitoba Conservation, 2003). In the Assiniboine Delta Aquifer, licensing procedures involve using time clocks on irrigation well pumps to record pumping time and independent flow rate calibration of irrigation systems that would allow the annual withdrawal from the aquifer to be accurately determined (Little and Bodnaruk, 2001).

“Manitoba currently has 600 monitoring wells, rain gauges, and soil moisture monitoring stations, forming one of the largest networks of water-level monitoring wells in Canada. Parts of the network were established over 40 years ago” (Nowlan 2005: 52).

3.9. Environmental protection

Policies for water use and allocation, proposed by Manitoba Conservation in 1990, included a commitment to take into account the environmental and economic consequences of various water management options (Manitoba Conservation, 1990). These policies aim to “facilitate the identification of natural functions that extractive and instream uses must respect and ensure; ensure that water needed for ecosystem functions is not allocated for uses that would threaten environmental sustainability; place reservations on water, where appropriate, to ensure sufficient quantities are available for projected priority

future needs and important instream uses as determined in demand studies; identify existing and future water use priorities through basin and watershed planning; use regulation, where appropriate, to prevent or minimize negative impacts of development on existing water uses, priority future uses, and environmental quality.”

Manitoba Conservation highlighted deficiencies in *The Water Rights Act* and proposed steps to address them in its 2001 discussion paper “Building a Sustainable Future - Water: A proposed Strategic Plan for Manitoba” (Manitoba Conservation, 2001). The water use and allocation strategy proposed in the discussion paper expressed the need “to include in legislation requirements to sustain life within the ecosystem as a priority allocation”, while recognizing basin, watershed, and aquifer plans as part of the new water legislation (Manitoba Conservation, 2001). These proposals have been incorporated in the 2003 Manitoba’s Water Strategy (Manitoba Conservation, 2003), including “Actions Today: Establishing in-stream flow needs for the Assiniboine River to protect the ecosystem while meeting needs,” and “Actions for Tomorrow: Develop new comprehensive legislation to ensure a flow of water sufficient to maintain healthy aquatic ecosystems and assure an effective and fair allocation among water users.”

Currently, environmental concerns may be considered in the licensing decisions or incorporated in the licence terms and conditions. The proponent is responsible for contacting relevant agencies (e.g., DFO) to determine measures required to mitigate impacts (e.g., harmful alteration, disruption, or destruction of fish habitat).

Water Rights Act s.5 “(2) Every licence is subject to such terms and conditions as may be prescribed in the regulations and such further terms and conditions as may be required by the minister.”

There are a number of provisions to protect instream flow needs in Manitoba’s *Water Rights Act*.

Water Rights Act s.9.1 “(1) In considering an application for a licence (a) to use or divert water; or (b) to construct, establish, operate or maintain works, other than works relating to the drainage of water; the minister shall consider scientific and other information relating to the groundwater and water body levels, and the in-stream flows, that are necessary to ensure that aquatic ecosystems are protected and maintained.(2) The minister may refuse to issue a licence if, in the opinion of the minister, the action authorized by the licence would negatively affect an aquatic ecosystem.”

Water Rights Act s.9.2 “The minister may suspend or restrict the rights under a licence for a specified period if (a) in the minister's opinion, (i) a groundwater level, (ii) a water body level, or (iii) an in-stream flow, is insufficient to ensure that aquatic ecosystems are protected and maintained; and (b) the minister's opinion is based on scientific information about protecting and maintaining an aquatic ecosystem of the type under consideration.”

Water Rights Act s.14.1 “Using scientific methods, the minister may undertake investigations into groundwater or water body levels, or in-stream flows, anywhere in Manitoba, to determine whether aquatic ecosystems are being negatively affected by insufficient levels or flows.”

3.10. Enforcement of allocations

Manitoba Water Stewardship performs water licensing and enforcement activities in the province (Manitoba Water Stewardship, No Date). Auditing is carried out on an issue/site specific basis; conflicts and/or violations are identified through complaints to Manitoba Conservation [now Manitoba Water Stewardship] and during water use audits (CVCA and GRCA, 2003). Penalties for non-compliance of a provision within *The Water Rights Act* or its regulations are provided for in section 23 of the Act, and include fines of up to \$10,000, or \$25,000 in the case of a corporation (CVCA and GRCA, 2003). The preferred approach is to favour compliance measures over enforcement actions.

- *Water Rights Act* s.18 “The minister or a person authorized by the minister may enter on any land for the purpose of: (a) inspecting any works or water control works constructed or established, or being constructed, established or maintained, by a licensee or permit holder (b) investigating a suspected or alleged contravention of this Act or the regulations.

Section 23 of the *Water Rights Act* reveals details for charges and offences which are covered in the above paragraph. Act s.23(4) “Each day's continuance of any act or default that is an offence under this Act constitutes a separate offence for the purposes of this section.”

A proactive compliance assessment plan for evaluating compliance with the *Water Rights Act* was being developed (CVCA and GRCA, 2003). In the Assiniboine Delta Aquifer, Manitoba Conservation conducted a comprehensive audit of all licensed projects on the aquifer to verify that the information on file is

correct and that irrigation practices are in agreement with the respective licences (Little and Bodnaruk, 2001).

3.11. Transferability of allocations

Licences expire automatically upon loss of legal control of the land on which the water is used. A licence may be transferred to the new owner or controller of the land, after an application for licence transfer is submitted. However, the licence may be transferred only if the applicant continues to use the water for the same purpose, at the same rates, in the same amounts, and in accordance with the same conditions as the former licensee (Little and Bodnaruk, 2001).

- *Water Rights Act* s.11 “Where an estate or interest in land is transferred, any subsisting licence relating to the estate or interest expires automatically as of the date of the transfer, unless the minister, upon the application of the transferee, transfers the licence to the transferee.”

3.12. Compensation if allocations are reduced

When a licence is cancelled in order to issue a new licence for a higher priority use, the original licensee is eligible for compensation. An agreement on compensation must be reached between the two parties before the licence can be cancelled (CVCA and GRCA, 2003).

- *Water Rights Act* s.14 “(1) Where a person applies to the minister for a licence to use or divert water at any place or point and all the water available for use or diversion at that place or point has already been allocated to other licensees, if the purpose for which the applicant will use the water is higher in priority in the order of priority established therefore under section 9 than that of the purpose of one or more of those other licensees, the minister may issue the licence to the applicant and, subject to section 19, may cancel or restrict the rights under the licence of any one or more of those other licensees ranking lower than the applicant in priority of purpose. (2) person whose existing licence is cancelled or whose rights under his existing licence are restricted under subsection (1) in favour of a new applicant for a licence is entitled to receive from and shall be paid by the applicant compensation for any loss or damage suffered by him as a consequence of the cancellation or restriction. (3) The minister shall not issue a licence

to an applicant under subsection (1) until he receives from the applicant an agreement, executed by both the applicant and the person whose licence is cancelled or restricted under that subsection, containing the applicant's undertaking to pay to the person the compensation for which provision is made in subsection (2), and the amount of the compensation and the terms of the payment thereof shall be set out in the agreement or determined in accordance with subsection (4), as the case may be.”

- *Water Rights Act* s.14 “(5) Where a licensee applies for a renewal or transfer of his licence and the minister declines to renew or transfer the licence by virtue of an application for a higher priority use, compensation is payable by the new user as provided in this section.”

Compensation where allocation cancelled or reduced

- *Water Rights Act* s.13 “(1) Where the effect of any action taken or regulation or order made under subsection 11(2) is to (a) cancel or reduce the allocation of water at any point or place to a person holding a licence under *The Water Rights Act*, and (b) allocate or increase the allocation of water at that point or place to another person who does not hold a licence, or whose licence is, relative to the licence referred to in clause (a), lower in precedence under section 8 (precedence of licences) of *The Water Rights Act*; the person whose allocation is cancelled or reduced is entitled to receive from, and shall be paid by the other person, compensation for any loss or damage resulting from the cancellation or reduction.”

No compensation in certain circumstances

- *Water Rights Act* s.13(2) “Despite subsection (1), no compensation is payable where the action is taken, or the regulation or order is made, for a purpose relating to public health or the provision of drinking water. The determination of the purpose of the action, regulation or order is to be made by the minister. (The Water Protection Act S.M. 2005, c. 26)

The *Act* highlights compensation pertaining to water works:

- *Water Rights Act* s.17 “(2) Where a person fails to comply with an order made under subsection (1) in respect of any works or water control works, the minister may, subject to section 4, which applies with such modifications as the circumstances require, dispose of or remove the works or water control works, or cause the works or water control works to be disposed of or removed, in such

manner, and may impose such terms and conditions with respect to the works or water control works, as the minister deems necessary.”

- *Water Rights Act* s. 17 “(3) Where the minister assumes ownership and control of works or water control works under subsection (1) upon the expiry of a licence, the government shall compensate the licensee therefore.”

3.13. Provisions for stakeholder input

The *Water Rights Act* provides in subsection 6(4) for the inclusion of a public hearing in the licensing process, according to the nature and scope of the project proposed in the application. This provision is seldom applied (CVCA and GRCA, 2003). However, applicants for large projects are required to apply for both Environmental and Water Rights licences. Environmental licensing under the *Environment Act* includes a similar but more extensive public input procedure to the process outlined in section 6 of *The Water Rights Act*.

- *Water Rights Act* s.6 “(4) Upon expiry of the 15 days provided in subsection (3) in respect of any application, and before the minister determines whether or not to grant the application, a public hearing shall be held before the Municipal Board at which any person may make representations, either himself or through counsel, for or against the application.”

Public consultation was a key component in the development of the policies proposed by Manitoba Conservation in 1990, which envision more local involvement in decision making for water use and allocation (Manitoba Conservation, 1990). Manitoba Conservation also emphasized the importance of stakeholder input in watershed planning at the local level in its 2001 discussion paper, “Building a Sustainable Future - Water: A proposed Strategic Plan for Manitoba” (Manitoba Conservation, 2001). This vision has been incorporated in the 2003 Manitoba’s Water Strategy (Manitoba Conservation, 2003), whose actions involve: “Actions Today: Initiating discussions with Aboriginal organizations and communities on the implementation of the water strategy. Actions for Tomorrow: Recognize and include all uses and users, including Aboriginal people, into aquifer, basin and watershed based planning and management.”

3.14. Notification of allocation decisions

The *Water Rights Act* provides for notification of applications for licences. Individuals may make requests for copies of licences in person, these are released via the FIPPA Coordinator under the *Manitoba Freedom of Information and Protection of Privacy Act*.

- *Water Rights Act* s.6 “(3) Where, by reason of the scope and nature of the use, diversion or control of water or the construction, establishment, operation or maintenance of works or water control works proposed in an application for a licence and their possible impact on other persons, the minister so directs, the applicant shall, forthwith after submitting the application, publish or cause to be published in a newspaper having general circulation in the area affected, a notice of the application, and the notice shall state (a) the nature of the licence applied for; (b) that any person wishing to object to the application may do so in writing to the minister within 15 days of the publication of the notice; and (c) any other information or particulars that the minister may require.”
- Under section 19 of the *Water Rights Act*, notice must be given, and a hearing held, when licences are being suspended or cancelled by the Minister.

For smaller water uses, Manitoba Conservation [now Manitoba Water Stewardship] will send a notice of application to those interests whom may be affected by the application, such as other agencies, local governments, conservation districts or DFO (CVCA and GRCA, 2003). Large scale projects are also subject to *The Environment Act* licensing process which has requirements for public notification.

3.15. Dispute resolution

Section 24 of *The Water Rights Act* provides any person who is affected by an order or decision of the Manitoba Water Stewardship in the administration of this Act, the right to appeal the order or decision to the Municipal Board within 30 days of the making of the order or decision. Appeals are rare in water allocation licensing and are more common in drainage licensing.

Among the water use and allocation policies proposed by Manitoba Conservation in 1990, there was a commitment to facilitate resolution of conflicting priorities of water users through the coordination of municipal input and public participation in water management decisions (Manitoba Conservation,

1990). This commitment will be considered during the proposed review and consolidation of water legislation in Manitoba (Manitoba Conservation, 2003).

3.16. Other issues

Integration in water planning was a key component for the development of the water use and allocation policies proposed by Manitoba Conservation in 1990 (Manitoba Conservation, 1990:32) “...water use and allocation decisions should ideally be made within the framework of integrated basin, watershed, and aquifer plans. Such plans would consider a number of factors within the basin or watershed, for example: existing and future uses of water; the soils, topographic, geologic, and other physiographic characteristics; the elements of water supply, quality, and flow; the linkages between surface water and groundwater; land use; pollution hazard areas and other environmental sensitivities; and other resource opportunities and impacts, including environmental impacts.”

Manitoba Conservation also highlighted the importance of integration in water planning in its 2001 discussion paper “Building a Sustainable Future - Water: A proposed Strategic Plan for Manitoba”, which proposed to integrate water quantity and quality among water use and allocation strategies (Manitoba Conservation, 2001). Manitoba’s 2003 Water Strategy incorporated this vision, which aims to address policies for water quality, conservation, use and allocation, water supply, flooding and drainage on the basis of watersheds, basins and aquifers (Manitoba Conservation, 2003).

Manitoba’s *Water Protection Act* required the preparation of watershed management plans (refer to Part 3 of the *Act*).

“The principal function of the beneficial use doctrine is to prevent waste” (Tarlock, 1988: 5-66). In Manitoba, although *The Water Rights Act* does not specifically refer to conservation, it provides for conservation through the beneficial use doctrine and in that the minister “may reserve any unlicensed water” to conduct surveys to determine how the water may be used to the greatest advantage of the province, or for a purposes the minister determines will be of the greatest advantage (Nowlan 2005:44). ”

“Manitoba Water Licensing has reported that six of the 13 sub-basins on the Assiniboine Delta Aquifer are at their assumed sustainable yield and are therefore fully allocated and no additional licenses can be issued with respect to these sub-basins. As a result there are 71 applications in those six sub-basins

which are waitlisted. Other situations include applications being denied when proposed wells are too close to existing domestic wells, and applications to dewater quarries or gravel pits frequently cause controversy resulting in an extensive permitting and assessment process. These situations are more common closer to Winnipeg in the ex-urban fringe where population densities are relatively large and expanding.” (Nowlan 2005:47-48)

The First-in-time, First-in-Right approach (FITFIR) to water allocation has a built in scheme for drought management in that, during dry years, licensees are aware of their priority for water and the risk of not securing water. In addition, in practice, for example, discussions with licensees to alter irrigation practices helps ensure a larger number of licensees can access available water during dry seasons. In addition to FITFIR, water budgets are very conservative. It is important to note that in Manitoba, water allocations for municipal purposes were established fairly early relative to industry and in many parts of Manitoba municipal and agricultural purposes are often met through different water sources, decreasing the potential for conflict.

3.17. References

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3.18. Legislation Cited

The Conservation Districts Act, S.M. 1997, c. 59

The Drinking Water Safety Act, S.M. 2002, c. 36

The Environment Act, S.M. 1987-88, c. 26

The Ground Water and Water Well Act, R.S.M. 1987, c. G110

The Manitoba Floodway Authority Act, S.M. 2004, c. 25

The Manitoba Habitat Heritage Act, S.M. 1985-86, c. 15

The Sustainable Development Act, S.M. 1997, c. 61

The Water Power Act, R.S.M. 1987, c. W60

The Water Protection Act, S.M. 2005, c. 26

The Water Resources Administration Act, R.S.M. 1987, c. W70

The Water Resources Conservation Act, S.M. 2000, c. 11

The Water Rights Act, R.S.M. 1988, c. W80

Water Rights Regulation, Man. Reg. 126/87.

4. New Brunswick

Verified December 2006

4.1. Primary agency responsible for water allocation

The Department of Environment administers legislation and programs relating to environmental management (air, land, and water), and provides integrated stewardship through planning and management of land use, zoning development and waste management issues.

Physical address:

Marysville Place
20 McGloin Street
Fredericton, NB
E3A 5T8
Telephone: (506) 453-2690 (Mon. to Fri.:
8:15 a.m. - 5:00 p.m.)

Mailing Address:

P. O. Box 6000
Fredericton, NB
E3B 5H1
Fax: (506) 457-4991

4.2. Legal authority

Permits for water withdrawals from surface water sources, including wetlands, are issued by the Department of Environment under the *Clean Water Act* (Chapter C-6.1) and the *Watercourse and Wetland Alteration Regulation* (Regulation 90-80). The *Water Quality Regulation-Clean Environment Act*, N.B. Reg. 82-126 provides authority for the Water Supply Source Assessment process and the authority to attach water use limitation conditions to industrial Water Quality Approvals. In general, water is allocated to ensure that withdrawals do not have environmental impacts, authority for which is provided through the *Environmental Impact Assessment Regulation - Clean Environment Act*, N.B. Reg. 87-83.

- *Clean Water Act* s.9 “The control of all water within the confines of the Province is declared to be, and to have been at all times past, vested in the Crown in right of the Province and no right to use or divert water can be acquired by prescription.”

4.3. Clarity of roles

- The Environmental Impact Assessment Review Committee assesses undertakings requiring an EIA, thereby using water allocation as a tool to ensure environmental protection.

4.4. Basis of allocation

- Permits are required for water withdrawals from surface water sources, including wetlands, but there is no rights based water allocation in New Brunswick.
- *Clean Water Act* s.15 “(1) A person planning a hydro-electric power project, a control dam, a river diversion, a drainage diversion or any other project or structure that alters a watercourse or a wetland or diverts all or part of a watercourse or the water flowing in a watercourse or a wetland shall, before undertaking or proceeding with the project, (a) provide the Minister with copies of the plans and such other documents or information as the Minister may require, and (b) subject to subsection (1.1), obtain a permit issued by the Minister. (1.01) The Minister may impose such terms and conditions as the Minister considers appropriate on a permit issued under paragraph (1)(b), including those requiring the maintenance of a designated rate of water flow. (1.1) Paragraph (1)(b) does not apply to a person or a member of a class of persons who is exempted, in accordance with the regulations, from the requirement to obtain a permit or for whom the requirement has been waived in accordance with the regulations.”
- *Clean Water Act* s.35 “Where a registration, licence, permit or approval is required under this Act or the regulations the Minister may issue, transfer, suspend, cancel, renew or reinstate the registration, licence, permit or approval in accordance with the regulations.”
- Regulation 90-80 s. 5 “(1) An application for a permit shall be submitted to the Minister on a form provided by the Minister and, subject to section 7, shall be accompanied by copies of the plans and such other documents or information as the Minister may require.
- Regulation 90-80 s.9 “Upon receipt of an application made under subsection 5(1) together with

copies of plans and any other documents or information required by the Minister under section 5, the Minister may issue one or more permits for such period of time and upon such terms and conditions as the Minister may impose.”

- Under section 14 of the Act, the Minister may by order designate all or a part of a watershed or aquifer being used as a public water supply as a protected area. Protected areas are divided into 3 zones with increasingly stringent restrictions on land and water use. Within protected areas, the Minister may pass regulations about water allocation.
- *Clean Water Act* s.14 “(1) The Minister, with the approval of the Lieutenant-Governor in Council, may by a Designation Order designate as a protected area all or any portion of a watershed, aquifer or ground water recharge area that is used as a source of water for a public water supply system.”
- *Clean Water Act* s.14 “(3) The Minister may impose requirements in a Designation Order respecting one or more of the following: (a) the prohibition, control or limitation of any activity or thing that might impair the quality or the quantity of the water in a protected area; (b) the allocation of the use of the water in a protected area”
- *Wellfield Protected Area Designation Order* (Regulation 2000-47) s.5 In any portion (zones A, B, or C) of the protected area, a person may “c.2) extract ground water from the ground, other than from a public ground water supply system, at a rate not exceeding 4500 litres per parcel per day, if the person can demonstrate to the satisfaction of the Minister that the extraction does not diminish the quantity and quality of water in any municipal well”
- *Wellfield Protected Area Designation Order* (Regulation 2000-47) s.6 In zones B and C of the protected area, a person may “1 a) extract ground water from the ground, other than from a public ground water supply system, at a rate not exceeding 9000 litres per parcel per day, if the person can demonstrate to the satisfaction of the Minister that the extraction does not diminish the quantity and quality of water in any municipal well”
- *Watershed Protected Area Designation Order* (Regulation 2001-83) s.6 In zone B, a person may “(o) install and operate an electrical pumping station, subject to the following conditions: (vi) the maximum water withdrawal rate from any Protected Area A shall permit a maintenance flow of not less than 25 per cent of the mean monthly flow to be maintained in the watercourse at all times”

Under section 40 of the Act, the Minister may create regulations to establish a water classification system. The Minister has created a system of 6 classes of water bodies with associated water quality standards. Land and water use activities are restricted in some classes to protect water quality. Water withdrawals are restricted in the highest class – the Outstanding Natural Waters Class.

- *Water Classification Regulation* (Regulation 2002-13) s.18 “(4) If the water of a watercourse is classified as a class under this Regulation, no person shall carry out an activity that is prohibited in relation to that class under column 6 of Schedule A, in, on or under the water, the watercourse or any area located within the boundaries of the watershed of the watercourse, whether above, on or below the earth's surface.” In Schedule A, significant withdrawals of water are prohibited in the outstanding natural waters class. Under section 2 of the regulation ““significant withdrawal” means, with reference to the withdrawal of water from a watercourse, a withdrawal at a rate of more than 45 litres per minute, or at a rate of more than ten per cent of the flow of the water in the watercourse at the time of withdrawal, whichever is the lower rate”

The following undertakings are assessed by the Environmental Impact Assessment Review Committee under the authority of the *Environmental Impact Assessment Regulation - Clean Environment Act*, N.B. Reg. 87-83.

- Environmental Impact Assessment Regulation Schedule A: “(b) all electric power generating facilities with a production rating of three megawatts or more; (c) all water reservoirs with a storage capacity of more than ten million cubic metres; (r) all projects involving the transfer of water between drainage basins; (s) all waterworks with a capacity greater than fifty cubic metres of water daily.”

4.5. Priorities for water use

As water is not allocated through a rights system, priorities for water use are not mentioned in the Act or regulation. In practice, priority is given to uses deemed for the common good.

4.6. Limits/duration of allocation

- *Clean Water Act* s.15 “(1.01) The Minister may impose such terms and conditions as the Minister

considers appropriate on a permit issued under paragraph (1)(b), including those requiring the maintenance of a designated rate of water flow.”

- *Clean Water Act* s.15 “(3) Subject to the regulations, the Minister at any time may... (d) order the owner or operator to meet any terms and conditions imposed on any permit issued in relation to the project or structure, to meet any of the original specifications or to meet any additional or amended specifications that were approved by the Minister upon the request of the holder of the permit.”
- *Clean Water Act* s.35 “Where a registration, licence, permit or approval is required under this Act or the regulations the Minister may issue, transfer, suspend, cancel, renew or reinstate the registration, licence, permit or approval in accordance with the regulations.”
- Regulation 90-80 s.9 “Upon receipt of an application made under subsection 5(1) together with copies of plans and any other documents or information required by the Minister under section 5, the Minister may issue one or more permits for such period of time and upon such terms and conditions as the Minister may impose.”

Under section 12 of the regulation, emergency permits may be issued for a period of no more than 90 days.

4.7. Fees/charges

- Regulations establish fees for applications requesting a water withdrawal permit or permit renewals. Collected fees go into general revenue.
- *Clean Water Act* s.38 “An applicant, a person who takes any proceedings, a holder of a registration, licence, permit or approval and a person who uses or diverts water shall pay the fees, rentals and charges established by regulation in the manner established by regulation.”
- Regulation s.90-80 “26(1) Subject to subsection (4), the fees to be paid under the Act and this Regulation are as follows: (a) for an application for a permit (other than an emergency permit or a provisional permit) for one alteration \$25.00; (b) for an application for a permit (other than an emergency permit or a provisional permit) for more than one alteration: \$20.00 for each separate alteration to a maximum of \$200.00; (c) for an application for an emergency permit \$50.00; (d) for an application for a provisional permit \$10.00; (e) for an application for a renewal of a permit

\$10.00; (f) for inspection of the index and register under subsection 25(2) \$10.00.”

4.8. Monitoring of water use

- Monitoring of water use is not required. The watercourse alteration permit may require that a staff gauge be placed in the watercourse immediately downstream of the water intake. A relationship between discharge and gauge measurements must be developed in order for the flow in the watercourse to be monitored during low flow periods.

4.9. Environmental protection

- Regulation s.90-80 “12.1(2) Within two weeks after receiving a notification form, the prescribed fee and all related copies and other documents and information under subsection (1), the Minister shall determine whether or not, in the opinion of the Minister, the planned watercourse or wetland alteration would or could pose a significant threat to the environment, and (a) if the Minister is of the opinion that the planned alteration would not or could not pose a significant threat to the environment, deliver to the applicant a written acknowledgement granting the person a provisional permit, for such period of time and upon such terms and conditions as the Minister may impose, or (b) if the Minister is of the opinion that the planned alteration would or could pose a significant threat to the environment, deliver to the applicant written notice that a provisional permit will not be issued to the applicant.”

Watercourse Alteration Technical Guide (New Brunswick Department of the Environment and Local Government 2005), an online guide, contains numerous sections addressing various forms of watercourse alterations. Section 9 of the Guide is entitled “Alteration Type: Water Intake Structures”. Aquatic habitat is addressed in this section of the guide as follows: “To withdraw a volume of water from a watercourse while maintaining sufficient flow and depth of water to ensure that fish habitat is protected, and fish passage is maintained. Whether the water is withdrawn from a flowing watercourse such as a stream, creek, river, or brook, or a standing body of water such as a lake or a pond” a number of concerns must be addressed before proceeding with the project. Concerns include no deposit of deleterious substances, not to disrupt fish migration, no too excessive withdrawal rates, and enough water left for fish survival during low flow.

New Brunswick classifies surface water into six classes based on water quality goals in order to promote water management on a watershed basis. In agricultural communities, certain watersheds have instream flow requirements. In designated well-fields, no other water withdrawals are permitted.

4.10. Enforcement of allocations

- *Clean Water Act* s.17 “(1) The Minister may designate persons as inspectors for the purposes of this Act.”
- *Clean Water Act* s.17 “(2) An inspector, at any reasonable time and upon presentation of proof of identification on a form provided by the Minister, may, for the purpose of administering this Act.”
- *Clean Water Act* s.25 “(1) Subject to subsection (3), a person who violates any provision of this Act or the regulations or fails to comply with an order issued under this Act or the regulations, with a term or condition of an approval, registration, licence or permit granted or issued under this Act or the regulations or with a prohibition, control, requirement, limitation, allocation, term, condition or standard relating to a designation made under this Act or the regulations commits an offence and is liable, on summary conviction, (a) in the case of an individual, to a fine of not less than five hundred dollars and not more than fifty thousand dollars, and in default of payment is liable to imprisonment in accordance with subsection 31(3) of the Summary Convictions Act, and (b) in the case of a person other than an individual, to a fine of not less than one thousand dollars and not more than one million dollars.”

4.11. Transferability of allocations

- Water withdrawal permits are not transferable.
- Regulation s.90-80 “10(3) A permit shall not be assigned or transferred and is valid only for (a) the watercourse or wetland alteration or alterations identified on the permit, and (b) the person to whom it is issued, any person acting under that person's direction or control and any independent contractor with whom that person contracts to commence, make or carry out the alteration or alterations identified on the permit.”

4.12. Compensation if allocations are reduced

No compensation, as no water rights based allocation. In general, New Brunswick has not faced pressures related to water quantity.

4.13. Provisions for stakeholder input

- In general conflicts between different water users are not mediated by the government.
- Regulation 90-80 s.16 “(1) At any time after an application has been submitted under this Regulation, the Minister may require the person submitting the application or the person on whose behalf the application is submitted to do any of or any combination of the following: (a) publish notice of the application in The Royal Gazette and in such newspaper as the Minister may require, including in the notice such details of the application as the Minister may require; (b) serve a copy of the notice of application upon such persons as the Minister may require; (c) attend at any public meeting arranged by the Minister; or (d) make submissions with respect to the application. 16(2) If publication or service of a notice of application is required under subsection (1), any person may file with the Minister a written objection to the issuance of the permit sought at any time within thirty days after the publication or service.”

4.14. Notification of allocation decisions

If there is an environmental impact assessment (EIA), then notification of the decision falls under the EIA process.

4.15. Dispute resolution

- *Clean Water Act* s.39 “A person whose registration, licence, permit or approval has been suspended or cancelled or whose application for a registration, licence, permit or approval or for the transfer, renewal or reinstatement of a registration, licence, permit or approval has been refused may appeal the suspension, cancellation or refusal in accordance with the regulations.”

4.16. Other issues

There appears to be no formal mechanisms for drought response. Indirectly through the focus on source protection, the EIA process addresses climate change. For example, in developing a wellhead, there is recognition of climate variability within requirements to define and protect buffer zones.

“In New Brunswick, the *Clean Water Act* allows cabinet to designate all or any portion of a watershed, aquifer, or groundwater recharge area that is used as a source of water for a public water supply system as a protected area. For groundwater, the *Wellfield Protected Area Designation Order* focuses on protecting water quality and guarding against contamination, but may also limit allocation. The *Wellfield Regulation* defines permitted and prohibited uses of the land within three concentric zones around the water source. The *Wellfield Protected Area Designation Order* now has nineteen municipal aquifers designated and protected. All surface water source supplies are protected under the *Watershed Protected Area Designation Order* (including a phase one 75 metre no development buffer from the water body and a phase two restricted land uses for the each watershed) includes 30 watersheds” (Nowlan 2005:40).

4.17. References

Kinkead Consulting. 2006. *An analysis of Canadian and other water conservation practices and initiatives: Issues, opportunities and suggested directions*. Canadian

Council of Ministers of the Environment. PN 1359.

New Brunswick Department of the Environment and Local Government. 2005. “Watercourse Alterations Technical Guidelines.” Web page, [accessed 19 January 2006]. Available at www.gnb.ca/0009/0371/0005/index.htm.

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4.18. Legislation Cited

Clean Water Act, S.N.B. 1989, c. C-6.1.

Environmental Impact Assessment Regulation, N.B. Reg. 87-83. (Consolidated 2006)

Water Classification Regulation, N.B. Reg. 2002-13. (Consolidated 2006)

Water Quality Regulation, N.B. Reg. 82-126. (Consolidated 2006)

Watercourse and Wetland Alteration Regulation, N.B. Reg. 90-80. (Consolidated 2006)

Watershed Protected Area Designation Order, N.B. Reg. 2001-83. (Consolidated 2001)

Wellfield Protected Area Designation Order, N.B. Reg. 2000-47. (Consolidated 2001)

5. Newfoundland and Labrador

Verified April 2007

5.1. Primary agency responsible for water allocation

Newfoundland and Labrador Department of Environment and Conservation

Water Rights Section
Water Resources Management Division
Department of Environment and Conservation
P.O. Box 8700
St. John's NL A1B 4J6
Telephone: 709-729-4795
Fax: (709) 729-0320
e-mail: WaterUseRights@gov.nl.ca

5.2. Legal authority

Licences to divert or use water (including for agricultural purposes) are issued by the Department of Environment and Conservation under the authority of the *Water Resources Act* (Statutes of Newfoundland and Labrador 2002, chapter W-4.01).

Water Resources Act s.9 “(1) The property in and the right to the use and flow of water in a body of water in the province are for all purposes vested in the Crown, and a right to divert or use water or a body of water shall not be acquired by prescription. (2) Notwithstanding subsection (1), the property in and the right to the use and flow of water vested in the Crown by virtue of that subsection shall be subject to rights of property, use and flow conferred on a person by a grant, lease, licence or other instrument or under a statute of the province. (3) This Act, another Act or a grant, lease, licence or other instrument shall not confer or be construed to confer the right or privilege to cause an adverse effect on water. (4) A right or privilege of a person to cause an adverse effect on water that exists immediately before the commencement of this Act, whether conferred by statute, lease, grant or operation of law is extinguished”

Water rights vested in some municipalities and the Lower Churchill Basin are exempt from the Act (refer to *Water Resources Act* s. 5 and s.8).

5.3. Clarity of roles

Major projects require an environmental assessment as outlined within the *Environmental Protection Act* (SNL 2002, Chapter E-14.2).

The Department of Environment and Conservation and the Nunatsiavut Government Department of Lands and Natural Resources have a water use protocol that licensees are required to follow in selected areas in order to ensure compliance with the *Labrador Inuit Land Claims Agreement Act (Water Resources Act* s.2.1(2)).

5.4. Basis of allocation

Licences to divert or use water are required. Riparian landowners do not need a licence to divert or use water for domestic purposes. Under section 10 of the *Water Resources Act*, water rights acquired under another Act or a grant, lease, licence, or other instrument before the commencement of the Act must be registered in the Registry of Water Rights, but remain in effect until the holder needs to apply for a renewal.

- *Water Resources Act* s.4 “(1) This Act does not affect the riparian right of a natural person owning or lawfully occupying land adjoining a river, stream, pond, lake or other body of water, to use a quantity of that water as he or she requires for domestic purposes without appreciable alteration in its quantity or quality. (2) A natural person with a right under subsection (1), may pump or otherwise convey water for domestic purposes without a licence.” Under section 2, ““domestic purposes” means the use of water for a household, for sanitation and fire protection, the watering of domestic animals and poultry and the irrigation of a garden that adjoins a dwelling house on the land of a riparian owner that does not exceed an area that the minister may designate.”
- *Water Resources Act* s.6 “A reference in this Act to surface water shall be considered to include a reference to groundwater”
- *Water Resources Act* s.12 “(1) A right to the permanent diversion or to the exclusive use of water shall not be acquired by a riparian owner or another person by length of use or otherwise than in accordance with this Act.”

- *Water Resources Act* s.14 “(1) A person shall apply for and the minister may, after considering the potential adverse effects, issue to that person, with or without terms and conditions, a licence (a) to divert or use water for a municipal, agricultural, institutional, commercial or industrial purpose, and for water and thermal power generation and other purposes that the minister considers necessary; (b) to divert or impound water for the purpose of water management, flood control, erosion control, flow regulation, conservation, recreation or the propagation of fish or wildlife; (c) to use water in its natural state for the purpose of a commercial recreational use, conservation and for the propagation of plant, fish or other animal life; and (d) for another purpose that the minister may establish”

Additional limits may be placed on water diversions or uses from bodies of water designated as public water supply areas (surface water or groundwater source).

- *Water Resources Act* s.39 “(4) In the area defined under subsection (1), a person shall not (c) use or divert water that may unduly diminish the amount of water available in that area as a public water supply.”

5.5. Priorities for water use

- *Water Resources Act* s.15 “ (1) Where, concurrently, more than one application for a licence has been made with respect to the use of water from the same body of water, the applications and licences issued as a result of those applications shall have priority in the following order: (a) domestic purposes; (b) municipal purposes; (c) agricultural purposes; (d) commercial , institutional and industrial purposes; (e) water and thermal power generation purposes; and (f) other purposes prescribed by regulation... (3) The minister shall, with respect to applications for licences, determine the priority of those applications in accordance with subsection (1) but, notwithstanding that subsection, the minister may, with the approval of the Lieutenant-Governor in Council, alter the priority of use with respect to a body of water where that body of water is adapted for or suited to a particular purpose. (4) A person does not have a priority of right to water because that person makes an application for a licence before another person with respect to the same body of water. (5) Where a person requires water from a body of water for a purpose which has a higher priority than the purpose for

which a licence already exists, that person may apply to the minister to have the existing licence cancelled or diminished and the minister may approve or deny that application as he or she considers to be appropriate and an action shall not lie against the Crown and compensation shall not be payable by the Crown with respect to a decision of the minister under this subsection”

- *Water Resources Act* s.17 “(1) Notwithstanding sections 15 and 16, the Lieutenant-Governor in Council may determine that the first priority of use for water in a body of water shall be given to the Newfoundland and Labrador Hydro-Electric Corporation where that corporation proposes to use the water for a water power or thermal power generation purpose, and where the Lieutenant-Governor in Council makes that determination the minister shall issue the required licence to that corporation and may establish terms and conditions applicable to that licence. (2) Notwithstanding subsection (1), where a person applies for a licence with respect to a body of water for which the Newfoundland and Labrador Hydro-Electric Corporation holds an existing licence and that person’s proposed use of water has a higher priority under subsection 15(1) than the purpose for which that existing licence has been issued, the Lieutenant-Governor in Council may revoke the existing licence or may diminish the use of the existing licence”
- *Water Resources Act* s. 21 “(1) Where licence holders have priority among themselves in accordance with subsections 15(1) and (3), a licence holder is entitled to receive the whole of the supply of water to which the licence entitles that person before a licence holder using water for a lower priority purpose has a claim to that supply.”

5.6. Limits/duration of allocation

- *Water Resources Act* s.10 “(2) Where, in the opinion of the minister, it is in the public interest to do so, the Lieutenant-Governor in Council, on the advice of the minister, may take an action that it considers necessary to return water rights under a licence to the Crown in whole or in part and up to a time and on those terms and conditions that the Lieutenant-Governor in Council considers necessary.”
- *Water Resources Act* s.10 “(4) A person who has water rights acquired under an Act, grant, lease, licence or other instrument before the commencement of this Act, shall, on the expiry of those wa-

ter rights apply for a licence or permit under this Act.”

- *Water Resources Act* s.10 “(5) A right or privilege to remove water from the province, other than water referred to in subsection 12(3), vested in, acquired by or accruing to a person, by whatever means, before the coming into force of this Act, is cancelled and abrogated.”
- *Water Resources Act* s.11 “(2) The exercise of a right, granted under a licence or permit issued under this Act is subject to this Act, orders and terms and conditions under the licence or permit that the minister may impose.”
- *Water Resources Act* s.15 “(2) (d): the Minister may grant licenses subject to terms and conditions.

Under section 18 of the *Water Resources Act*, when amending a licence, the Minister may add terms or conditions, including change of use, extension of the time for “making a beneficial use of water,” extend the term of the licence, or increase or decrease the quantity of water to be diverted.

In an emergency, the Minister may suspend licences or restrict water use to particular purposes and quantities, in any geographic area and for a specified period of time.

- *Water Resources Act* s.19 “(1) Where there are conditions that the minister considers to be an emergency, the minister may, by order, (a) suspend the operation of a licence; and (b) designate the purposes for which, and quantities in which, water may be used. (2) The minister may, in an order made under subsection (1), direct that the order (a) apply in all or a specified area of the province; and (b) be for a specified period of time”

Under section 60 of the *Water Resources Act*, the Minister may establish maximum pumping rates from groundwater wells to minimize interference, lowering water tables, and/or salt water intrusion.

Under section 12 of the *Water Resources Act*, bulk water removal from the Province is prohibited with some exceptions, such as water removed in containers less than 30 litres in volume.

The legislation has provisions for the Minister to reserve unappropriated water.

- *Water Resources Act* s.16 “(1) Notwithstanding section 15, the minister may, in accordance with the regulations, reserve unappropriated water from a body of water in order to determine how the water may best be used and may authorize the allocation of the whole or a part of that water among applicants for a licence as he or she thinks is in the

public interest. (2) In this section, “unappropriated water” means water for which a licence, permit, right of use or ownership has not been granted under this or another Act or under common law”

Water use licences are issued for a length of up to 50 years depending on the source of the water and the nature of use. Typically licenses are issued for 5 years. However, temporary licences are issued for up to 1 year and new water power generation project licenses may be issued for 50 years.

5.7. Fees/charges

Water Resources Act s.29 “(1) The Lieutenant-Governor in Council may establish, in accordance with the regulations, economic measures such as incentives, royalties, subsidies, administrative and other fees and water use charges, for the purposes of ensuring the conservation and proper utilization of water resources, and for the financing of programs and other measures. (2) A royalty on all water resources that are the property of the Crown is reserved to the Crown”

The fee schedule for water use licences is attached to the application forms. The application fee for removal of water for water bottling and other finished water-based products is \$1,000. The fee for a general application varies by use (municipal, commercial, industrial) and volume, and ranges \$100 - \$500. The fee for amendment is \$50. Fees for power generation applications vary according to plant capacity, and range from \$2,000 - \$10,000. Renewals are subject to the same application fees. All application fees go to related revenue.

Presently, there are water power rental charges for the use of surface water under the *Water Power Rental Regulation*, which go to current revenue with the NL Treasury Board (Abdel-Razek, 2006).

5.8. Monitoring of water use

- *Water Resources Act* s.31 “(1) The minister may order a licensee or other person to install, operate and maintain streamflow gauging stations, and other gauges at one or more locations in the rivers, streams, lakes, ponds and other bodies of water supplying water to the licensee or other person and to monitor water quality on the locations, at the frequencies and for the parameters that the minister considers necessary to secure a complete or partial survey of the sources of the water supply. (2) A licensee shall collect data and information and maintain records relating to the diversion

and use of water as the minister may require. (3) The minister may require a person, government department, Crown corporation or agent to (a) collect data and information on the quantity, quality and use or possible future use of water; (b) establish, operate and maintain measuring devices for collecting that data; and (c) pay the cost of installation, operation and maintenance of those devices”

“In Newfoundland and Labrador, the terms and conditions on licences are strict and place the responsibility for monitoring on the licensees. There are usually over twenty [technical and legal] terms and conditions per licence” (Nowlan 2005:53).

The website for the Registry of Water Rights states that information is provided to increase awareness of existing and new water allocations with the goal of assisting in better planning management and to minimize potential conflicts related to water use (Department of Environment and Conservation 2005).

5.9. Environmental protection

- *Water Resources Act*, s. 9 “(3) This Act, another Act or a grant, lease, licence or other instrument shall not confer or be construed to confer the right or privilege to cause an adverse effect on water. (4) A right or privilege of a person to cause an adverse effect on water that exists immediately before the commencement of this Act, whether conferred by statute, lease, grant or operation of law is extinguished.” Note: An adverse effect is defined in the *Water Resources Act* as an effect that impairs or damages water, a body of water, wetlands or other water resources, or that may cause injury to an animal, plant or human that consumes, lives in or adjacent to that water, body of water, wetland or other water resource.

Water use licenses may include provisions to ensure environmental protection, such as requirements to ensure instream flows for fish and fish habitat, especially in water power generation projects. For example, licensees must comply with all the terms and conditions of the release of their projects from the environmental assessment process. In addition, “Newfoundland and Labrador’s law entitles the minister to determine the rate at which groundwater is to be withdrawn from a well in order to minimize the risk of lowering the water table, and maintain a balance between recharge and discharge rates of an aquifer (among other things)” (Nowlan 2005:44).

5.10. Enforcement of allocations

- *Water Resources Act* s. 21 “(2) The minister may, on receiving a complaint that a licence holder is receiving water from a supply to which another licence holder has a priority of right under this Act, direct an inspector to investigate the matter and submit a report to the minister on that investigation as soon as is practicable. (3) If, following an investigation and report under subsection (2), it is established that a licence holder is receiving water to which the licence holder is not entitled, the minister shall take the action that he or she considers necessary to ensure reallocation of the water under the terms of the licence”
- *Water Resources Act* s.22 “(3) In the case of a dispute as to the quantity of water used or diverted, or the capacity of works, the minister may order an inspection of the works and that inspection may include flow measurements.”
- *Water Resources Act* s.23 “(1) A person may, in writing, make a complaint to the minister respecting a failure of a licence holder to (a) keep works in a proper and safe condition; (b) comply with the terms or conditions of a licence; and (c) comply with the Act. (2) Where the minister receives a complaint under subsection (1), he or she shall direct an inspector to investigate the complaint and submit a report on that investigation to the minister as soon as is practicable. (3) The minister shall consider the report received under subsection (2) and shall order the licence holder to immediately take the remedial action necessary to correct the situation causing the complaint or shall dismiss the complaint. (4) The minister shall notify a person who has made a complaint under this section of his or her decision under subsection (3). (5) Where a licence holder does not comply with an order made under subsection (3), the minister may, in writing and with reasons, order the suspension of an applicable licence for a specified period of time or may, by order, cancel the licence.”

5.11. Transferability of allocations

- *Water Resources Act* s.28 “(1) Where it is proposed that the land or undertaking to which a licence relates be conveyed or transferred to another person, the licence holder may apply to the minister to have the licence transferred to the person to whom the land or undertaking will be conveyed or transferred. (2) Upon receipt of an application under subsection (1), the minister may (a) grant the

transfer of the licence upon the terms and conditions that he or she considers necessary; (b) require that notice be given of the proposed transfer; (c) grant the transfer of the licence, in whole or in part; (d) issue a new licence to the proposed transferee of the licence; and (e) where he or she believes it to be advisable, refuse to grant the transfer of the licence.”

5.12. Compensation if allocations are reduced

- *Water Resources Act* s.10 “(6) An action or proceeding, including an action or proceeding for compensation or damages, does not lie against the Crown, or a minister or employee of the Crown, for or in respect of a cancellation or abrogation of a right or privilege under subsection (5), or in respect of a statement made or an undertaking given, whether orally or in writing, which a person may have acted upon to his or her detriment.”
- *Water Resources Act* s.15 “(5) Where a person requires water from a body of water for a purpose which has a higher priority than the purpose for which a licence already exists, that person may apply to the minister to have the existing licence cancelled or diminished and the minister may approve or deny that application as he or she considers to be appropriate and an action shall not lie against the Crown and compensation shall not be payable by the Crown with respect to a decision of the minister under this subsection. (6) The holder of a licence that has been cancelled or diminished under subsection (5) is entitled to compensation from the person whose application under subsection (5) caused a loss or damage as a result of the cancelling or diminishing of that licence. (7) Where the applicant referred to in subsection (6) and the licence holder whose licence is cancelled or diminished cannot agree upon the amount and terms of compensation, the matter shall be determined under the Arbitration Act.”

5.13. Provisions for stakeholder input

- *Water Resources Act* s.14 “(3) The minister shall, immediately after receiving an application and plans referred to in subsection (2), notify other departments of the government of the province that are affected by that application and the municipal authority in which the undertaking is lo-

cated. (4) The minister may post public notices of the application for a licence, plans referred to in subsection (3) and those other things that the minister considers necessary or that are required by regulation.”

- *Water Resources Act* s.13 “(b) a licence, amended licence, evidence of the transfer, suspension or cancellation of a licence and an application made for them under this Act shall be registered in the Registry of Water Rights; and (c) the Registry of Water Rights shall be open for inspection by the public during usual business hours.”

5.14. Notification of allocation decisions

Under section 14 of the *Water Resources Act* there are provisions for notification of applications for licences, and Section 13 of the Act makes provisions for a publicly accessible Registry of Water Rights. The Registry contains more than 1,600 records on registered water rights in Newfoundland and Labrador. The Registry is continuously updated to include new registrations as they are received. “Records include information about the holder or licensee's name, the body of water used or diverted, the location and a brief description of water rights... The Registry contains records of licenses, amendments of licenses, transfers, suspensions or cancellations of licenses as well as records of new applications made for them under the *Water Resources Act*” (Department of Environment and Conservation 2005).

5.15. Dispute resolution

Under section 86 of the *Water Resources Act*, a person may appeal ministerial decisions and orders.

“In Newfoundland and Labrador, the law entitles anyone who believes their rights would be prejudiced by the granting of a licence to file an objection with reasons and the minister will determine if the objection warrants a hearing. A person who is “aggrieved by a decision or an order” may appeal in writing, and the minister must give a decision within 30 days in writing. A further appeal to Trial Division exists for a person aggrieved by a decision or order of the minister respecting the terms and conditions of a licence, an amendment, and the cancellation of a licence, but only on a question of law or mixed fact and law. Lastly, the matter may go to the Court of Appeal on a matter of law raised in the appeal” (Nowlan 2005:66-67).

- *Water Resources Act* 15 “(7) Where the applicant referred to in subsection (6) and the licence holder whose licence is cancelled or diminished cannot agree upon the amount and terms of compensation, the matter shall be determined under the Arbitration Act” where subsection 6 refers the holder of a licence that has been cancelled or diminished for a purpose which has a higher priority.

5.16. Other issues

Drought is not common in Newfoundland and Labrador.

Although water use licenses in NL grant non-exclusive rights, those rights are subject to availability (during low flow periods or climate change) and avoidance of water use conflicts due to multi-use from a specific body of water or in a specific watershed (Abdel-Razek, 2006).

5.17. References

Abdel-Razek, A.K. 2006. Manager of Water Rights, Water Resources Management Division, Department of Environment & Conservation, Government of Newfoundland and Labrador. Personal Communication.

Christensen, R. and S. Magwood. 2005. *Groundwater Pricing Policies in Canada*. Sierra Legal Defence Fund.

Government of Newfoundland and Labrador, Department of Environment and Conservation. 2005. “Water Resource Management.” Web page, [accessed 13 January 2006]. Available at www.env.gov.nl.ca/env/Env/water_resources.asp.

Kinhead Consulting. 2006. *An analysis of Canadian and other water conservation practices and initiatives: Issues, opportunities and suggested directions*. Canadian Council of Ministers of the Environment.

Nowlan, L. 2005. *Buried Treasure: Groundwater Permitting and Pricing in Canada*. Toronto, Ontario: Walter and Duncan Gordon Foundation. Available at www.gordonfn.org/resfiles/Buried_Treasure.pdf

5.18. Legislation Cited

Environmental Protection Act, S.N.L. 2002, c. E-14.2. (Last Amdt. 2006)

Water Power Rental Regulations, N.L.R. 64/03. (Consolidated 2007)

Water Resources Act, S.N.L. 2002, c. W-4.01. (Last Amdt. 2004)

6. Northwest Territories

Verified December 2006

6.1. Primary agency responsible for water allocation

Within the Northwest Territories there are 5 boards responsible for water allocation. The Northwest Territories Water Board, established in 1972 under the federal *Northern Inland Waters Act* and replaced by the *Northwest Territories Waters Act* (Statutes of Canada 1992, chapter 39), issues licences in the Inuvialuit Settlement Region. Four other boards established under the federal *Mackenzie Valley Resource Management Act* (Statutes of Canada 1998, chapter 25) are responsible for water licensing under the same institutional arrangements in other areas of the territories: Gwich'in Land and Water Board (in the Gwich'in Settlement Area), Mackenzie Valley Land and Water Board (unsettled claim areas in the NWT, trans-boundary projects with the Gwich'in Land and Water Board, the Sahtu Land and Water Board), and the Wek'eezhii Land and Water Board.

Gwich'in Land and Water Board
P.O. Box 2018
Inuvik, Northwest Territories
Canada X0E 0T0
Phone: 867-777-7960 Fax: 867-777-7970
Email: permit@glwb.com
Website: www.glwb.com/

Mackenzie Valley Land and Water Board
Box 2130
7th Floor - 4910 50th Avenue
Yellowknife, NT X1A 2P6
Phone: (867) 669-0506 Fax: (867) 873-6610
Email: permits@mvlwb.com
Website: www.mvlwb.com

Northwest Territories Water Board
P.O. Box 1326
4916-47 Street, 2nd Floor, Goga Cho Building
Yellowknife, NT X1A 2N9
Phone: (867) 765-0106 Fax: (867) 765-0114
E-mail: info@nwtwb.com
Website: www.nwtwb.com/

Wek'eezhii Land and Water Board
Box 32, Wekweètì, NT X0E 1W0
Telephone: (867) 713-2500
Fax: (867) 713-2502
Email: admin@wlwb.ca
Website: www.wlwb.ca/

Sahtu Land and Water Board
P.O. Box 1,
Ft. Good Hope, NT X0E 0H0
Phone: (867) 598-2413 Fax: (867) 598-2325
Email: sahtuclk@allstream.net (Clerk - Licenses/Permits)
Website: www.slwb.com/

6.2. Legal authority

Under the federal *Northwest Territories Waters Act* (Statutes of Canada 1992, chapter 39) and *Mackenzie Valley Resource Management Act* (s.58 and s.58.1), water boards are established to issue licences for water use. Additional guidance for water allocation in established water management areas is found in the *Northwest Territories Waters Regulations* (SOR 93-303).

- *Northwest Territories Waters Act* s.4 “Subject to any rights, powers or privileges granted pursuant to the *Dominion Water Power Act* or preserved under that Act, the property in and the right to the use and flow of all waters are vested in Her Majesty in right of Canada”
- *Mackenzie Valley Resource Management Act* s.58 gives resource management board authority to “regulate the use of land and waters and the deposit of waste so as to provide for the conservation, development, and utilization of land and water resources in a manner that will provide the optimum benefit to the residents of the settlement area and of the Mackenzie Valley and to all Canadians.”

6.3. Clarity of roles

- *Northwest Territories Waters Act* s.7 “1 Where the use of waters or the deposit of waste that is the subject of an application to the Board would have a significant impact on a use of waters or a deposit of waste in an area for which another body is exercising powers of water management, the Board may collaborate with that body”

- *Mackenzie Valley Resource Management Act* s.46 “(1) The Gwich’in and Sahtu First Nations, departments and agencies of the federal and territorial governments, and every body having authority under any federal or territorial law to issue licences, permits or other authorizations relating to the use of land or waters or the deposit of waste, shall carry out their powers in accordance with the land use plan applicable in a settlement area.”

6.4. Basis of allocation

Licences are issues for water use. The regulation establishes criteria for type A and B licences, according to water use type and amount.

- *Northwest Territories Waters Act* s.8 “(1) Except as authorized pursuant to the *Dominion Water Power Act*, and subject to subsection (2), no person shall use, or permit the use of, waters in a water management area except (a) in accordance with the conditions of a licence; or (b) as authorized by regulations made under paragraph 33(1)(m). (2) Subsection (1) does not apply in respect of the use of waters (a) by a domestic user; (b) by an in-stream user; or (c) for the purpose of (i) extinguishing a fire, or (ii) on an emergency basis, controlling or preventing a flood”
- *Northwest Territories Waters Act* s.2 "domestic user" means a person using waters (a) for household requirements, including, without limiting the generality of the foregoing, sanitation and fire prevention, (b) for the watering of domestic animals, or (c) for the irrigation of a garden adjoining a dwelling house that is not ordinarily used in the growth of produce for a market; "instream user" means a person using waters, otherwise than as described in paragraph (a), (b) or (c) of the definition "use", to earn income or for subsistence purposes"; "use", in relation to waters, means a direct or indirect use of any kind, including, without limiting the generality of the foregoing, (a) any diversion or obstruction of waters, (b) any alteration of the flow of waters, and (c) any alteration of the bed or banks of a river, stream, lake or other body of water, whether or not the body of water is seasonal, but does not include a use connected with shipping activities that are governed by the *Canada Shipping Act*"
- *Northwest Territories Waters Act* s.14 “(1) Subject to this section, the Board may issue type A licences and type B licences, in accordance with the criteria set out in the regulations made under paragraph 33(1)(c), for a term not exceeding twenty-five

years, permitting the applicant for the licence, on payment of the fees prescribed by regulations made under subparagraph 33(1)(k)(i) (a) at the times and in the manner prescribed by any applicable regulations made under paragraph 33(1)(l), or (b) in the absence of such regulations, at the times and in the manner set out in the licence, to use waters or deposit waste, or both, in connection with the operation of the appurtenant undertaking and in accordance with the conditions specified in the licence. Idem (2) The Board shall not issue a licence in respect of a use of waters referred to in subsection 8(2)”

- Water management areas may be established by the Governor in Council under section 33 of the Act, and may consist of “river basins or other geographical areas.” Water management areas covering most, if not all, of the territories are established under the *Northwest Territories Waters Regulation*.
- *Northwest Territories Waters Regulation* s.5 “(1) A person may use water and deposit waste without a licence if the proposed use or deposit (a) has no potential for significant adverse environmental effects; (b) would not interfere with existing rights of other water users or waste depositors; and (c) satisfies the criteria set out (i) in respect of an industrial undertaking, in column II of Schedule IV; (ii) in respect of a mining and milling undertaking, column II of Schedule V; (iii) in respect of a municipal undertaking, in column II of Schedule VI; (iv) in respect of a power undertaking, in column II of Schedule VII; and (v) in respect of an agricultural, conservation, recreational or miscellaneous undertaking, in column II of Schedule VIII”

6.5. Priorities for water use

Priorities are established through a first in time principle.

Northwest Territories Waters Act s.29 “(1) Where two persons have licences or other authorizations to use waters issued by any authority responsible for the management of waters in the Northwest Territories or in Nunavut, the person who first applied is entitled to the use of the waters in accordance with that person's licence or authorization in precedence to the other person. (2) Subsection (1) applies, with such modifications as circumstances require, in respect of any rights a person acquires through an amendment to that person's licence or authorization. (3) Subject to subsection (2), a licence or authorization that has been renewed or assigned shall, for the purposes of

this section, be deemed to be a continuation of the original licence or authorization”

6.6. Limits/duration of allocation

Under section 14 of the Act, licences must not be issued with terms exceeding 25 years. Under section 18 of the *Northwest Territories Waters Act*, licences may not be renewed for more than 25 years.

- *Northwest Territories Waters Act* s.15 “(1) Subject to this Act and the regulations, the Board may include in a licence any conditions that it considers appropriate, including, without limiting the generality of the foregoing, (a) conditions relating to the manner of use of waters permitted to be used under the licence”
- *Northwest Territories Waters Act* s.18” (1) Subject to subsections (2) and (3), the Board may (a) renew a licence, each renewal being for a term not exceeding twenty-five years, either with or without changes to the conditions of the licence, (i) on the application of the licensee, or (ii) in any other case, where the renewal appears to the Board to be in the public interest; (b) amend, for a specified term or otherwise, any condition of a licence (i) on the application of the licensee, (ii) to deal with a water shortage in any water management area, or (iii) in any other case, where the amendment appears to the Board to be in the public interest; and (c) cancel a licence (i) on the application of the licensee, (ii) where the licensee, for three successive years, fails to exercise the licensee's rights under the licence, or (iii) in any other case, where the cancellation appears to the Board to be in the public interest.”

Under section 34 of the *Northwest Territories Waters Act*, the Governor in Council may reserve waters from allocation, temporarily or permanently, “(a) to enable comprehensive evaluation and planning to be carried out with respect to those waters, or (b) where the use and flow of those waters, or the maintenance of the quality of those waters, is required in connection with a particular undertaking the development of which is, in the opinion of the Governor in Council, in the public interest”.

6.7. Fees/charges

Under section 33 of the *Northwest Territories Waters Act*, the Governor in Council may make regulations prescribing fees for the right to use waters under a

licence, and for filing applications. Fees are submitted to the Receiver General (Canada).

- *Northwest Territories Waters Regulation* s.7 “The fee payable on the submission of an application for a licence or for the amendment, renewal, cancellation or assignment of a licence or of an application under section 31 of the Act is \$30”
- *Northwest Territories Waters Regulation* s.9 “(1) Subject to subsections (4) and (5), the fee payable by a licensee for the right to the use of water, calculated on an annual basis, is (a) in respect of an agricultural undertaking, the greater of (i) \$30, and (ii) \$0.15 for each 1 000 m³ authorized by the licence; (b) in respect of an industrial, mining and milling or miscellaneous undertaking, the greater of \$30 and the aggregate of (i) for the first 2 000 m³ per day that is authorized by the licence, \$1 for each 100 m³ per day, (ii) for any quantity greater than 2 000 m³ per day but less than or equal to 4 000 m³ per day that is authorized by the licence, \$1.50 for each 100 m³ per day, and (iii) for any quantity greater than 4 000 m³ per day that is authorized by the licence, \$2 for each 100 m³ per day; and (c) in respect of a power undertaking, (i) for a Class 0 power undertaking, nil, (ii) for a Class 1 power undertaking, \$1,500, (iii) for a Class 2 power undertaking, \$4,000, (iv) for a Class 3 power undertaking, \$10,000, (v) for a Class 4 power undertaking, \$30,000, (vi) for a Class 5 power undertaking, \$80,000, and (vii) for a Class 6 power undertaking, \$90,000 for the first 100 000 kW of authorized production and \$1,000 for each 1000 kW of authorized production in excess of 100 000 kW. (2) For the purposes of paragraph (1)(b), where a licence authorizes the use of water on a basis other than a daily basis, the licence fee payable shall be calculated by converting the rate of authorized use to an equivalent daily rate. (3) Where the volume of water is specified in a licence to be total watercourse flow, the licence fee will be calculated using the mean daily flow of the watercourse, calculated on an annual basis. (4) Licence fees are payable only for the portion of the year during which the licence is in effect. (5) No fees are payable under subsection (1) in respect of a diversion of water where the water is not otherwise used.”

“It should be noted that while the above provisions apply to groundwater usage, in practice there are few if any groundwater takings that are substantial enough to trigger the licencing regulation” (Christensen and Magwood 2005:21).

6.8. Monitoring of water use

- *Northwest Territories Waters Act* s.15 “(1) Subject to this Act and the regulations, the Board may include in a licence any conditions that it considers appropriate, including, without limiting the generality of the foregoing...(d) conditions relating to studies to be undertaken, works to be constructed, plans to be submitted, and monitoring programs to be undertaken”

Under section 33 of the Act, the Governor in Council may make regulations requiring licence holders to maintain records and submit them regularly to the Board.

- *Northwest Territories Waters Regulation* “15. (1) Every licensee shall maintain accurate and detailed books and records, and shall submit a report to the Board each year, on or before the anniversary of the date of issuance of the licence, setting out the quantity of water used under the licence and the quantity, concentration and type of any waste deposited under the licence. (2) A report submitted pursuant to subsection (1) shall be signed by (a) the licensee, where the licensee is an individual; or (b) an authorized agent of the licensee, where the licensee is not an individual.”

6.9. Environmental protection

Before issuing a water license, the Northwest Territories Water Board must assess the environmental and socio-economic impacts of the application, as laid out in the *Canadian Environmental Assessment Act* (1995). The results of the assessment are used to determine whether the “project may proceed through the licensing process and to determine what terms and conditions should be applied to the water licences for the project” (Northwest Territories Water Board (2006:1).

The Mackenzie Valley Resource Management Act (1998, c. 25) provides authority for the other four boards to take environmental and social impacts into account before issuing a license. In the evaluation process, both traditional and scientific knowledge about the physical and social environment is used in decision-making. In addition, this Act establishes the Mackenzie Valley Environmental Impact Review Board for the Mackenzie Valley.

6.10. Enforcement of allocations

The Department of Indian Affairs and Northern Development (DIAND) enforces the *Northwest Territories Waters Act*.

- *Northwest Territories Waters Act* s.36 “(1) For the purpose of ensuring compliance with this Act, the regulations or a licence, an inspector may, at any reasonable time, (a) enter, subject to subsection (3), any area, place or premises in a water management area in which the inspector believes, on reasonable grounds, is being carried out (i) the construction of any work that, on completion, will form part of an undertaking the operation of which will require the use of waters or the deposit of waste, or (ii) the alteration or extension of a work that forms part of such an undertaking; (b) conduct such inspections of a work described in paragraph (a) as the inspector deems necessary in order to determine (i) whether any plans and specifications forming part of any application for a licence filed with the Board by the person constructing the work are being complied with, or (ii) whether any alteration or extension of the work will or is likely to result in a contravention of any condition of a licence issued in association with an undertaking of which the work forms part; and (c) enter, subject to subsection (3), any area, place or premises in which the inspector believes, on reasonable grounds, that (i) waters are being used, or (ii) there is being or has been carried out any process that may result in or has resulted in waste, or there is any waste, that may be added to waters, and examine any works related to the matters mentioned in subparagraphs (i) and (ii) and any waters or waste, open any container that the inspector believes on reasonable grounds contains any waters or waste, and take samples of any waters or waste”
- *Northwest Territories Waters Act* s.37 “(1) Where an inspector, whether or not a report has been made under subsection 9(3), believes, on reasonable grounds, (a) that (i) waters have been or may be used in contravention of subsection 8(1) or of a condition of a licence, (ii) waste has been or may be deposited in contravention of subsection 9(1) or of a condition of a licence, or (iii) there has been, or may be, a failure of a work related to the use of waters or the deposit of waste, whether or not there has been compliance with any standards prescribed by regulations made under paragraph 33(1)(j) and with any standards imposed by a licence, and (b) that a danger to persons, property or the environment results, or may reasonably be

expected to result, from the adverse effects of that use, deposit or failure, the inspector may direct any person to take such reasonable measures as the inspector may specify, including the cessation of an activity, to prevent the use, deposit or failure from occurring or to counteract, mitigate or remedy the adverse effects.”

- *Northwest Territories Waters Act* s.38. “(1) No person shall wilfully obstruct or otherwise interfere with an inspector in the carrying out of the inspector's functions under this Act. 2) No person shall knowingly make a false or misleading statement, either orally or in writing, to an inspector or other person engaged in carrying out functions under this Act.”

6.11. Transferability of allocations

- *Northwest Territories Waters Act* s.19 “(1) Any sale or other disposition of any right, title or interest of a licensee in an appurtenant undertaking constitutes, without further action by the licensee, an assignment of the licence to the person or persons to whom the sale or other disposition is made if the assignment of the licence was authorized by the Board. (2) The Board shall authorize the assignment of a licence if it is satisfied that (a) the sale or other disposition of any right, title or interest of the licensee in the appurtenant undertaking at the time, in the manner and on the terms and conditions agreed to by the licensee, and (b) the operation of the appurtenant undertaking by the prospective assignee would not be likely to result in a contravention of, or failure to comply with, any condition of the licence or any provision of this Act or the regulations (3) Except as provided in this section, a licence is not assignable.”

6.12. Compensation if allocations are reduced

There is no legislation for compensation if allocation is reduced, as historically this has yet to occur. There are, however, provisions for compensation for those adversely affected by the license. Under section 14 of the *Northwest Territories Waters Act*, for a licence application to be approved, the licensee must demonstrate that they have entered into compensation agreements with adversely affected licensees.

- *Northwest Territories Waters Act* s.30 “(1) Except as otherwise provided by a compensation agreement referred to in subparagraph 14 (4)(a)(ii), a person

who is adversely affected as a result of (a) the issuance of a licence, or (b) a use of water or deposit of waste authorized by regulations made under paragraph 33(1)(m) or (n) is entitled to be compensated by the licensee, authorized user or authorized waste depositor in respect of that adverse effect, and may sue for and recover any such compensation in any court of competent jurisdiction. (2) A person is not barred from exercising any rights conferred by subsection (1) merely because of having been paid compensation referred to in subsection 14(4), or because of having been paid compensation pursuant to paragraph 17(2)(a) or pursuant to a compensation agreement referred to in subparagraph 14(4)(a)(ii).”

6.13. Provisions for stakeholder input

Section 21 of the *Northwest Territories Waters Act* outlines conditions under which the Board must hold public hearings in connection with applications for type A and B licences. For Type A, stakeholders can be given intervener status at public hearings. All concerns are dealt with before a license is issued. The establishment of boards through the *Mackenzie Valley Resource Management Act* ensures stakeholder input in water license decisions.

- *Mackenzie Valley Resource Management Act* s. 9.1 “The purpose of the establishment of boards by this Act is to enable residents of the Mackenzie Valley to participate in the management of its resources for the benefit of the residents and of other Canadians.”
- *Mackenzie Valley Resource Management Act* s.3. “Wherever in this Act reference is made, in relation to any matter, to a power or duty to consult, that power or duty shall be exercised (a) by providing, to the party to be consulted, (i) notice of the matter in sufficient form and detail to allow the party to prepare its views on the matter, (ii) a reasonable period for the party to prepare those views, and (iii) an opportunity to present those views to the party having the power or duty to consult; and (b) by considering, fully and impartially, any views so presented.”

6.14. Notification of allocation decisions

Under section 23 of the Act, the Board must give notice of applications for licences.

- *Northwest Territories Waters Act* s.26 “The Board shall issue, and make available to the public, written reasons for its decisions or orders relating to any licence or any application.”

6.15. Dispute resolution

As all concerns are dealt with prior to license issuance, there is no formal appeal process.

- *Northwest Territories Waters Act* s.27 “Except as provided in this Act, every decision or order of the Board is final and conclusive”

6.16. Other issues

There is “a vulnerability to the water management policies of other provinces and territories. There are several major transboundary rivers entering the Northwest Territories from other jurisdictions. Water management decisions made in these upstream jurisdictions can affect and have affected water quantity and water quality in the Northwest Territories” (Indian and Northern Affairs Canada 2003:4).

No formal mechanisms to address climate change and drought management. In general these are taken into consideration as part of the licensing process.

6.17. References

Christensen, R and S. Magwood. 2005. “Groundwater Pricing Policies in Canada.” Web page, [accessed 16 November 2005]. Available at www.sierralegal.org/reports/Groundwater%20Pricing%20Case%20Study2%20March%202005.pdf

Indian and Northern Affairs Canada. 2003. “Water Resources Division Business Plan 2004-2006.” Web page, [accessed 16 November 2005]. Available at nwt-tno.inac-ainc.gc.ca/pdf/wr/wrbp-0306_e.pdf.

Northwest Territories Water Board. 2006. *NWTWB Annual Report 2005-2006*. Available at www.nwtwb.com/annual_board_report_05-06.pdf

6.18. Legislation Cited

Mackenzie Valley Resource Management Act, S.C. 1998, c. 25.

Northwest Territories Waters Act, S.C.1992, c. 39.

Northwest Territories Waters Regulations, S.O.R./93-303.

7. Nova Scotia

Verified November 2006

7.1. Primary agency responsible for water allocation

Nova Scotia's Department of Environment and Labour is the provincial department responsible for environmental health, employment rights, and the alcohol and gaming sector.

Head Office
Nova Scotia Environment and Labour
Terminal Road Building, 5151 Terminal
Road, 5th Floor, Halifax, NS
Phone 9902) 424-5300 Fax (902) 424-0503
Email: ecs@gov.nc.ca

7.2. Legal authority

The Department of Environment and Labour issues water withdrawal approvals for surface water and groundwater withdrawals of more than 23,000 L/day (or storage of more than 25,000 m³) under the authority of the *Environment Act* (Statutes of Nova Scotia 1994-1995, chapter 1). Additional guidance is provided under the *Activities Designation Regulations* (NS Reg. 47-95) and the *Approvals Procedure Regulations* (NS Reg. 48-95).

- *Environment Act* s.103 “Notwithstanding any enactment, or any grant, deed or transfer made on or before May 16, 1919, whether by Her Majesty or otherwise, or any possession, occupation, use or obstruction of any watercourse, or any use of any water by any person for any time whatever, but subject to subsection 3(2) of the *Water Act*, every watercourse and the sole and exclusive right to use, divert and appropriate any and all water at any time in any watercourse is vested forever in Her Majesty in right of the Province and is deemed conclusively to have been so vested since May 16, 1919, and is fully freed, discharged and released of and from every fishery, right to take fish, easement, profit à prendre and of and from every estate, interest, claim, right and privilege, whether or not of the kind hereinbefore enumerated, and is deemed conclusively to have been so fully freed, discharged and released since May 16, 1919.”
- *Environment Act* s.105 “(1) The Minister has supervision of the uses of all water resources and wa-

tercourses and the allocation of water in the Province.”

7.3. Clarity of roles

In addition to the Nova Scotia Department of Environment and Labour, the following departments/agencies play a role in water allocation issues:

- Fisheries and Oceans Canada (DFO) comments on withdrawals for larger projects
- Department of Agriculture comments on surface water withdrawals
-

7.4. Basis of allocation

The *Activities Designation Regulations* (NS Reg. 47-95) lists the activities that require water withdrawal approval. For example, water withdrawal approvals are required for surface water and groundwater withdrawals of more than 23,000 L/day or for storage of more than 25,000 m³. Information requirements and the review process involved in assessing water withdrawal approvals are outlined in the *Approvals Procedure Regulations* (NS Reg. 48-95)

- *Environment Act* s.66 “(1) The Governor in Council may make regulations (a) designating activities or any class of activities for which an approval or certificate of qualification is required, and specifying the kind of approval or certification of qualification required”
- Regulation 47-95 s.3 “(1) Any activity designated in these regulations requires an approval from the Minister or an Administrator designated by the Minister. (2) Any modification or extension of an activity designated in these regulations requires an approval unless exempted by a regulation or by the Minister.”
- Regulation 47-95 s.5(1) “The use or alteration of a watercourse or a water resource for one or more of the following purposes: (a) the withdrawal or diversion of water in an amount greater than 23 000 L per day from a source of surface water or groundwater...(c) the storage of water in amounts of 25 000 m³ or greater...is designated as an activity...(2) Despite Section 3, an approval is not required for an activity designated in subsection (1) where the activity is (a) a non-recurring use of

water from the same watercourse for less than 2 weeks; (b) a continuous use of water less than 23 000 L per day; (c) use of seawater; (d) use of brackish water from an intertidal zone of a river estuary”

The Guide to Groundwater Withdrawal Approvals (2004a:2) outlines the hydrogeological study reports that must be completed to evaluate the potential effects of proposed withdrawals on existing groundwater users and the environment. Allocation of groundwater withdrawals is based on the following guiding principles:

- “Withdrawals from the aquifer must be sustainable (i.e., can be maintained indefinitely without causing unacceptable environmental, economic or social consequences);
- New groundwater withdrawals should not cause any significant adverse effects to existing groundwater users or the environment. Note that existing users are not required to modify operations if their water withdrawals interfere with water levels in newly installed wells.
- Groundwater allocations are based on a “first-come, first-served basis” with priority given to drinking water applications. Priority is also given to existing withdrawal approvals over new applications. For new approval applications that are being processed, those received at the earliest date will be given priority over those received at a later date.
- Groundwater allocations are based on the applicant’s current water needs, rather than potential future needs. The applicant must demonstrate the need for the volume of water requested. The applicant cannot typically reserve water for future use beyond the expiry date of the approval, up to 10 years under the Approvals Procedure Regulations.”

The *Guide to Surface Water Withdrawal Approvals* (2004b:2) outlines the hydrology reports that must be completed to evaluate the potential effects of the proposed withdrawal on existing water users and the environment. Surface water is allocated based on the following 4 guiding principles.

- “Withdrawals from the watercourse must be sustainable (i.e., can be maintained indefinitely without causing unacceptable environmental, economic or social consequences).
- New water withdrawals should not cause any significant adverse effects to existing water users or the watercourse. Note that existing users are not

required to modify operations to accommodate new withdrawals.

- Water allocations are based on a “first-come, first-served” basis. Priority is given to existing withdrawal approvals over new applications.
- Water allocations are based on the applicant’s current water needs, rather than potential future needs. The applicant must demonstrate the need for the volume of water requested. In other words, the applicant cannot typically reserve water for future use beyond the expiry date of the approval; up to 10 years under the Approvals Procedure Regulations.”

In the Annapolis Valley, a pilot project is underway to use a risk-based approach to surface water withdrawal applications. Requirements for the application differ according to three risk categories—with greater requirements for higher risk activities (Nova Scotia Department of Environment and Labour, 2006).

7.5. Priorities for water use

“Water allocations are based on a “first-come, first-served” basis. Priority is given to existing withdrawal approvals over new applications” (Nova Scotia Department of Environment and Labour, 2004b:2).

“Groundwater allocations are on a first-come, first served basis with priority given to drinking water applications. Priority is also given to existing withdrawal approvals over new applications” (Nowlan 2005:50, Nova Scotia Department of Environment and Labour, 2004a).

7.6. Limits/duration of allocation

- *Environment Act* s.56 “(1) The Minister may issue or refuse to issue an approval...(2) The Minister may issue an approval subject to any terms and conditions the Minister considers appropriate to prevent an adverse effect. (3) Without restricting the generality of subsection (2), the Minister may require rehabilitation plans, implementation schedules and security from the approval holder. (4) In environmentally sensitive areas, the terms and conditions of an approval may be more stringent, but may not be less stringent, than applicable terms and conditions provided in the regulations, policies, guidelines or standards prescribed or adopted by the Department.”
- *Environment Act* s.58 “(1) On application by an approval holder, the Minister may amend a term or condition of, add a term or condition to, or de-

lete a term or condition from an approval, if the Minister considers it appropriate to do so. (2) The Minister may (a) amend a term or condition of, add a term or condition to, or delete a term or condition from an approval (i) if in the opinion of the Minister an adverse effect that was not reasonably foreseeable at the time the approval was issued has occurred or may occur... (b) cancel or suspend an approval for breach or default of the approval, or if new or corrected information respecting an adverse effect has been brought to the attention of the Minister”

- *Environment Act* s.66 “(1) The Governor in Council may make regulations (b) prescribing the length of time for which approvals and certificates of qualification may be issued and permitting an approval or certificate of qualification to be issued for a shorter period of time than prescribed in the regulations”
- Regulation 48-95 s.11 “(1) Unless provided otherwise in the Act or regulations and subject to subsection (2), where the Minister or an Administrator issues an approval, the Minister or the Administrator shall provide as a term and condition that the duration of the approval shall not exceed 10 years. (2) The applicant may request an approval for a shorter duration than the 10 years prescribed in subsection (1).”

7.7. Fees/charges

- Annual fees are based on the volume and type of water used.
- *Environment Act* s.15 “The Minister may, in accordance with the regulations, establish programs for the research, development and use of economic instruments and market-based approaches for the management of the environment and for the purpose of achieving environmental quality objectives in a cost-effective manner, including, without limiting the generality of the foregoing... (b) offsetting environmental costs and benefits; (c) user charges; (d) resource pricing and physical resource accounts; (g) product charges; (h) charges on inputs or materials”
- Regulation 48-95 s.9 “(1) The Minister or an Administrator may issue an approval pursuant to these regulations upon the payment of an administrative fee and a user fee which are approved by the Minister.”
- Regulation 48-95 s.11 “(3) An approval may be renewed by the Minister or an Administrator with or without changes upon the payment of an ad-

ministrative fee and a user fee which are approved by the Minister.”

- Regulation 57/2005 “The following fee is established for water approvals under Division I of the *Activities Designation Regulations*: Water withdrawal approval* \$266.25 [* The water withdrawal approval fee does not apply to agriculture, aquaculture or recreational water withdrawal approval activities.]
- Regulation 58/2005 “The following fees are established for water approvals under Division I of the *Activities Designation Regulations*: (a) Water withdrawal annual approval administration (Category I - Hydroelectric) \$532.50/year (b) Water withdrawal annual approval administration (Category II - Individual, Bottled Water, Public Drinking Water Supply) \$213.00/year” Regulation 59/2005” The following fees are established for water approvals under clause 5(1)(a) of Division I of the *Activities Designation Regulations*:

1. Exemptions:

A water licence authorizing use of water for agriculture, conservation, or beautification purposes is exempt from a fee.

2. User fees (i.e., allocations of 23 000 litres per day or greater):

The annual fee for an authorized use of water withdrawn from a watercourse shall be determined as follows:

(i) Water licences for municipal, recreational, industrial and domestic purposes:

Minimum fee. The minimum fee for a water licence shall be \$53.25, unless as otherwise provided under Sections 1 and 2(iv). Annual fee calculation: The licence fee shall be derived by summing the subtotals calculated as follows: For each million litres per day, up to 2 million litres per day \$117.15. For each additional million litres per day over 2 million litres per day, up to 9 million litres per day \$122.47. For each additional million litres per day over 9 million litres per day, up to 27 million litres per day \$133.12. For each additional million litres per day over 27 million litres per day, up to 90 million litres per day \$138.45. For each million litres per day over 90 million litres per day \$143.77.

(ii) Water licences for aquaculture purposes:

The fee for fish farming or a fish hatchery operation shall be 20 percent of the amount as determined under subsection (i), but not less than the minimum fee.

(iii) Water licences for power generation:

The fee for hydroelectric power generation shall be at a rate of \$1.70 per horsepower of rated hydraulic capacity.

(iv) Other

An annual fee may be reduced to 10% of the user fee, but not less than \$213.00 to retain a water license when the approval holder has temporarily suspended use of water for more than 90 days. This does not apply to seasonal water withdrawals. An administrator of water approvals may suspend or cancel an approval if the approval holder fails to make beneficial use of the water for the purpose or in the manner authorized by the water license for more than 1 year.”

7.8. Monitoring of water use

- *Environment Act* s.58 “(2) The Minister may (a) amend a term or condition of, add a term or condition to, or delete a term or condition from an approval ... (ii) if the term or condition relates to a monitoring or reporting requirement”
- Regulation 48-95 s.20 “(1) Unless a waiver is provided in writing by the Minister or an Administrator, an approval holder responsible for an activity shall undertake compliance monitoring as prescribed in an approval, or as prescribed in the Act or regulations made pursuant to the Act. (2) An approval holder shall submit the results of the compliance monitoring to the Department at any times specified by the Minister or an Administrator... (4) The approval holder shall be responsible for the costs of any compliance monitoring required”

For groundwater approvals “A long-term monitoring plan must be prepared in order to monitor the withdrawal rates/volumes and to assess potential effects of the water withdrawal. At a minimum, all groundwater withdrawal approval holders will be required to maintain flow monitoring records. Monitoring of other parameters, such as groundwater levels and groundwater chemistry, may also be required depending on site-specific conditions and potential effects. All approval holders will be required to maintain records, which must be provided to NSEL upon request. Municipal water supply systems will be required to regularly submit monitoring results to NSEL. Other types of water withdrawals, such as large commercial or industrial water supplies, may also be required to regularly submit monitoring results to NSEL” (Nova Scotia Department of Environment and Labour, 2004a:12).

For surface water approvals “Applicants may be required, as a condition of approval, to prepare a long-term plan to monitor stream flow in order to assess and evaluate the impacts of the water withdrawal on water resources, for example, large water withdrawals or withdrawals in sensitive settings. The department usually requires approval holders to record daily average and maximum water withdrawal rates or volumes and report them to NSEL, annually or as required by the approval” (Nova Scotia Department of Environment and Labour, 2004b:8).

“The Nova Scotia Department of Environment and Labour is the lead department in the province, through its mandate does not specifically mention groundwater monitoring, which has been carried out since 1965. Nova Scotia’s groundwater monitoring network monitors groundwater levels with a telemetric system that currently includes eleven active wells. Ten more wells are expected to be added in 2005. Water chemistry is periodically tested in all the wells.” (Nowlan 2005:53).

7.9. Environmental protection

- *Environment Act* s. “52 (1) Where the Minister is of the opinion that a proposed activity should not proceed because it is not in the public interest having regard to the purpose of this Act, the Minister may, at any time, decide that no approval be issued in respect of the proposed activity if notice is given to the proponent, together with reasons. (2) When deciding, pursuant to subsection (1), whether a proposed activity should proceed, the Minister shall take into consideration such matters as whether the proposed activity contravenes a policy of the Government or the Department, whether the location of the proposed activity is unacceptable or whether adverse effects from the proposed activity are unacceptable.” The purpose of the Act is “to support and promote the protection, enhancement and prudent use of the environment” (section 2).
- Regulation s.48-95 “8 (1) The review of an application shall determine whether the impact on the environment of the activity conforms with regulations made pursuant to the Act, or with policies, standards or guidelines prescribed or adopted by the Minister. (2) A review may include, but is not limited to, the following matters... (b) available alternative technologies; (d) site suitability, including soils, air and water quality, groundwater conditions, site drainage, water supply quantity and wastewater disposal alternatives; (h) the past per-

formance of the applicant to provide for environmental protection with respect to the activity.”

“In allocating groundwater withdrawals, NSEL endeavours to ensure that groundwater resources are developed in a sustainable manner. In other words, water resources are to be developed and used in a beneficial manner that can be maintained indefinitely without causing unacceptable environmental, economic or social consequences. Groundwater withdrawal approvals are one of the primary mechanisms used by NSEL to ensure that groundwater resource development is sustainable. The following guiding principles are used in allocating groundwater withdrawals: 1. Withdrawals from the aquifer must be sustainable (i.e., can be maintained indefinitely without causing unacceptable environmental, economic or social consequences); 2. New groundwater withdrawals should not cause any significant adverse effects to existing groundwater users or the environment. Note that existing users are not required to modify operations if their water withdrawals interfere with water levels in newly installed wells. 3. Groundwater allocations are based on a “first-come, first-served basis” with priority given to drinking water applications. Priority is also given to existing withdrawal approvals over new applications. For new approval applications that are being processed, those received at the earliest date will be given priority over those received at a later date. 4. Groundwater allocations are based on the applicant’s current water needs, rather than potential future needs. The applicant must demonstrate the need for the volume of water requested. The applicant cannot typically reserve water for future use beyond the expiry date of the approval, up to 10 years under the *Approvals Procedure Regulations*.” (Nova Scotia Department of Environment and Labour, 2004a:1-2). “The evaluation of potential effects should include an assessment of the following: sustainable yield, well interference effects, and water quality effects. However, site-specific conditions such as the potential for sea water intrusion, groundwater-surface water interaction or any other condition which has the potential to impact on existing groundwater users or the environment should be evaluated” (Nova Scotia Department of Environment and Labour, 2004a:10).

“In allocating [surface] water withdrawals, NSEL endeavours to ensure that water resources are developed in a sustainable manner. In other words, water resources are to be developed and used in a manner that can be maintained indefinitely without causing unacceptable environmental, economic or social consequences. Surface water withdrawal approvals are one of the primary mechanisms used by NSEL to ensure that water resource development is sustain-

able. Information provided in the hydrology report, is used to support the allocation decision. The following guiding principles are used in allocating surface water withdrawals: 1. Withdrawals from the watercourse must be sustainable (i.e., can be maintained indefinitely without causing unacceptable environmental, economic or social consequences). 2. New water withdrawals should not cause any significant adverse effects to existing water users or the watercourse. Note that existing users are not required to modify operations to accommodate new withdrawals. 3. Water allocations are based on a “first-come, first-served” basis. Priority is given to existing withdrawal approvals over new applications. 4. Water allocations are based on the applicant’s current water needs, rather than potential future needs. The applicant must demonstrate the need for the volume of water requested. In other words, the applicant cannot typically reserve water for future use beyond the expiry date of the approval; up to 10 years under the *Approvals Procedure Regulations*.” “The evaluation of potential effects includes an assessment of the sustainable yield, fish habitat requirements, and in some cases, water quality effects. In addition, any other site-specific considerations which have potential to impact on recreational use of watercourses, existing licensed withdrawals or the environment should also be included in the evaluation” (Nova Scotia Department of Environment and Labour, 2004b:6).

Contingency plans may be required for surface water or groundwater approvals. “Applicants may be requested to prepare a contingency plan for mitigation of any effects. The plan should specify the circumstance(s) that will trigger the implementation of the contingency plan. (Nova Scotia Department of Environment and Labour, 2004a:12).

7.10. Enforcement of allocations

Allocations are enforced by the Department of Environment and Labour.

- *Environment Act* s.125 “(1) Where the Minister believes on reasonable and probable grounds that a person has contravened or will contravene this Act, the Minister may, whether or not the person has been charged or convicted in respect of the contravention, issue an order requiring a person, at that person's own expense, to . . . (i) comply with directions set out in the order respecting the withdrawal of water from a watercourse, including directions to stop the withdrawal”
- *Environment Act* s.126 “Where the Minister believes on reasonable and probable grounds that there is a

likelihood of an irreparable adverse effect, the Minister may make an order to shut down or stop an undertaking forthwith, either permanently or for a specified period of time.”

7.11. Transferability of allocations

- *Environment Act* s. 59 “(1) No person shall transfer, sell, lease, assign or otherwise dispose of an approval without the written consent of the Minister. (2) A consent pursuant to subsection (1) shall be given within sixty days of the receipt of an application or request, unless the Minister notifies the applicant otherwise, in writing, within ten days of receipt of the application or request. (3) The Minister may, after consultation with the applicant, amend a term or condition of, add a term or condition to, or delete a term or condition from an approval.”
- Regulation 48-95 s.12 “(1) The sale of a controlling interest of a business or a transfer of an approval from a parent company to a subsidiary or an affiliate is deemed to be a transfer requiring consent under subsection 59(1) of the Act.”

7.12. Compensation if allocations are reduced

- “Although NSEL may issue an approval for more than one user of a watercourse or water resource, existing Approval holders will not be expected to reduce or alter their withdrawal to suit the needs of a new request for withdrawal from the same watercourse (Guide to Surface Water Withdrawal Approvals, 2004).” Similar conditions on groundwater use.

7.13. Provisions for stakeholder input

- Regulation s48-95 s.7 “(1) During the review of an application, an Administrator may request oral information or additional written information from (a) an applicant or an agent of the applicant; (b) a person who is directly affected by the application; (c) a local authority, the Government, a Government agency or the Government of Canada or any agency or department of [the] Government of Canada; and (d) any other source that an Administrator considers appropriate. (2) An applicant shall be given an opportunity to respond to informa-

tion received under clauses 1(b), (c) or (d). (3) Before approving an application, the Minister or an Administrator may require that the applicant provide a consultative process in the area where the activity or the proposed activity is or will be located.”

“If the water withdrawal has potential to be the focus of public concern, then it is recommended that the applicant consult with stakeholders to identify and address those concerns prior to applying for a water withdrawal approval. Otherwise, the consultation may be required later, delaying review of an application because of section 7(3) of the *Approvals Procedure Regulations* which states: “Before approving an application, the Minister or Administrator may require that the applicant provides a consultative process in the area where the activity or the proposed activity is or will be located.” (Nova Scotia Department of Environment and Labour, 2004a:13).

“Nova Scotia’s Environmental Registry maintains copies of approvals, terms, and conditions, but it does not have the public notice and comment procedures found in Ontario’s registry. The province also maintains a working database of well and groundwater records, which is not up to date, resulting in issuing permits without true knowledge of the amount of water being extracted. The *Well Construction Regulations* require that certified well contractors submit well logs to the province. This requirement has been in place since 1965. The well logs are used to maintain an up-to-date well logs database which was recently upgraded and released in January 2005. The database currently includes records for approximately 97,000 wells that were constructed between 1940 and 2004. Nova Scotia also maintains a database of groundwater allocation records, which is currently being updated and should be available in the spring of 2005” (Nowlan 2005:59-60).

7.14. Notification of allocation decisions

- Regulation 8-95 s.9 “(3) If the Minister or an Administrator refuses to issue an approval, an Administrator shall advise the applicant in writing of the decision and inform the applicant about what appeal processes are available.”
- *Environment Act* s.10 “(1) The Minister shall establish an environmental registry containing (a) approvals; (b) certificates of qualification; (c) certificates of variance; (d) orders, appeals, decisions and hearings made under this Act; (e) notices of designation given pursuant to this Act; (f) notices

of a charge or lien given pursuant to Section 132; (g) policies, programs, standards, codes of practice, guidelines, objectives, directives and approval processes established under this Act; (h) convictions, penalties and other enforcement actions brought under this Act; (i) information or documents required by the regulations to be included in the registry; (j) annual reports; and (k) any other information or document considered appropriate by the Minister. (2) All information under the control of the Department is accessible to the public, subject only to the Freedom of Information and Protection of Privacy Act and, in particular, Section 21 of that Act. (3) The Minister shall ensure public access to the information and documents contained in the environmental registry during business hours of the Department. (4) Where the Minister, administrator or delegated agent makes a decision under Section 34, 35, 40, 52, 54 or 56, any person who asks for a reason for the decision shall, within thirty days, and subject to the Freedom of Information and Protection of Privacy Act, be furnished with a written statement of the decision, setting out the findings of fact upon which it is based and the reasons for the decision.”

7.15. Dispute resolution

- *Environment Act* s.14 “(1) For the purpose of resolving a dispute, the Minister may refer a matter to a form of alternate dispute resolution, including but not limited to, conciliation, negotiation, mediation or arbitration. (2) Where the Minister decides to use a form of alternate dispute resolution to resolve a dispute, the Minister, in consultation with the affected parties and using criteria prescribed or adopted by the Department, shall determine which form of dispute resolution is most appropriate to use to resolve the dispute. (3) Any form of alternate dispute resolution used shall strive to achieve consensus to resolve procedural and substantive issues throughout the process. (4) Where a form of alternate dispute resolution is being used to resolve a dispute, and where an independent party or neutral third party has been chosen to facilitate, mediate or arbitrate, at the conclusion of the process that person shall file a report with the Minister and with the parties whether or not the dispute was resolved. (5) Without limiting the generality of subsections (1) to (4), a form of alternate dispute resolution may be used (a) in case of a dispute over a certificate of qualification or a certificate of variance; (b) in case

of a dispute over an approval; (c) in case of a dispute under Part VIII respecting responsibility for rehabilitation of a contaminated site; or (d) generally, for conflict resolution.”

Contingency plans may be required for surface water or groundwater approvals. “The plan should specify the circumstance(s) that will trigger the implementation of the contingency plan. It is desirable to have an Alternate Dispute Resolution (ADR) mechanism in place for resolving disputes” (Nova Scotia Department of Environment and Labour, 2004a:12).

7.16. Other issues

Currently, there are no formal mechanisms for climate change or drought response in Nova Scotia. There are some internal conversations related to drought management in response to climate change (Lister, 2006).

“Nova Scotia has introduced a Municipal Source Water Protection Plan requirement for drinking water source areas. In order for a municipality or utility to meet the conditions of its approval to operate, a completed Source Water Protection Plan [needed to] be submitted to Nova Scotia Environment and Labour (NSEL) by September 2005. In addition, Nova Scotia’s *Environment Act* authorizes the designation of protected water areas, and at least twelve regulations have been passed which designate or regulate water bodies as protected areas.” (Nowlan 2005:40).

7.17. References

- Agriculture and Agri-Food Canada. 2003. *Analysis of Agricultural Water Supply Issues: National Summary*. Final Report. Agriculture and Agri-Food Canada.
- Nova Scotia Department of Environment and Labour. 2006. “Surface Water Withdrawal Applications in Annapolis Valley”. Web page, [accessed 20 November 2006]. Available at www.gov.ns.ca/enla/water/surfacewater-withdrawalpilot.asp
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- Nowlan, L. 2005. *Buried Treasure: Groundwater Permitting and Pricing in Canada*. Toronto, Ontario: Walter and Duncan Gordon Foundation. Available at

www.gordonfn.org/resfiles/Buried_Treasure.pdf

Lister, S. 2006. Nova Scotia Department of Environment and Labour, Personal Communication

7.18. Legislation Cited

Activities Designation Regulations, N.S. Reg. 47/95. (Last Amdt. N.S. Reg. 52/2005- N.S. Reg. 72/2005.)

Fees for Water Withdrawal Approval, N.S. Reg. 57/2005

Fees for Water Withdrawal Annual Approval Administration, N.S. Reg. 58/2005

Fees for Water Licenses, N.S. Reg. 59/2005

Approvals Procedure Regulations, N.S. Reg. 48/95.

Environment Act, S.N.S. 1994-1995, c. 1. (Last Amdt. 2006)

8. Nunavut

Verified November 2006

8.1. Primary agency responsible for water allocation

The Nunavut Water Board was established in 1993 by the Nunavut Final Agreement along with a number of other co-management boards (Nowlan 2005). The NWB issues water use licences for both surface water and groundwater withdrawals (Statutes of Canada 2002, chapter 10).

Nunavut Water Board
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Tel: 867 360-6338
Fax: 867 360-6369
Email: Nunavut Water Board, Licensing
Manager: licensing@nunavutwaterboard.org

8.2. Legal authority

“Indian and Northern Affairs Canada (INAC) is responsible for all the legislation and policy relating to water management in NWT and Nunavut. The most significant water licences are issued by water licensing boards but must be approved by the Minister of Indian and Northern Development before they can take effect” (Nowlan 2005:16). The Nunavut Water Board’s authority to issue water use licences for surface water and groundwater withdrawals is provided under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (Statutes of Canada 2002, chapter 10).

- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s8. “(1) Subject to any rights granted by or under any other Act of Parliament in respect of waters in Nunavut, the property in and the right to the use of all waters in Nunavut are vested in Her Majesty in right of Canada. (2) Despite subsection (1), the designated Inuit organization has, in respect of waters in Nunavut, the rights that are provided in the Agreement, including the exclusive right to the use of water on, in, or flowing through Inuit-owned land and the right to have water flow through that land substantially unaffected in quality, quantity and flow”
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s9. “The Minister may, in writing, delegate to the territorial minister responsible for water re-

sources any of the Minister's functions under sections 14, 16, 17, 19 and 21, subsection 55(5), section 56, subsection 77(1) and section 84, either generally or as otherwise provided in the instrument of delegation, except that the delegation cannot abrogate or derogate from any rights of Inuit under the Agreement”

“The Nunavut Water Board was established under Article 13 of the Nunavut Land Claims Agreement and section 14 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, proclaimed on April 30, 2002. The *Northwest Territories Waters Regulations* promulgated on June 8, 1993 continue to apply in Nunavut until they are replaced or repealed as per s. 173 of the above mentioned Act” (Info Source Canada 2005).

The following legislation governs the Nunavut Water Board:

1. *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (2002, c. 10);
2. *Northwest Territories Waters Regulations* (SOR/93-303);
3. *Nunavut Water Board Order* (SOR/2002-253)

8.3. Clarity of roles

“The role of the Nunavut Water Board is to regulate fresh-water resources and the role of the Nunavut Surface Rights Tribunal is to resolve access disputes. These institutions will ensure that residents of Nunavut have a say in licensing decisions regarding the use of water resources and that parties in a compensation dispute can find fair resolution” (Indian and Northern Affairs Canada, 2002).

“The Water Board and Tribunal have been carrying out their duties, as described in the 1993 Land Claims Agreement, since 1996 and 1995 respectively. The passage of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* fulfils the requirement for legislation clarifying the Board's and Tribunal's powers and establishes a water management and surface rights regime for Nunavut” (Indian and Northern Affairs Canada, 2002).

“The Board is responsible for the regulation of fresh-water resources and water use in Nunavut. The Act also recognizes the rights of Inuit concerning water in, on, or flowing through their land, as outlined in the NLCA. The Act also prohibits the Board from issuing, amending or renewing a water licence or a

licence for the deposit of waste that may substantially affect the quality, quantity or flow of waters through Inuit-owned land, unless appropriate compensation for any adverse effects has been determined in advance.” (Indian and Northern Affairs Canada, 2002).

- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.40 “Where the use of waters or the deposit of waste that is the subject of an application to the Board would have a significant impact on a use of waters or a deposit of waste in a national park or any place outside Nunavut, the Board may collaborate with any body exercising powers of water management for that park or place”
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.50 “In the exercise of its functions in relation to applications, the Board shall accord full standing to the following: (a) Tunngavik, or any other Organization, within the meaning of section 1.1.1 of the Agreement, designated by Tunngavik, to make representations on behalf of the Inuit of Nunavut; (b) Makivik to make representations respecting the interests of the Inuit of northern Quebec in relation to islands and marine areas of the Nunavut Settlement Area traditionally used and occupied by those Inuit; (c) the councils of the Fort Churchill Indian Band and Northlands Indian Band to make representations respecting their interests in relation to the areas that those bands have traditionally used and continue to use; and (d) the councils of the Black Lake Indian Band, Hatchet Lake Indian Band and Fond du Lac Indian Band to make representations respecting their interests in relation to the areas that those bands have traditionally used and continue to use. The Board shall take the representations into account”
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s. 64 “(1) On request by the designated Inuit organization or a person who has applied to the water authority responsible for the management of waters outside Nunavut, but within the Northwest Territories, for a licence or other authorization in relation to a use of waters or a deposit of waste that may substantially affect the quality, quantity or flow of waters flowing through Inuit-owned land, the Board shall collaborate with that authority to reach a joint determination on the compensation to be paid”

“...the NWB will not issue a licence if the environmental screening has not been completed and if no land use permit has been issued by the competent authority (Government of Canada for Crown lands and the regional Inuit organization for Inuit-owned lands)” (Nunavut Water Board, 2005).

8.4. Basis of allocation

Surface and groundwater withdrawal licenses are required, except for domestic and emergency uses. Water undertakings are classified into one of eight categories: industrial, mining and milling, municipal, power (with 6 subclasses based on the kW generated), agricultural, conservation, recreational and miscellaneous (*Northwest Territories Waters Regulations* SOR/93-303). Type A and Type B licenses are issued.

- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.11 “(1) Subject to subsection (2), no person shall use, or permit the use of, waters in Nunavut except in accordance with the conditions of a licence. Exceptions (2) Subsection (1) does not apply in respect of (a) any unlicensed use of waters that is authorized by the regulations; (b) the use of waters (i) for a domestic purpose, or (ii) for the purpose of extinguishing a fire or, on an emergency basis, controlling or preventing a flood; or (c) the use of waters in a national park”
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.4 ““domestic purpose” means the use of waters for the following purposes: (a) household requirements, including sanitation and fire prevention; (b) the watering of domestic animals; or (c) the irrigation of a garden that adjoins a dwelling-house and is not ordinarily used in the growth of produce for market”
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.42 “(1) Subject to this Act and on application, the Board may issue the appropriate licence”
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.56 “(1) The issuance, amendment, renewal and cancellation of a type A licence and, if a public hearing is held, a type B licence are subject to the approval of the Minister”

8.5. Priorities for water use

- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.47 “Subject to section 62, where two persons hold licences or other authorizations to use waters issued by any authority responsible for the management of waters in the Northwest Territories or in Nunavut, the person who first applied is entitled to the use of the waters in accordance with that person's licence or authorization in precedence to the other person”
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.62 “In relation to Inuit-owned land, any existing use of waters by Inuit has priority over any

licensed use or deposit of waste by any person who has a mineral right”

8.6. Limits/duration of allocation

- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.38 “(1) The Board may not issue, amend or renew a licence to use waters or deposit waste if there is an applicable land use plan approved in accordance with Part 5 of Article 11 of the Agreement unless the Nunavut Planning Commission, in accordance with section 11.5.10 of the Agreement, (a) has determined that the use or deposit, or in the case of an amendment any change to the use or deposit, conforms to the land use plan; or (b) has approved a variance in respect of the use, deposit or change”
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.39 “(1) The Board may not issue, amend or renew a licence to use waters or deposit waste where the use or deposit, or in the case of an amendment any change to the use or deposit, or the appurtenant undertaking requires screening in accordance with Part 4 of Article 12 of the Agreement, until the Nunavut Impact Review Board has completed the screening and, where a review under Part 5 or 6 of that Article is required, issued a project certificate referred to in section 12.5.12 or 12.6.17 of the Agreement”
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.43 “(1) Subject to this Act, the Board may (a) on application by the licensee, renew a licence, with or without changes to the conditions of the licence; (b) amend, for a specified term or otherwise, any condition of a licence (i) on application by the licensee, (ii) to deal with a water shortage, or (iii) where the Board considers the amendment to be in the public interest; and (c) cancel a licence (i) on application by the licensee, (ii) where the licensee, for three successive years, fails to exercise the licensee's rights under the licence, or (iii) where the Board considers the cancellation to be in the public interest. (2) Sections 57 to 76 apply in relation to the renewal or amendment of a licence”
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.45 “The term of a licence or any renewal shall not exceed twenty-five years”
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.70 “(1) Subject to this Act and the regulations, the Board may include in a licence any conditions that it considers appropriate, including conditions relating to (a) the manner in which wa-

ters may be used; (c) the studies to be undertaken, works to be constructed, plans, including contingency plans, to be submitted, and monitoring programs to be undertaken... (2) The monitoring programs referred to in paragraph (1)(c) may specify responsibilities of the applicant, the Nunavut Impact Review Board or Her Majesty in right of Canada”

8.7. Fees/charges

There is a licence application fee of \$30 (Nunavut Water Board, 1997). *The Northwest Territories Waters Regulations* sets out the water use fees.

- Regulation s.9 “(1) Subject to subsections (4) and (5), the fee payable by a licensee for the right to the use of water, calculated on an annual basis, is (a) in respect of an agricultural undertaking, the greater of (i) \$30, and (ii) \$0.15 for each 1 000 m³ authorized by the licence; (b) in respect of an industrial, mining and milling or miscellaneous undertaking, the greater of \$30 and the aggregate of (i) for the first 2 000 m³ per day that is authorized by the licence, \$1 for each 100 m³ per day, (ii) for any quantity greater than 2 000 m³ per day but less than or equal to 4 000 m³ per day that is authorized by the licence, \$1.50 for each 100 m³ per day, and (iii) for any quantity greater than 4 000 m³ per day that is authorized by the licence, \$2 for each 100 m³ per day; and (c) in respect of a power undertaking, (i) for a Class 0 power undertaking, nil, (ii) for a Class 1 power undertaking, \$1,500, (iii) for a Class 2 power undertaking, \$4,000, (iv) for a Class 3 power undertaking, \$10,000, (v) for a Class 4 power undertaking, \$30,000, (vi) for a Class 5 power undertaking, \$80,000, and (vii) for a Class 6 power undertaking, \$90,000 for the first 100 000 kW of authorized production and \$1,000 for each 1000 kW of authorized production in excess of 100 000 kW. (2) For the purposes of paragraph (1)(b), where a licence authorizes the use of water on a basis other than a daily basis, the licence fee payable shall be calculated by converting the rate of authorized use to an equivalent daily rate. (3) Where the volume of water is specified in a licence to be total watercourse flow, the licence fee will be calculated using the mean daily flow of the watercourse, calculated on an annual basis. (4) Licence fees are payable only for the portion of the year during which the licence is in effect. (5) No fees are payable under subsection (1) in respect of a diversion of water where the water is not otherwise used”

- “It should be noted that while the above provisions apply to groundwater usage, in practice there are few if any groundwater takings that are substantial enough to trigger the licencing regulation” (Christensen and Magwood 2005:21).

8.8. Monitoring of water use

- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.48 “(3) On the filing of an application, the Board may provide guidelines to the applicant respecting the information to be provided by the applicant in respect of any matter that the Board considers relevant, including the following...(c) the program the applicant proposes to undertake to monitor the impact of the use of waters or the deposit of waste”
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.70 “(1) Subject to this Act and the regulations, the Board may include in a licence any conditions that it considers appropriate, including conditions relating to (a) the manner in which waters may be used; (c) the studies to be undertaken, works to be constructed, plans, including contingency plans, to be submitted, and monitoring programs to be undertaken... (2) The monitoring programs referred to in paragraph (1)(c) may specify responsibilities of the applicant, the Nunavut Impact Review Board or Her Majesty in right of Canada”

8.9. Environmental protection

“During the advertisement period, the NWB carries out a technical review. In general, NIRB also carries out an environmental screening either before or in parallel to the water licence review...the NWB will not issue a licence if the environmental screening has not been completed and if no land use permit has been issued by the competent authority (Government of Canada for Crown lands and the regional Inuit organization for Inuit-owned lands).” (Nunavut Water Board, 2005).

- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.48 “(3) On the filing of an application, the Board may provide guidelines to the applicant respecting the information to be provided by the applicant in respect of any matter that the Board considers relevant, including the following: (a) the description of the use of waters, deposit of waste or appurtenant undertaking, as the case may be; (b) the qualitative and quantitative effects of the

use of waters or the deposit of waste on the drainage basin where the use is to be undertaken or the deposit is to be made, and the anticipated impact of the use or deposit on other users; (c) the measures the applicant proposes to take to avoid or mitigate any adverse impact of the use of waters or the deposit of waste”

- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.63 “(1) The Board shall not issue a licence in respect of a use of waters or a deposit of waste that may substantially affect the quality, quantity or flow of waters flowing through Inuit-owned land, unless...”
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.71 “In fixing the conditions of a licence, the Board shall make all reasonable efforts to minimize (a) any adverse effects of the licensed use of waters or deposit of waste on aquatic ecosystems and on the persons who are entitled to be paid compensation under section 58 or 60; (b) any interference by any person referred to in section 62 with the existing use of waters by the Inuit, whether that use is or is not licensed; and (c) any loss or damage described in section 63.”

8.10. Enforcement of allocations

INAC undertakes compliance monitoring and enforcement ((Nunavut Water Board, 2006).

- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.85 “(1) The Minister may designate any qualified person as an inspector or analyst for the purposes of this Part.”
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.86 “(1) For the purpose of ensuring compliance with this Part, the regulations or a licence, an inspector may, subject to subsection (3), at any reasonable time, (a) enter any place in Nunavut in which the inspector believes, on reasonable grounds, (i) a work is being constructed that, on completion, will form part of an appurtenant undertaking, or (ii) any alteration or extension is being carried out on a work that forms part of an appurtenant undertaking; (b) conduct such inspections of a work described in paragraph (a) as the inspector considers necessary in order to determine (i) whether plans and specifications forming part of an application for a licence, filed with the Board by the person constructing the work, are being complied with, or (ii) whether the alteration or extension of the work is likely to result in a contravention of any condition of a licence; and (c) enter any place in Nunavut, except in a na-

tional park, in which the inspector believes, on reasonable grounds, that (i) waters are being used, (ii) there is being or has been carried out any process that may produce or has produced waste, or (iii) there is any waste that may be added to waters, and, in that place, examine any works, waters or waste, open any container that the inspector believes, on reasonable grounds, contains any waters or waste, and take samples of any such waters or waste. (2) An inspector who enters any place under subsection (1) may examine and copy any books, records or documents in that place that the inspector believes, on reasonable grounds, contain any information relating to the object of the inspection or examination under that subsection."

- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.88 "(1) No person shall wilfully obstruct or otherwise interfere with an inspector in the carrying out of functions under this Part.(2) No person shall knowingly make a false or misleading statement, either orally or in writing, to an inspector or other person engaged in carrying out functions under this Part."

8.11. Transferability of allocations

- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.44 "(1) A sale or other disposition by a licensee of any right, title or interest in an appurtenant undertaking constitutes, subject to the authorization of the Board, an assignment of the licence to the person to whom the sale or other disposition is made. (2) The Board shall, on application, authorize the assignment of a licence if it is satisfied that the assignment and the operation of the appurtenant undertaking would not be likely to result in a contravention of any condition of the licence or any provision of this Part or the regulations. (3) Except as provided in this section, a licence is not assignable."

8.12. Compensation if allocations are reduced

- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.13 "(1) Except as otherwise provided by a compensation agreement referred to in this Part, a person, including the designated Inuit organization, who is adversely affected by a licensed use of waters or deposit of waste, or by an unlicensed use of waters or deposit of waste authorized by the regulations, is entitled to be compensated in respect of that adverse effect by the licensee or the

person so authorized and to recover the compensation in any court of competent jurisdiction. (2) A person, including the designated Inuit organization, is entitled to recover compensation under subsection (1) only to the extent that the person is not paid compensation under any other provision of this Part in respect of the adverse effect"

- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s. 58 "The Board may not issue a licence unless the applicant, with respect to any person, other than an instream user, who would be entitled to use waters in precedence to the applicant under section 47, (a) satisfies the Board that the use of waters or the deposit of waste would have no adverse effects on the use of waters by that person; (b) satisfies the Board that any adverse effects caused by the use of waters or the deposit of waste would not be significant, and has paid or undertaken to pay the compensation that the Board considers appropriate to that person; or (c) has entered into an agreement to compensate that person for any adverse effects"
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s. 60 "(1) The Board may not issue a licence unless (a) the applicant satisfies the Board that compensation that the Board considers appropriate has been or will be paid by the applicant to any person who would be adversely affected by the proposed use of waters or deposit of waste and who, at the time the application was filed, (i) used waters for a domestic purpose in the Northwest Territories or in Nunavut, (ii) held a licence under this Act or the *Northwest Territories Waters Act* to deposit waste in the Northwest Territories or in Nunavut, (iii) was an instream user in the Northwest Territories or in Nunavut, (iv) was, as authorized by regulations made under this Act or the *Northwest Territories Waters Act*, using waters or depositing waste in the Northwest Territories or in Nunavut without a licence under either Act, (v) was an owner or an occupier of land in the Northwest Territories or in Nunavut, or (vi) was a holder of an outfitting concession, a registered trapline or other rights of a similar nature in the Northwest Territories or in Nunavut; or (b) the applicant has entered into an agreement to compensate any person described in subparagraphs (a)(i) to (vi) who would be adversely affected."

8.13. Provisions for stakeholder input

“[Th]e NWB will not issue a license if the environmental screening has not been completed and if no land use permit has been issued by the competent authority (Government of Canada for Crown lands and the regional Inuit organization for Inuit-owned lands). Should there be significant concern, or should the NWB feel that it is in the best interests of the public, the application could be subject to a public hearing.” (Nowlan 2005:62).

“As soon as an application is deemed complete, the NWB will give public notice of the application and will invite interested persons to make representations within a specified period. The NWB will not act upon an application until at least thirty days after the public notice has been given, unless, in the opinion of the NWB, there are urgent circumstances that justify the NWB acting in a shorter period. If a public hearing is required, the NWB will process the application once the land use planning process and environmental assessment are finished. In such cases, the NWB will give public notice of the hearing at least sixty days before the date of the hearing and will make available to the public all information in relation to the application within a reasonable period of time before the hearing. After the hearing, the NWB will issue a licence, and the Minister will have forty-five days to approve or reject the licence. If no public hearing is required, the NWB will review all submissions received during the specified period and will provide the applicant and interested persons the opportunity to respond to other persons' submissions, and the applicant will be given the final opportunity to reply. The NWB will then review all submissions and issue a Type B licence.” (Nunavut Water Board, 2006).

- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s. 51 “(1) Applications in relation to licences for which no public hearing is required shall be dealt with summarily by the Board. (2) Notwithstanding subsection (1), the Board may, where satisfied that it would be in the public interest to do so, hold a public hearing in connection with any matter relating to its objects. 52. (1) Subject to subsection 37(2), a public hearing shall be held by the Board before it disposes of (a) any application in relation to a licence, unless the application is of a class that is exempted by the regulations from the requirement of a public hearing... (2) A public hearing need not be held (a) if the applicant or licensee consents in writing to the disposition of a matter without a public hearing, provided that no

other person informs the Board by the tenth day before the day of the proposed hearing of the person's intention to make representations”

- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.52 “(1) Subject to subsection 37(2), a public hearing shall be held by the Board before it disposes of (a) any application in relation to a licence, unless the application is of a class that is exempted by the regulations from the requirement of a public hearing; and (b) an application for permission to expropriate under section 77. 2) A public hearing need not be held (a) if the applicant or licensee consents in writing to the disposition of a matter without a public hearing, provided that no other person informs the Board by the tenth day before the day of the proposed hearing of the person's intention to make representations; (b) before an application is rejected under subsection 38(2); or (c) in the case of an application for the amendment of a licence where the Board, with the consent of the Minister, declares the amendment to be required on an emergency basis.
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.55 “(1) The Board shall give notice of every application in relation to a licence to the council of each municipality in the area affected by the application and shall publish the notice in a newspaper of general circulation in the area affected or, if there is no such newspaper, in such other manner as the Board considers appropriate. The notice shall invite interested persons to make representations within a specified period and shall advise them of the consequences, as provided in section 59 and subsection 60(2), of any failure to respond to the notice.”

8.14. Notification of allocation decisions

- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.56 “(4) The Minister shall send a copy of the Minister's decision and, in the case of a decision to withhold approval, the reasons for the decision (a) to the Board; (b) to the applicant or licensee; (c) where the affected waters are ones in respect of which section 63 applies, to the designated Inuit organization; and (d) to any other person with a right to compensation under section 58 or 60”
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* “79. (1) The Board shall issue, and make available to the public, written reasons for its decisions relating to any licence or application. (2) The Board shall send a copy of its decision and the

reasons for it (a) to the applicant or licensee; (b) where the affected waters are ones in respect of which section 63 applies, to the designated Inuit organization; and (c) to any other person with a right to compensation under section 58 or 60.”

8.15. Dispute resolution

- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.58 “The Board may not issue a licence unless the applicant, with respect to any person, other than an instream user, who would be entitled to use waters in precedence to the applicant under section 47, (a) satisfies the Board that the use of waters or the deposit of waste would have no adverse effects on the use of waters by that person; (b) satisfies the Board that any adverse effects caused by the use of waters or the deposit of waste would not be significant, and has paid or undertaken to pay the compensation that the Board considers appropriate to that person; or (c) has entered into an agreement to compensate that person for any adverse effects”
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.4 ““instream use” means a use of waters by a person, other than for a domestic purpose or as described in paragraph (a), (b) or (c) of the definition “use”, to earn income or for subsistence purposes”
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.80 “Except as provided in this Part, every decision of the Board is final. 81.(1) An appeal may be taken from a decision of the Board to the Federal Court on a question of law, or a question of jurisdiction, on leave being obtained from that Court on application made within forty-five days after the making of that decision or within such further time as that Court or a judge of that Court allows under special circumstances”
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s.99. “(1) There is hereby established the Nunavut Surface Rights Tribunal consisting of a Chairperson and not fewer than two nor more than ten other members to be appointed by the Minister.”
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s. “117. (1) No person may apply to the Tribunal for an order unless the person has attempted to resolve the matter in dispute by negotiation in accordance with the rules made under section 130 or, until such rules have been made, in a manner satisfactory to the Tribunal.(2) The Tribunal may not hear or make an order in respect of

any matter that was resolved by negotiation unless the parties consent or it appears, in the opinion of the Tribunal, that there has been a material change in the facts or circumstances that formed the basis of the negotiated resolution. 118. The Tribunal may not make an order in respect of a matter that is not raised by any of the parties”

The Nunavut Surface Rights Tribunal has jurisdiction to resolve the following types of disputes (Indian and Northern Affairs Canada, 2002):

- Between Inuit and persons who wish to access Inuit-owned land;
- Between persons who occupy Crown lands and persons holding subsurface rights who wish to access those Crown lands;
- Between government and Inuit in respect of the use of sand and gravel on Inuit-owned lands; and
- Disputes concerning loss to Inuit from damage to wildlife by development.

8.16. Other issues

“The 1996 *Royal Commission on Aboriginal People* identified the Nunavut [Water] Board as a useful precedent for Aboriginal involvement in other regions of Canada. In addition to issuing water licences, this board helps develop land use plans and environmental assessments pertaining to water. Inuit rights to water use, management and administration have been integrated into the joint management regime” (Nowlan 2005:16).

There are no formal mechanisms to address climate change or drought management.

8.17. References

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8.18. Legislation Cited

Northwest Territories Waters Regulations, S.O.R./93-303.

Nunavut Water Board Order, S.O.R./2002-253.

Nunavut Waters and Nunavut Surface Rights Tribunal Act, S.C. 2002, c.10.

9. Ontario

Verified December 2006

9.1. Primary agency responsible for water allocation

The Ontario Ministry of the Environment (OMOE) administers the Permit to Take Water Program.

West-Central Regional Office (Evaluates and issues permits)
Technical Support
119 King St. W, Hamilton, ON
1-800-668-4557

Other regional offices include: South-West Regional Office, Central Regional Office, Northern Regional Office, Eastern Region Office

9.2. Legal authority

Permits to take water for surface water and groundwater withdrawals in excess of 50,000 L/day are issued by the Ontario Ministry of the Environment under the authority of the *Ontario Water Resources Act* (Revised Statutes of Ontario 1990, chapter O.40). Additional guidance is provided under the *Water Taking and Transfer Regulation* (Ontario Regulation 387/04), which applies to applications received after Jan 1 2005, and a Permit to Take Water Manual released in April 2005 (OMOE, 2005).

- *Ontario Water Resources Act* s.29 “(1) For the purposes of this Act, the Minister has the supervision of all surface waters and ground waters in Ontario.”

9.3. Clarity of roles

While the Director (OMOE) has the final say on issuing permits, section 7 of the *Water Taking and Transfer Regulation* sets out requirements for consultation with municipalities, conservation authorities, and others.

- *Water Taking and Transfer Regulation* s.7 “(1) Subject to subsection (2), a Director who is considering an application shall give the following persons notice of the application: 1. The upper-tier and lower-tier municipalities or the single-tier municipality, as the case may be, within whose area of jurisdiction the proposed water taking is located. 2. Any conservation authority within whose area of jurisdiction the

proposed water taking is located. (2) Subsection (1) does not apply if, (a) the application is for a permit to take water, (i) over a period of less than one year, or (ii) only for irrigation of agricultural crops; (b) in the Director's opinion, the delay involved in giving notice to the persons listed in subsection (1) would result in, (i) danger to the health or safety of any person, (ii) harm or serious risk of harm to the environment, or (iii) injury or damage or serious risk of injury or damage to any property; or (c) in the Director's opinion, the persons listed in subsection (1) have already received the information that would be included in the notice. (3) Subsection (2) does not prohibit the Director from giving any person notice of an application if the Director is of the opinion that it is consistent with the purposes of this Regulation to do so. (4) The Director may require the applicant to, (a) notify or consult with other persons who have an interest in the proposed water taking, including, (i) persons mentioned in subsection (1), and (ii) governmental authorities for other jurisdictions; (b) provide the Director with information on the interests of and responses of the persons notified or consulted under clause (a); (c) provide the Director with information on the efforts that the applicant has made to resolve any concerns raised by the persons notified or consulted under clause (a); and (d) provide the Director with such other information as the Director specifies. (5) Subsection (4) applies despite subsection (2), and any notice required by the Director under subsection (4) is in addition to the notice given by the Director under subsection (1). (6) Subject to section 6, the Director may give governmental authorities for other jurisdictions notice of the application and consult them about it, even if notice and consultation are not required by the Great Lakes Charter. (7) For the purposes of subsections (1) and (6), the Director may give a person notice of an application by, (a) sending the person a brief description or a copy of the application by mail, by fax, by e-mail or by other electronic means; or (b) delivering a brief description or a copy of the application to the person.”

9.4. Basis of allocation

Permits to take water for surface water and groundwater withdrawals in excess of 50,000 L/day are issued by the Ontario Ministry of the Environment

under the authority of the *Ontario Water Resources Act* (Revised Statutes of Ontario 1990, chapter O.40).

- *Ontario Water Resources Act* s.34 “(1) In this section, reference to the taking of water for use for domestic or farm purposes means the taking of water by any person other than a municipality or a company public utility for ordinary household purposes or for the watering of livestock, poultry, home gardens or lawns, but does not include the watering or irrigation of crops grown for sale. (2) In subsection (4), the reference to the taking of water for the watering of livestock or poultry does not include the taking of surface water into storage for the watering of livestock or poultry. (3) Despite any general or special Act or any regulation or order made thereunder and subject to subsection (5), no person shall take more than a total of 50,000 litres of water in a day, (a) by means of a well or wells that are constructed or deepened after the 29th day of March, 1961; or (b) by means of an inlet or inlets from a surface source of supply, where the inlet or inlets is or are installed in the source of supply or is or are enlarged after the 29th day of March, 1961; or (c) by means of a structure or works constructed after the 29th day of March, 1961 for the diversion or storage of water; or (d) by any combination of the means referred to in clauses (a), (b) and (c), without a permit issued by a Director. (4) Despite any general or special Act or any regulation or order made thereunder, where the taking of water for any purpose, other than the taking of water by any person except a municipality or company public utility for use for ordinary household purposes or for the watering of livestock or poultry and other than the taking of water by any person for firefighting, interferes, in the opinion of a Director, with any public or private interest in any water, the Director may, by notice served on or sent by registered mail to the person who is taking or is responsible for the taking of water that so interferes, prohibit the person from so taking water without a permit issued by the Director. (5) Subsection (3) does not apply to the taking of water by any person for use for domestic or farm purposes or for firefighting.”

Under section 4 of the *Water Taking and Transfer Regulation*, in making decisions about permits, the Director must consider environmental impacts of the taking, water availability, proposed water conservation practices, and other issues. Section 5 of the regulation restricts permits for some new and expanded industrial and commercial water uses (e.g., water bottling, fruit/vegetable processing, aggregate and concrete

manufacturing, etc.) in designated “high use” watersheds, as shown on the Average Annual Flow Map.

Permit applications for new permits and renewals are categorized according to the anticipated level of detail required for technical review of the environmental impacts of the taking, and the estimated degree of environmental impact resulting from the proposed water taking. There is a turn around permit of 90 days for all applications (OMOE 2005).

9.5. Classification of PTTWs (Categories of Applications)

Category 1

Ground water:

- Renewal (same or lesser amount, same purpose, same location, same source, no past interference/impacts, and no scientific study required as part of the renewal)
- Ponds (e.g., irrigation and agriculture) (1) not connected to nor receiving water from surface water; and (2) <4m deep and >100m from the nearest stream or wetland; or (3) <7m deep and >250m from the nearest stream or wetland

Surface Water:

- Renewal (same or lesser amount, same purpose, same location, same source, no past interference/impacts, and no scientific study required as part of the renewal)
- Ponds <1,500 cubic metres in volume that collect runoff and that are not drawing from groundwater, watercourses, wetlands, other lakes or ponds.
- Great Lakes or connecting channel takings <1,000,000 litres/day

Category 2

Ground water:

- Short-term, non-recurring taking less than 7 days (e.g., pumping test or hydrostatic test).
- Short-term, non-recurring taking less than 30 consecutive days and less than 400,000 litres/day (e.g., construction dewatering and dust suppression).

Surface water:

- Great Lakes or connecting channels takings less than the Great Lakes Charter threshold

- Takings from sources with previous assessments (i.e., further to a previous study and implementing previously established controls)
- River and Streams (3rd order or higher order) taking <5% of 7Q20
- Transitional Permits where the Director previously required upgrades/modifications to water-taking
- Takings and Returns where water is removed for a short time only and water is returned to a nearby point with no significant change to water quantity or quality (i.e., for cooling, hydrostatic testing, hydraulic lake dredging)
- Lakes and Ponds takings <1,000,000L/day twice per week or less from water bodies >10ha in size that are not on-stream and not part of the headwaters of any watercourse. More frequent takings require supporting studies.
- *Ontario Water Resources Act* s.34 “(6) A Director may in his or her discretion issue, refuse to issue or cancel a permit, may impose such terms and conditions in issuing a permit as he or she considers proper and may alter the terms and conditions of a permit after it is issued.”
- *Ontario Water Resources Act* s.104.1 “The Director may revoke or cancel a permit, alter the terms and conditions of a permit or approval or make an order amending or revoking a direction, order, report, notice or approval issued by the Director under this Act if the Director is satisfied that the revocation, cancellation, alteration or amendment is in the public interest and is desirable for administrative reasons to, (a) reflect changes that have occurred with respect to the identity or description of any person or place; or (b) eliminate provisions that are spent or obsolete.”

Category 3

Ground water:

- All groundwater takings that do not meet Category 1 or Category 2 criteria

Surface water:

- All surface water takings that do not meet Category 1 or Category 2 criteria and new takings from 1st or 2nd order watercourses, wetlands, intermittent streams, new on-stream reservoirs, impoundments and ponds, groundwater sources that potentially affect surface waters.

9.6. Priorities for water use

There are no formal priorities of water uses in the legislation or regulation. Priority uses are indicated indirectly through exemptions and high use restrictions.

- Permit to Take Water Program - Guidelines and Procedures Manual OMOE (1999, 10): “The taking of water for domestic, farm purposes and fire protection are considered the most important uses, generally followed by takings for municipal water supply, then the taking of water for industrial, commercial and irrigation purposes.”

9.7. Limits/duration of allocation

Under the *Ontario Water Resources Act*, the director may place terms and conditions on permits.

In the Permit to Take Water Manual, one of the stated program principles is that “Water takings are controlled to prevent unacceptable interference with other uses of water, wherever possible, and to resolve such problems if they do occur.” (OMOE, 2005:4).

Bulk water transfers from Ontario’s major water basins are restricted under the *Water Taking and Transfer Regulation*.

- *Water Taking and Transfer Regulation*. s.10 “(1) For the purposes of this section, Ontario is divided into the following three water basins: 1. The Great Lakes-St. Lawrence Basin, which consists of Lake Ontario, Lake Erie, Lake Huron, Lake Superior, the St. Lawrence River and the part of Ontario the water of which drains into any of them, including the Ottawa River and the part of Ontario the water of which drains into the Ottawa River. 2. The Nelson Basin, which consists of the part of Ontario the water of which drains into the Nelson River. 3. The Hudson Bay Basin, which consists of the part of Ontario, not included in the Nelson Basin, the water of which drains into Hudson Bay or James Bay. (2) No person shall use water by transferring it out of a water basin. (3) Subsection (2) does not apply to water that is used in the water basin to manufacture or produce a product that is then transferred out of the water basin. (4) For the purpose of subsection (3), potable or other water is not a manufactured or produced product. (5) Subsection (2) does not apply to water that is being transported and that is necessary for the operation of the vehicle, vessel or other form of transport that the water is being transported in, including water that is for the use of people or livestock in or on the vehicle, vessel or

other form of transport. (6) Subsection (2) does not apply to water packaged in a container having a volume of 20 litres or less. (7) Subsection (2) does not apply to an undertaking that commenced before January 1, 1998 if the amount of water transferred out of a water basin by the undertaking in any calendar year after December 31, 1997 does not exceed the highest amount of water transferred out of the water basin by the undertaking in any calendar year after December 31, 1960 and before January 1, 1998. (8) Subsection (2) does not apply to water taken pursuant to the order of the Lieutenant Governor in Council dated October 2, 1913 respecting the Greater Winnipeg Water District.”

“Ontario imposed a year-long moratorium on the issuance of new and expanded water-taking permits [for highly consumptive use], which expired in December 2004, due to evidence that permits to take water did not fully consider the effects of the water taking on the whole watershed, and to have time to review Ontario’s groundwater supplies and draft new rules for water taking. The moratorium applied in southern Ontario and in the five northern Ontario watersheds covered by a Conservation Authority. Municipal use and agricultural use permits were not covered” (Nowlan 2005).

9.8. Fees/charges

As of April 1, 2005, OMOE has introduced administrative fees for new permit applications and permit renewal applications. There are two fees levels according to permit category, which reflects the amount of detail needed during technical review as a result of the level of anticipated risk of environmental impact. Fees are \$750 for Category 1 and 2 (Scoped) and \$3,000 for Category 2 (Detailed). However, agricultural applications are exempted from the fee schedule as of March 1, 2005. Collected fees go to General Revenue.

Note that Bill 198, *Safeguarding and Sustaining Ontario's Water Act*, received Royal Assent on June 4, 2007, following the end of the study period for Ontario. It amends the *Ontario Water Resources Act* to authorize regulations requiring charges for water conservation, protection of Ontario’s waters, efficient and sustainable use, and cost recovery for administration of the *Ontario Water Resources Act*.

9.9. Monitoring of water use

Under section 76 of the *Ontario Water Resources Act*, the Lieutenant Governor in Council may create regulations “(g) prescribing documents or data required to be created, stored and submitted by any person and the methods of creating, storing and submitting the documents and data.”

Section 9 of the *Water Taking and Transfer Regulation* sets out new monitoring requirements.

- *Water Taking and Transfer Regulation* s.9 “(1) Every person to whom a permit has been issued under section 34 of the Act shall collect and record data on the volume of water taken daily. (2) The data collected under subsection (1) shall be measured by a flow meter or calculated using a method acceptable to a Director. (3) On or before March 31 in every year, every person to whom subsection (1) applies shall submit to a Director, in the form and manner approved by the Director, the data collected and recorded under subsection (1) for the previous year. (4) Subsections (1), (2) and (3) do not affect a Director’s discretion, under subsection 34 (6) of the Act, to impose terms and conditions in issuing a permit and to alter the terms and conditions of a permit after it is issued. (5) Subsections (1) and (3) are phased in as follows: 1. Persons described in subsection (6) are governed by subsection (1) on and after July 1, 2005 and by subsection (3) in and after the year 2006. 2. Persons described in subsection (7) are governed by subsection (1) on and after January 1, 2006 and by subsection (3) in and after the year 2007. 3. Persons described in subsection (8) are governed by subsection (1) on and after January 1, 2007 and by subsection (3) in and after the year 2008. (6) Paragraph 1 of subsection (5) applies to every person to whom a permit has been issued under section 34 of the Act for taking water for any of the following purposes: 1. Large municipal residential systems and small municipal residential systems, both as defined in Drinking-Water Systems, 2. The purposes listed in subsection 5 (5), subject to subsections 5 (6) to (9). 3. The operation of a plant governed by any of the following regulations, made under the Environmental Protection Act:...(regulations for industrial activities, such as mining, power generation, etc.)...(7) Paragraph 2 of subsection (5) applies to every person to whom a permit has been issued under section 34 of the Act for taking water for any of the following purposes: 1. Any industrial or commercial purpose not described in subsection (6). 2. Wild-

life and conservation purposes. (8) Paragraph 3 of subsection (5) applies to every person to whom a permit has been issued under section 34 of the Act for taking water for any of the following purposes: 1. Any of the following, as defined in subsection 1 (1) of Drinking-Water Systems: i. A small municipal non-residential system. ii. A large municipal non-residential system. iii. A small non-municipal non-residential system. iv. A large non-municipal non-residential system. v. A non-municipal seasonal residential system. vi. A non-municipal year-round residential system. 2. Agriculture. 3. Any purpose not described in subsection (6) or (7).”

- “In Ontario, the Ministry of the Environment (MOE) works in partnership with 38 conservation authorities and ten municipalities to monitor 360 monitoring wells which track well levels and water quality. There is no central database for all programs in Ontario: the MOE monitors water quality, and different industries such as the aggregate and water bottling industries monitor for compliance.” (Nowlan 2005:53)

The Ministry of the Environment (MOE) monitors surface water through a Surface Water Quality Network, and the Ministry of Natural Resources (MNR) monitors surface water through a Surface Water Quantity Monitoring Network. These networks help establish ambient water readings.

9.10. Environmental protection

The need for environmental protection in water allocation is reflected in three of the principles of the Permit to Take Water program, as stated in the Permit to Take Water Manual (OMOE, 2005:4):

- Principle 1: “The Ministry will use an ecosystem approach that considers both water takers’ reasonable needs for water and the natural functions of the ecosystem.”
- Principle 3: “The Ministry will employ adaptive management to better respond to evolving environmental conditions.”
- Principle 4: “The Ministry will consider the cumulative impacts of water takings.”

The Director must consider environmental impacts of the taking, water availability, proposed water conservation practices, and other issues, in making decisions about permits (*Water Taking and Transfer Regulation*, s. 4). The *Water Taking and Transfer Regulation* (s.5) restricts permits for some consumptive new and expanded industrial and commercial water uses in des-

ignated “high use” watersheds (e.g., water in product uses).

- *Water Taking and Transfer Regulation* s.4 “(2) The Director shall consider the following matters, to the extent that information is available to the Director, and to the extent that the matters are relevant to the water taking or proposed taking in the particular case: 1. Issues relating to the need to protect the natural functions of the ecosystem, including, i. the impact or potential impact of the water taking or proposed water taking on, A. the natural variability of water flow or water levels, B. minimum stream flow, and C. habitat that depends on water flow or water levels, and ii. ground water and surface water and their interrelationships that affect or are affected by, or may affect or be affected by, the water taking or proposed water taking, including its impact or potential impact on water quantity and quality. 2. Issues relating to water availability, including, i. the impact or potential impact of the water taking or proposed water taking on, A. water balance and sustainable aquifer yield, and B. existing uses of water for large municipal residential systems and small municipal residential systems, both as defined in subsection 1 (1) of Drinking-Water Systems, for sewage disposal, livestock and other agricultural purposes, for private domestic purposes, and for other purposes, ii. low water conditions, if any, iii. whether the water taking or proposed water taking is in a high use watershed or a medium use watershed, A. as shown on the Average Annual Flow Map, or B. as shown on the Summer Low Flow Map, and iv. any planned municipal use of water that has been approved, A. under a municipal official plan in accordance with Part III of the Planning Act, or B. under the Environmental Assessment Act. 3. Issues relating to the use of water, including, i. whether water conservation is being implemented or is proposed to be implemented in the use of the water, in accordance with best water management standards and practices for the relevant sector if these are available, ii. the purpose for which the water is being used or is proposed to be used, and iii. if the water is not currently being used, whether there is a reasonable prospect that the person will actually use the water in the near future. 4. Other issues, including, i. the interests of other persons who have an interest in the water taking or proposed water taking, to the extent that the Director is made aware of those interests, and ii. any other matters that the Director considers relevant.” Additional details are found in the Permit to Take Water Manual (OMOE, 2005).

- *Ontario Water Resources Act* s.112 “(1) On its own initiative or on the request of the prosecutor, the court that convicts a person of an offence under this Act, in addition to any other penalty imposed by the court, may order the person, (a) to take such action, including but not limited to providing an alternate water supply, as the court directs within the time specified in the order to prevent, eliminate or ameliorate damage that results from or is in any way connected to the commission of the offence; and (b) to comply with any order, notice, direction, requirement or report made under this Act and directed to the person in relation to damage that results from or is in any way connected to the commission of the offence... (4) Nothing in subsection (1) authorizes the making of an order that conflicts with an order, notice, direction or requirement or prevents the implementation of a report previously made under this Act by the Minister or a Director, but an order may be made under subsection (1) supplementing the provisions of an order in respect of the prevention, decrease or elimination of harm to the environment and the restoration of the environment.”

“The level of scientific evaluation applied to a water taking will be commensurate with the potential for environmental impact and interference with other uses. Risk management allows both permit applicants and the Ministry to focus technical and scientific resources where they are most warranted. The permit classification system reflects the differing nature and potential impacts of various water takings. Where the Ministry believes the risks associated with the taking are not acceptable, a permit will not be issued” (OMOE, 2005:4).

9.11. Enforcement of allocations

Ontario Water Resources Act, R.S.O. 1990 Section 98 states that: “every person who knowingly gives false information in any application, return or statement made to the Minister or an employee of Ministry respecting information under the Act or regulations is guilty of an offence”.

OMAF Sept 11, 2003 Radio Report (online text document) states that: “Anyone found taking water without a permit will be stopped from pumping, face fines and potentially court prosecution. At all times it is against the law to withdraw water without a PTTW. In situations of low water supplies, enforcement of these regulations are enhanced.”

Ontario Water Resources Act, R.S.O. 1990 Section 34(8) states that every person who contravenes the re-

quirement for a permit or the conditions set out in a permit is guilty of an offence.

Enforcement has increased with the new requirements to submit annual water taking records. Each record that is submitted is assessed, and notification is made to the abatement office on anyone who is out of compliance with their PTTW. The PTTW will not be renewed unless all annual water taking records have been submitted. There are also planned inspections and response to interference and environmental complaints.

9.12. Transferability of allocations

No evidence of transferability of allocations.

9.13. Compensation if allocations are reduced

Not mentioned

9.14. Provisions for stakeholder input

As stated in the Permit to Take Water Manual (OMOE, 2005:4), one of the principles of the program is “The Ministry will promote public and local agency involvement.” “The Ministry values public and local agency involvement in the process of managing water takings at the local level. The Ministry, therefore, fosters an open and consultative process in the PTTW program and makes information publicly available on permitted water takings and water resource availability. The Ministry will post designated applications on the Environmental Registry, in accordance with the *Environmental Bill of Rights*, and consider public comments in its decision. The Ministry will provide notice to municipalities and conservation authorities of designated permit applications in order to increase local awareness of permit activities and consider their advice. The Ministry will also consult with other agencies which have expertise or mandate in certain areas such as fish and terrestrial habitat” (OMOE, 2005:4-5).

While the Director has the final say on issuing permits, section 7 of the *Water Taking and Transfer Regulation* sets out requirements for consultation with municipalities, conservation authorities, and others.

- *Water Taking and Transfer Regulation* s.7 “(1) Subject to subsection (2), a Director who is considering an

application shall give the following persons notice of the application: 1. The upper-tier and lower-tier municipalities or the single-tier municipality, as the case may be, within whose area of jurisdiction the proposed water taking is located. 2. Any conservation authority within whose area of jurisdiction the proposed water taking is located. (2) Subsection (1) does not apply if, (a) the application is for a permit to take water, (i) over a period of less than one year, or (ii) only for irrigation of agricultural crops; (b) in the Director's opinion, the delay involved in giving notice to the persons listed in subsection (1) would result in, (i) danger to the health or safety of any person, (ii) harm or serious risk of harm to the environment, or (iii) injury or damage or serious risk of injury or damage to any property; or (c) in the Director's opinion, the persons listed in subsection (1) have already received the information that would be included in the notice. (3) Subsection (2) does not prohibit the Director from giving any person notice of an application if the Director is of the opinion that it is consistent with the purposes of this Regulation to do so. (4) The Director may require the applicant to, (a) notify or consult with other persons who have an interest in the proposed water taking, including, (i) persons mentioned in subsection (1), and (ii) governmental authorities for other jurisdictions; (b) provide the Director with information on the interests of and responses of the persons notified or consulted under clause (a); (c) provide the Director with information on the efforts that the applicant has made to resolve any concerns raised by the persons notified or consulted under clause (a); and (d) provide the Director with such other information as the Director specifies. (5) Subsection (4) applies despite subsection (2), and any notice required by the Director under subsection (4) is in addition to the notice given by the Director under subsection (1). (6) Subject to section 6, the Director may give governmental authorities for other jurisdictions notice of the application and consult them about it, even if notice and consultation are not required by the Great Lakes Charter. (7) For the purposes of subsections (1) and (6), the Director may give a person notice of an application by, (a) sending the person a brief description or a copy of the application by mail, by fax, by e-mail or by other electronic means; or (b) delivering a brief description or a copy of the application to the person."

"Ontario's *Environmental Bill of Rights* guarantees a certain level of citizen involvement in environmental decision-making. "Class I Prescribed Instruments" must be publicly posted on the electronic registry for

a minimum of 30 days to allow the public to respond and comment. Regulators must indicate how they have taken the public input into consideration in their eventual decision. All applications for PTTW are Class I instruments except:

- short-term (less than a year) increases in the volume of water takings for irrigation of agricultural crops,
- water takings for a period of less than one year, normally for pumping an aquifer to conduct yield tests, dewatering for construction, for hydrostatic testing of pipelines, all in the ministry's opinion, "generally environmentally insignificant,"
- emergencies,
- where the environmentally significant aspects of the proposal have already been considered in a process of public participation substantially equivalent to that under the EBR, such as an environmental assessment,
- where there has already been a tribunal or similar hearing about the proposal, or
- where there will be an insignificant effect on the environment, such as company name change, requests to change the reporting requirements, or revocation of permits/activities that are no longer in operation.

Through Ontario's *Environmental Bill of Rights* and Environmental Registry gives the public more extensive opportunities to participate than in many other parts of Canada, its flaws in relation to water taking permits have been catalogued in detail" (Nowlan 2005:61).

9.15. Notification of allocation decisions

Section 100 of the Act sets out requirements for the Director to give notice to a permit applicant when she/he "(a) refuses to issue or renew, or cancels or suspends a licence or permit, or refuses to grant an approval; (b) imposes terms and conditions in issuing a licence or permit or in granting an approval; (c) alters the terms and conditions of a permit or approval after it is issued or granted; (d) imposes new terms and conditions on a permit or approval after it is issued or granted; or (e) gives or makes any notice, direction, report or order, except an order under section 74." Under the same section, an applicant may request a hearing after being served a notice.

9.16. Dispute resolution

The Permit to Take Water Manual states that “Water takings are controlled to prevent unacceptable interference with other uses of water, wherever possible, and to resolve such problems if they do occur. Water takers are encouraged to take all reasonable and practical measures to manage their takings efficiently to maximize the availability of water for existing or potential uses and to sustain ecosystem integrity. To foster fair sharing, reviews of new applications will consider the potential impacts on existing uses of water” (OMOE, 2005:4).

Appeals to decisions on a permit application may be made to the Environmental Review Tribunal.

The Ontario Municipal Board will also hear appeals related to water taking as a land-use planning matter (e.g. re-zoning to enable water bottling), but they do not adjudicate permits to take water.

9.17. Other issues

The Ontario Low Water Response program sets out a non-regulatory drought contingency plan for Ontario, which relies on watershed-based response teams. Source water protection under the *Clean Water Act* may have an impact on the PTTWP as implementation of drinking water source protection plans occurs.

“Since 1994 Ontario has required municipal investments in water efficiency and sewage system optimization in order to be eligible to apply for provincial capital grants. Specifically, the Municipal Assistance Program (1994) required municipalities to have a program in place to properly maintain their existing system and to examine water efficiency and system optimization as an integral component of their proposed capital projects. These requirements were carried forward into subsequent funding programs such as the Provincial Water Protection Fund (1996), which earmarked funds consistent with the principles of full exploration of system optimization and economic efficiency program allocation, calling for environmental studies to encourage conservation, protect the water resource, and defer the need for capital works” (Nowlan 2005:19).

“Under its new *Water Taking and Transfer Regulation*, Ontario requires water conservation be considered when reviewing permit applications: specifically, whether water conservation in accordance with best water management practices for the relevant sector is being implemented or is proposed to be implemented. For all existing takings, permit holders will

be encouraged to adopt water conservation best practices. Additional requirements may be placed if the water taking: • is in a high- or medium-use watershed, • is in a watershed or parts of a watershed with low water conditions, • triggers the *Great Lakes Charter*, and/or • is a large municipal residential supply. A potential way to tie water permits to conservation was recently proposed by a number of conservation groups in Ontario: Municipalities should be required to develop and implement water conservation plans, which in general should include metering for users of municipally supplied water. Municipalities should not be issued any new water-taking permits until a water conservation plan is in place” (Nowlan 2005:44).

Inter-basin transfers are prohibited under the *Water Taking and Transfer Regulation* (Ontario Regulation 387/04.)

The Great Lakes Charter Annex 2001 implementing agreement (*The Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement*, 2005) bans intra-basin transfers (with rare, strictly regulated exceptions) and includes provisions for monitoring and reporting standards and strengthen conservation initiatives. The agreement is in the process of being implemented.

9.18. References

- Kinkead Consulting, 2006. *An analysis of Canadian and other water conservation practices and initiatives: Issues, opportunities and suggested directions*. Canadian Council of Ministers of the Environment.
- Nowlan, L. 2005. *Buried Treasure: Groundwater Permitting and Pricing in Canada*. Toronto, Ontario: Walter and Duncan Gordon Foundation. Available at www.gordonfn.org/resfiles/Buried_Treasure.pdf
- Ontario Ministry of Agriculture and Food [OMAF]. 2003. “Do you need a permit to take water? Radio report [Media Backgrounder].” Web page, [accessed 5 January 2004]. Available at www.gov.on.ca/OMAFRA/english/crops/hort/news/hortmatt/2003/07hrt03a1.htm.
- Ontario Ministry of the Environment. 1999. *Permit to Take Water Program: Guidelines and Procedures Manual*. Ontario Ministry of the Environment.
- Ontario Ministry of the Environment.. 2005. *Permit To Take Water (PTTW) Manual*. Toronto, Ontario: Queen's Printer for Ontario.

9.19. Legislation Cited

Ontario Water Resources Act, R.S.O. 1990, c. O.40. (Last Amdt. 2006)

The Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement, 2005

Water Taking and Transfer Regulation, O. Reg. 387/04.

10. Prince Edward Island

Verified December 2006

10.1. Primary agency responsible for water allocation

Prince Edward Island's Department of Environment, Energy and Forestry is the provincial department responsible for energy, mining, forestry, land resources, pollution prevention and water management.

Water Management Division
Jones Building, 4th Floor, 11 Kent Street
PO Box 2000,
Charlottetown, PEI C1A 7N8
Telephone: (902) 368-5028 Tollfree: (866)
368-5044 Facsimile: (902) 368-5830

10.2. Legal authority

The Department of Environment, Energy and Forestry issues watercourse alteration permits for surface water withdrawals under the authority of the *Environmental Protection Act* (Revised Statutes of Prince Edward Island 1988, chapter E-9). Additional guidance is provided by the Agricultural Irrigation Policy 1995. Groundwater withdrawals are regulated under the *Water Well Regulations* (Prince Edward Island Regulation EC188/90).

- *Environmental Protection Act* s.3 “(1) The Minister may take such action as he considers necessary in order to manage, protect or enhance the environment including...(e) exercising exclusive control over (i) the quality, use, protection or alteration of all surface, ground and shore waters and all beaches, sand dunes, and wetlands within the jurisdiction of the province, (ii) the allocation of the use of water...”

10.3. Clarity of roles

The Minister of Environment, Energy, and Forestry has considerable authority over the protection and use of water in PEI.

10.4. Basis of allocation

Under the *Environmental Protection Act* (Revised Statutes of Prince Edward Island 1988, chapter E-9) a

watercourse alteration permit from the Department of Environment, Energy and Forestry is required for withdrawing water from surface water bodies at a rate in excess of 50 imperial gallons per minute, or when total daily withdrawal exceeds 10,000 imperial gallons. Additional guidance is provided by the Agricultural Irrigation Policy 1995. Groundwater withdrawals are regulated under the *Water Well Regulations*.

- *Environmental Protection Act* s.3. (1) The Minister may take such action as he considers necessary in order to manage, protect or enhance the environment including...(e) exercising exclusive control over (i) the quality, use, protection or alteration of all surface, ground and shore waters and all beaches, sand dunes, and wetlands within the jurisdiction of the province, (ii) the allocation of the use of water...”
- *Environmental Protection Act* s.10 “(2) No person shall, without a permit from the Minister, alter a watercourse, or wetland, or any part thereof, or water flow therein or the land within 10 metres of the watercourse boundary or wetland boundary, in any manner including (a) constructing a control dam, river diversion or drainage diversion; (b) draining, pumping, dredging, excavating, or removing soil, water, mud, sand, gravel, aggregate of any kind, or litter from any watercourse or wetland”
- Agricultural Irrigation Policy 1995 “A Watercourse Alteration Permit will be required by any person withdrawing water from a surface water body at a rate in excess of 50 IGPM or when the total daily withdrawal exceeds 10,000 imperial gallons”
- *Water Well Regulations* s.7 “(1) No person shall withdraw groundwater, or cause it to be withdrawn, from a well (a) at a rate of 4 litres per second or greater; or (b) for use by a water supply system, unless the person holds a groundwater extraction permit”
- *Water Well Regulations* s.6 “(1) No person shall construct a well (a) intended or required to be pumped at a rate of 4 litres per second or greater; or (b) intended to be used to provide water to a central water supply system, unless the person holds a groundwater exploration permit issued under subsection (2). (2) The Minister may issue a groundwater exploration permit to a well contractor, engineer or hydrogeologist which shall be in such form, and subject to such conditions as he

sees fit. (3) A groundwater exploration permit shall be valid for a period of one year from the date of issuance, unless it is sooner revoked under section 28 of the Act.”

10.5. Priorities for water use

“No prioritization scheme under the act or regulations. A water policy drafted several years ago laid out priority to be given to different types of uses, but this was never formally implemented. In practice, the general priority is domestic use, followed by commercial and industrial uses, and finally irrigation. Overall, however, there is a lack of competition for groundwater in PEI which normally prevents prioritization of uses from becoming an issue” (Nowlan 2005:30).

10.6. Limits/duration of allocation

- *Environmental Protection Act* s.28 “The Minister may, as the Minister considers necessary, (a) revoke an order, license, certificate, approval, permit, permission or other authorization issued under this Act; (b) impose terms and conditions on any authorization referred to in clause (a); and (c) alter any terms and conditions of any such authorization”
- *Water Well Regulations* s.7 “(2) The Minister may issue a groundwater extraction permit to an owner... (b) subject to such conditions as the Minister considers necessary.”
- *Water Well Regulations* s.7 “(4) A groundwater extraction permit expires on the date specified in the permit by the Minister, unless it is sooner revoked under section 28 of the Act”

“In an effort to fairly and equitably distribute the surface water resources in any watershed where the demand exceeds the supply, available water will be allocated in allotments of 400 IGPM (500 USGPM). In basins where demand does not exceed supply, an individual farmer may apply for and receive a permit for extraction rates that exceed that amount” (Government of Prince Edward Island, 1995:4).

“At the time of application, every applicant must indicate the quantity of water they require at each pumping location and the years (ie: each year, every second year, every third year, etc.) that the water will be required. Permits will be issued only for those years when the applicant requires the available water for irrigation purposes. Once established in the first year of application, the pattern of usage (the years which the applicant has previously indicated that they

will require the water at a site) must not change. Should the permit holder wish to change their usage pattern, their priority level will be lost. This restriction is necessary so that the available water in the stream can be allocated to other users during years when the priority permit holder does not require irrigation water from the site” (Government of Prince Edward Island, 1995:5).

Section 12.1 of the Act restricts bulk surface water or groundwater removals from the province.

10.7. Fees/charges

Under section 25 of the *Environmental Protection Act*, the Lieutenant Governor in Council may make regulations about fees for licenses and permits. Only permits for surface water withdrawals for irrigation purposes have a fee associated with them. “There will be a \$300.00 annual water withdrawal fee applied to each Water Withdrawal Permit issued for each site for the extraction of water for irrigation... This revenue is required to offset the costs associated with the administration and implementation of the monitoring program, and to cover costs associated with stream flow monitoring (gauging)” (Government of Prince Edward Island, 1995:7).

10.8. Monitoring of water use

“In watersheds where the permitted withdrawal rate approaches 50% of the amount of water that is predicted to be available in excess of maintenance flow, the stream will be equipped with a flow measurement gauge and monitored to ensure that actual stream flow does not drop below maintenance flow level” (Government of Prince Edward Island, 1995:4).

By regulation, metering may be imposed as a condition on a water taking permit for groundwater extraction. For a number of years, PEI has generally mandated the installation of water meters on all wells requiring a permit except for irrigation wells. As of this past year, PEI requires meters on all wells including irrigations wells. However, PEI does not usually require reporting of water use, except for irrigation wells (as of this past year), or where the conditions of approval explicitly require such reporting. Typically these conditions are applied to high water users through the Environmental Impact Assessment process as stipulated in their Environmental Management Plans (Christensen and Magwood 2005:26).

“PEI also has a moratorium on issuing permits for new irrigation wells. As a result, all existing irrigation

permits were recalled and then reissued with new metering and reporting conditions added. The reason for the moratorium was not a lack of water, but rather because the dry summer of 2001 was followed by large number of applications for irrigation permits. If all permits had been given at that time, there could have been a doubling or tripling of their number. In order to ensure an adequate water supply to cover the large number of permit applications, the moratorium was implemented to provide time to conduct hydrogeological assessments. This study is ongoing.” (Nowlan 2005:48-49)

“In PEI the department of Fisheries, Aquaculture and Environment oversees groundwater and monitors thirteen long-term monitoring wells. Where monitoring and reporting of water withdrawals is required, this is specified in the Certificate of Approval or Environmental Management Plan for the undertaking. Except for larger water withdrawal projects, there is little need or incidence of monitoring or enforcement in PEI” (Nowlan 2005:53).

10.9. Environmental protection

- *Water Well Regulations* s.7 “(2) The Minister may issue a groundwater extraction permit to an owner (a) if the Minister is satisfied, based on testing and assessments conducted as conditions of a groundwater exploration permit, that the operation of a well at the location identified in the permit will not have an unacceptable impact on the environment; and (b) subject to such conditions as the Minister considers necessary.”

“Any impact assessment of high capacity wells will consider the potential for interference with other water uses in the area as well as the projected impacts on stream flow. Generally, the more water that is extracted from groundwater supplies, the less water is available for discharge to streams. Preliminary calculations indicate that the impact of irrigation wells located more than 100 metres from a stream would be insignificant. In a worst case situation, agricultural irrigation from groundwater sources could potentially reduce stream flow in the order of 5-8%. The further a well(s) is located from a stream, the less potential there is for impact on that stream, as the influence of the extraction on the water table is dispersed in both space and time” (Government of Prince Edward Island, 1995:1).

“Under no circumstances will the rate of groundwater extraction be permitted to exceed 50% of the annual recharge for any area influenced by a well. In addition, the groundwater allocation will take into consid-

eration the potential impact on stream flow with specific reference to maintenance flow” (Government of Prince Edward Island, 1995:3).

“In basins where surface water supplies available for extraction have been fully allocated, the Department of Environmental Resources may require that wells be located at such distance from a stream as to render the direct and immediate impacts of the extraction on stream flows as insignificant. In this case, preference will be given to applications for wells that are more than 100 metres from a stream” (Government of Prince Edward Island, 1995:3).

“In order to protect stream and fish habitat, it is necessary to maintain a minimum amount of flow (maintenance flow) in the stream at all times. This province, as well as the three other Atlantic Provinces, have traditionally used the somewhat arbitrary criteria of 25% of the mean annual flow (25% MAF) as maintenance flow. Stream flows for a particular stream can be estimated for any time period on the basis of watershed size and historical data from the closest long term stream flow monitoring station. The 25% mean annual flow criteria was adapted many years ago from research work carried out in the northwestern United States. The Department of Fisheries and Oceans (DFO) has advised that this criteria does not, in their view, adequately protect the aquatic environment in most situations. They correctly observe that this criteria does not take into account the local and regional variability in the groundwater contribution to stream baseflow and does not consider seasonal low flow characteristics of individual basins. At the present time, DFO, like the Province, has a regulatory mandate and administrative jurisdiction to protect and manage freshwater fish habitat. It is the current policy of the federal department that extraction of water from streams for any purpose should not lower stream flow levels below that to which fish and other aquatic organisms are normally accustomed. They are prescribing that the maintenance flow criteria be based on long term flow frequency data, and that water flow in a stream in any particular month not be lowered below that level which normally exists” (Government of Prince Edward Island, 1995:2).

“The construction of storage ponds adjacent to streams, at suitable locations, will be encouraged. The combined benefit of the stored water and the reduced rate of withdrawal from the stream will substantially reduce the impact on stream flow. Any applicant willing to construct a storage pond(s), provided water is predicted to be available, will be given a Water Withdrawal Permit” (Government of Prince Edward Island, 1995:6).

“In PEI the Drinking Water Management Section looks at the relevant watershed as a whole in making licensing decisions. The maximum used in practice is 50% of the available recharge for the area subject to the application. The total proportion of the recharge is assessed for the purposes of evaluating each application. This maximum is currently being reviewed. With the exception of a few heavily developed watersheds, water use does not come close to the 50% limit. Adherence to the maximum ensures there will be adequate groundwater to account for seasonal variation and protection of stream flows.” (Nowlan 2005:44).

10.10. Enforcement of allocations

- *Environmental Protection Act*, s.27 “(1) This Act and the regulations may be enforced by (a) the Minister; (b) an environment officer; (c) any officer or member of the Prince Edward Island Provincial Police, as defined in the Police Act R.S.P.E.I. 1988, Cap. P-11; (d) any officer or member of the Royal Canadian Mounted Police; (e) a game officer appointed under the Fish and Game Protection Act R.S.P.E.I. 1988, Cap. F-12; (f) a fisheries officer designated under the Fisheries Act (Canada) R.S.C. 1985, Chap. F-14.”

10.11. Transferability of allocations

“With the exception of the water withdrawal allocations associated with storage ponds, water withdrawal allocations are not transferable from one farmer to another, either with the sale or lease of a property or the discontinuance of use of that allocation. Because of the capital investment associated with storage ponds, which are not moveable, the water withdrawal allocation will transfer with the ownership of the property on which the pond is located” (Government of Prince Edward Island, 1995:4).

10.12. Compensation if allocations are reduced

- *Water Well Regulations* s.7 “(3) The holder of a groundwater extraction permit is liable for all adverse effects to any person resulting from the withdrawal of water from the well for which the permit was issued.”

10.13. Provisions for stakeholder input

“Many stream systems in the province have instream impoundments or ponds (i.e. Scales Pond, Wrights Pond). It is anticipated that these ponds can be managed to maximize the amount of water available for withdrawal purposes by taking full advantage of the stored water while maintaining fish passage into the pond and maintenance flow levels in the stream below the pond. Water Withdrawal Permits for the extraction of water from these ponds for irrigation will be issued in consultation with the organizations responsible for the management of the pond and will also respect the priority listing of users, fish passage requirements and downstream maintenance flow requirements” (Government of Prince Edward Island, 1995:6).

“In watersheds where there is a high demand for the available water for irrigation, maximum utilization will only occur with a high degree of cooperation among farmers and with the Departments of Environmental Resources and Agriculture. To facilitate this cooperation, an ad hoc committee will be formed for the watershed consisting of each irrigating farmer and representatives from the two departments. The mandate of the committee will be to coordinate various irrigating activities such as management of pond levels, alternating extraction activities or other sharing mechanisms. While the committee will coordinate options for water extraction, it will not conduct management activities. In addition, the committee will not have the mandate to alter the established priority list for the watershed. Any changes to the issuance of permits must be by agreement with the affected persons on the priority list” (Government of Prince Edward Island, 1995:6).

“In PEI until 2004 there was no mechanism to access information, and information was given only to current landowners. There is now a Freedom of Information statute which entitles the section to release to the public well construction details. It is still unclear whether pumping test information is to be released upon request” (Nowlan 2005:60).

“In PEI no appeal right is granted by statute. In practice, issues surrounding the terms of a permit will be negotiated with the section directly. When the PEI section makes a licensing decision, it is based purely on the science, with no formal requirements for public participation. Larger projects, however, trigger the environmental assessment provision and must go through an environmental impact assessment. The section, on such projects, becomes a component of

that process by requiring permits to match up with the resulting environmental assessment requirements. In addition, it must be stipulated that a well owner is liable for any harm caused to other groundwater users. While this allows recourse for individuals adversely affected by pumping activity, it would require actual harm (not potential harm) to be demonstrated first.” (Nowlan 2005:67).

10.14. Notification of allocation decisions

Notification of allocation decision is given to the applicant but not to the public, except when an EIA is triggered.

10.15. Dispute resolution

“The Department of Environmental Resources will continue to require that "production wells are to have no significant predicted impact on other users". In the case where such interferences are evident, the Department will administer the provisions of the *Water Well Regulations* that hold the recipient of a groundwater allocation "fully and solely liable for all adverse effects to any party"” (Government of Prince Edward Island, 1995:3).

10.16. Other issues

There are no formal mechanisms to address climate change or drought management, but future research in the area is being considered.

10.17. References

- Christensen, R. and S. Magwood. 2005. *Groundwater Pricing Policies in Canada*. Available at www.sierralegal.org/reports/Groundwater%20Pricing%20Case%20Study2%20March%202005.pdf.
- Government of Prince Edward Island. 1995. *Agricultural Irrigation Policy*. Available at www.gov.pe.ca/photos/original/irrigatpolicy_e.pdf
- Kinhead Consulting. 2006. *An analysis of Canadian and other water conservation practices and initiatives: Issues, opportunities and suggested directions*. Canadian Council of Ministers of the Environment.
- Nowlan, L. 2005. *Buried Treasure: Groundwater Permitting and Pricing in Canada*. Toronto, Ontario: Walter and Duncan Gordon Foundation. Available at www.buriedtreasurecanada.ca.

10.18. Legislation Cited

- Environmental Protection Act*, R.S.P.E.I.1988, c. E-9.
- Water Well Regulations*, P.E.I. Reg. EC188/90.

11. Québec

Verified February 2007

11.1. Primary agency responsible for water allocation

Ministère du Développement durable, de l'Environnement et des Parcs's (MDDEP) [Minister of Sustainable Development, Environment and Parks], performs functions of the former Minister of Environment [Ministère de l'Environnement (MENVQ)]. Its mission is to ensure the protection of the environment through the implementation of sustainable development practices (MENVQ, 2004).

The MDDEP is the primary agency responsible for the implementation of the regulatory framework governing water allocation. In 2001, the Centre d'Expertise Hydrique du Québec (CEHQ), an agency of the MDDEP, was created to more effectively manage the province's water regime, while upholding the principles of safety, equity and sustainable development (CEHQ, 2005a). To this end, the CEHQ has the following mandates: the operation of public dams; ensuring dam safety; collecting data relating to hydraulics and hydrology; and and management of public waters (CEHQ, 2005b). However, this agency is not responsible for granting authorization certificates for the actual water taking.

Ministry office in charge of administration of authorizations:

Direction générale des opérations régionales
Édifice Marie-Guyart, 30e
675, boulevard René-Lévesque Est
Québec (Québec) G1R 5V7
Telephone: (418) 521-3860 Fax: (418) 646-1800

Ministry office in charge of water policy:

Direction générale des politiques
Édifice Marie-Guyart, 30e étage
675, boulevard René-Lévesque Est
Québec (Québec) G1R 5V7
Telephone: (418) 521-3860 Fax: (418) 643-9990

11.2. Legal authority

The government of Québec (i.e., the State) maintains sovereignty, control and administration over the lands

in the domain of the State, including the bed and banks of lakes and watercourses, where such rights have not been conceded by the public administration (CEHQ, 2005c). The control of water resources; however, is more ambiguous. Québec's water allocation system is based in civil law, as opposed to common law, which underlies water allocation in the rest of Canada (Percy, 1988). Water, both surface and groundwater, is recognized in the Civil Code of Québec (article 916) as a common property resource, except where rights of use or limited appropriation rights have been granted (MENVQ, 2002b). In the Québec Water Policy, the Québec government recognizes that given the common property nature of water, it must play an active role in regulating the rights to use, and has embarked on various legislative and regulatory changes to that end.

Certificates of authorization for surface water withdrawals may be issued by the Minister of Sustainable Development, Environment and Parks under the authority of the section 22 of *Loi sur la qualité de l'Environnement (Environment Quality Act)* (Revised Statutes of Québec, chapter Q-2). The Minister also has the legal authority to regulate the use of surface water property for undertaking works or structures under the *Loi sur le régime des eaux (Watercourses Act)*. While the *Watercourses Act* governs works and structures erected in the water property through land management of the public water, the *Environment Quality Act*, governs water takings through the issuance of authorization certificates, where required.

- *Watercourses Act* s.2, par.3 "From 22 December 1978, the Government may make a regulation to authorize the Minister..., on such conditions as it may determine, to grant an alienation, lease or occupation licence on a property mentioned in the preceding paragraph and agree on a limit. In the cases not provided for in that regulation, the Government may authorize, on such conditions as it may determine in each case, the alienation, exchange, lease or occupation and the limits of such property."
- *Environment Quality Act* s. 22, par.2 states that "no one may erect or alter any structure, carry out any works or projects, undertake to operate any industry, carry on any activity or use any industrial process or increase the production of any goods or services in a constant or intermittent watercourse, a lake, pond, marsh, swamp or bog, unless

he first obtains a certificate of authorization from the Minister.”

Division V of the *Environment Quality Act* deals entirely with the quality of water and wastewater, as well as outlining the powers of the Minister of Sustainable Development, Environment and Parks to regulate undertakings that require authorization from the Minister, irrespective of whether the work is undertaken by a municipality or individual (MENVQ, 1999). Such undertakings include waterworks and water systems, as well as water supply intakes (s.32).

Property, or water property, as it is referred to in the *Règlement sur le domaine hydrique de l'État* (regulation respecting the water property in the domain of the state), is defined in the *Watercourses Act*, as “the banks and beds of rivers and lakes forming part of the domain of the State, as well as on the bed and foreshore of the sea. The above mentioned expression “banks” means the strip of land bounded by the natural low and high water marks, excluding any overflow” (R.S.Q. R-13, s.2 par.3).

Since 2003, groundwater allocations have been subject to ministerial or municipal environmental authorizations, as a result of regulatory changes made under the Quebec Water Policy. Under the *Environment Quality Act*, the *Règlement sur le captage des eaux souterraines* (*Groundwater Catchment Regulation*) came into force in June, 2003, to regulate all groundwater removals. The purpose of the regulation, as outlined in section 1, is to “(1) promote the protection of groundwater intended for human consumption; and; (2) govern groundwater catchment in order to prevent the catchment of that water by an owner or operator from causing abusive nuisance to its neighbours, in particular by lowering the phreatic water level or by reducing the artesian pressure, to prevent the drawing of water in excessive amounts considering its availability, and to minimize the negative impacts from the catchment on watercourses and bodies of water, on the persons entitled to use them and on the ecosystems associated with those watercourses and bodies of water.”

Groundwater withdrawals in excess of 75 m³ per day are subject to authorization by the *Minister under the Groundwater Catchment Regulation* (chapter Q-2, r. 1.3). In some cases, water takings may also require municipal approvals under the *Politique de protection des rives, du littoral et des plaines inondables* [*Protection Policy for Lakeshores, Riverbanks, Littoral Zones and Floodplains*].

11.3. Clarity of roles

One policy orientation in the Quebec Water Policy is to move away from the sectoral management to a more integrated form of water management. Although not specifically involved in allocation, at least eight Québec ministries and public corporations have roles water management, as well as 1,106 local municipalities, 87 regional county municipalities (RCMs) and two metropolitan communities (MENVQ, 2002b).

The Ministère du Développement durable, de l'Environnement et des Parcs has the main responsibility for administering authorization certificates under the *Environment Quality Act*, but in some cases usually involving smaller projects, the local or regional municipality where the work is to be carried out may have the authority to issue authorizations.

The following ministries and agencies play peripheral roles in water allocation:

- The Bureau d'audiences publiques sur l'environnement (BAPE) is an agency created by the former Ministère de l'Environnement to conduct analyses or public inquiries on environmental matters referred by the Minister. In August 1997, the Quebec government announced its decision to institute a provincial water policy. Shortly thereafter the BAPE was mandated to organize an extensive public consultation process throughout Quebec to identify major water management issues to be addressed in the policy.
- The Ministère du Développement durable, de l'Environnement et des Parcs is responsible for the implementing of the *Watercourses Act* with the exception of the provisions in Section 3 and Division VIII relating to hydraulic (hydro-electric) power, which are under the jurisdiction of the Ministère des Ressources naturelles et de la Faune (MRNF; Ministry of Natural Resources and Wildlife). Hydraulic Power is vested in the State and administered under the *Hydro Quebec Act*. The MRNF and The Ministère du Développement durable, de l'Environnement et des Parcs are jointly responsible for implementing the *Protection Policy for Lakeshores, Riverbanks, Littoral Zones and Floodplains*, which is applied to ensure adequate flows are maintained for to preserve fish habitat, particularly in the case of rivers with hydro-electric installations (Faune et Parcs Québec, 1999).
- “The *Land Use Planning and Development Act*, the *Municipal Code of Québec*, and the *Cities and Towns Act* all contain provisions empowering local and

regional authorities to meet water needs. These laws also attribute to the municipalities various responsibilities regarding the management of municipal watercourses. In addition, municipalities have the power to carry out work projects to improve the quality of the aquatic environment and facilitate access to it” (MENVQ, 2002b:16). Note: These Acts were not examined in this review of water allocation.

Other ministries that have obligations relating to water management include: the Société de la Faune et des Parcs du Québec, the Ministère de l’Agriculture, des Pêcheries et de l’Alimentation (MAPAQ) and the Ministère des Affaires Municipales et de la Métropole (MAMM).

11.4. Basis of allocation

The Quebec Water Policy outlines some changes that will be made to the regulatory and legislative basis for water allocation. The policy commitment made by the government to set criteria for allocating water withdrawal and watercourse diversions by 2005 suggests that there is currently little guidance over this process. The Quebec government is aiming to set standards with other Great Lakes States and the government of Ontario for diversion and withdrawal in the Great Lakes basin. Once these criteria are established, it is possible that they will be applied across the entire province (MENVQ, 2002b). The following discussion outlines the present regulatory framework governing water allocation.

Although based in civil law, Quebec’s regulatory framework governing water allocation recognizes riparian rights of landowners adjacent to water bodies (CVCA and GRCA, 2003). While surface and groundwater takings are both subject to approval under the *Environment Quality Act*, for the most part these activities are regulated under separate provisions and regulations, as well as other Acts. Surface water withdrawal may require the issuance of an authorization certificate. Occasional uses of water, such as irrigation during a drought, may not require an authorization (CVC and GRCA, 2003). Groundwater withdrawals in excess of 75 m³ per day are subject to authorization. The main purpose in regulating groundwater takings is to minimize interference with other users.

Subsection 1(3) of the *Règlement relative à l’application de la loi sur la qualité de l’environnement* (Regulation respecting the application of the *Environment Quality Act*) outlines some exceptions to section 22 of the *Environment Quality Act*, such as “(3) work, construction or pro-

jects on a bank or shore, on a flood plain or along the shoreline of a watercourse or lake, where permitted under the *Protection Policy for Lakeshores, Riverbanks, Littoral Zones and Floodplains* (O.C. 103-96) provided that specific authorization for such work, construction or projects has been given by a municipality pursuant to a zoning, subdivision or construction by-law; work, construction or projects intended for public access or for municipal, industrial, commercial or public purposes are not exempt from the application of section 22.” While the policy permits “work, construction or projects intended for public access or for municipal, industrial, commercial or public purposes”, these are subject authorization under the *Environment Quality Act*, the *Watercourses Act* and other applicable legislation.

The occupation or leasing of water property to construct works is dealt with in the *Watercourses Act* and the *Regulation Respecting Water Property in the Domain of the State*. This regulation authorizes the Minister of Sustainable Development, Environment and Parks to administer occupation licences, leases, easements (servitudes) and acts of sufferance with respect to water property, if the need arises. For example, this may only be applied if there is need to regulate land use occupation because of encroachment upon the beds of lakes and watercourses (CEHQ, 2005b).

- *Regulation Respecting the Water Property in the Domain of the State* s.5 states that “before granting rights in the water property to a person who wishes to erect a structure or work, the Minister shall ensure (1) that a certificate of authorization, if required, has been issued for the project under the *Environment Quality Act* (R.S.Q., c. Q-2) and the regulations there under; and (2) that a certificate obtained from the clerk or secretary-treasurer of a local municipality or, for an unorganized territory, of a regional county municipality, certifies that the planned work complies with the applicable municipal by-laws”.
- *Regulation Respecting the Water Property in the Domain of the State* s.10 (2) states that: “The Minister may authorize a person to occupy a part of the water property for non-profit purposes to install or maintain thereon any of the following works or structures by issuing a licence to that effect... works enabling water to be collected or evacuated” (emphasis added). The licence must include a specification of terms and conditions for the occupation outlined in section 11, including “(1) any preliminary works and structures or accessories to be erected; (2) the terms and conditions for the erection and operation of the planned works and structures ; and (3) that such occupation may be

transferred to a third party only with the written authorization of the Minister.”

Section 46 (s) of the *Environment Quality Act* confers powers on the minister to regulate the tapping and collection of groundwater (MENVQ, 1999). The *Groundwater Catchment Regulation* regulates the use of groundwater through authorization certificates issued by the municipality (s.3), or by the Minister of Sustainable Development, Environment and Parks (s.31).

- *Groundwater Catchment Regulation* s.3 states that “every catchment work installation is subject to the authorization of the local or regional municipality in the territory of which the work will be installed. The application must specify the location of the work and its capacity.” One exception to this rule is outlined in section 40, where all groundwater withdrawals in the region of Îles-de-la -Madeleine require authorizations from the Minister.
- *Groundwater Catchment Regulation* s.31 states that “The following are subject to the authorization of the Minister :(1) groundwater catchment projects having a capacity less than 75 m³ per day intended to supply more than 20 persons; (2) groundwater catchment projects intended to be distributed or sold as spring water or mineral water or to be an ingredient used in the manufacture, conservation or treatment announced as spring water or mineral water on a product within the meaning of the Food Products Act (R.S.Q., c. P-29) or on the package, container or label of such a product ; and (3) groundwater catchment projects having a capacity of 75 m³ or more per day or that will bring the capacity to more than 75 m³ per day.”

Section 32 of the *Groundwater Catchment Regulation* outlines the necessary elements to be included in the application for an authorization under section 31, including specification of the water use, and the total groundwater flow that will be withdrawn each month during the year. Projects which require authorization from the Minister are subject to various hydrogeological studies according to the type of project.

11.5. Priorities for water use

No water use priorities have been established at the present time. According to the Quebec Water Policy, however, the present regulatory framework for water management will be amended to reflect the heritage value of water (MENVQ, 2002a). Given that multiple and conflicting uses of water exist, the Quebec government recognizes its responsibility to manage water in the public interest, and intends to ensure that the

fundamental right to water for satisfying basic human needs is inscribed and exercised in the event of conflict (MENVQ, 2002b). Implicitly, the first priority is given to drinking water.

11.6. Limits/duration of allocation

Presently, there are no limits specified in the legislation or regulations on the amount of surface that can be withdrawn (MENVQ, 1999; CVCA and GRCA, 2003). For groundwater, the limit is fixed in terms of recharge capacity and must be verified and signed by an engineer. The *Groundwater Catchment Regulation* outlines the renewal term for certain groundwater takings:

- *Groundwater Catchment Regulation* s. 38 “The valid term of authorizations issued for catchment projects referred to in subparagraph 2 or subparagraph 3 of the first paragraph of section 31 but, in the case of subparagraph 3, that are not intended for supplying drinking water, is 10 years. In the 6 months preceding the expiry of the valid term of an authorization, the holder must file an application of renewal with the Minister. The application must include a notice signed by an engineer member of the Ordre des ingénieurs du Québec or a geologist member of the Ordre des géologues du Québec, certifying that the impact of groundwater catchment on the environment, on other users or, for groundwater catchments for spring water or mineral water purposes, on food safety remains unchanged. If the notice shows that there is a change of impact, the application for renewal must include a hydrogeological study specifying the nature and cause of the changes.”

In 1999, bulk water exports of surface and groundwater were prohibited with the enactment of the *Water Resources Preservation Act*, which represented another commitment in the Quebec Water Policy.

11.7. Fees/charges

No specific charges are outlined in the *Environment Quality Act* for authorization certificates; however, if the Minister decides to issue an “administrative certificate” by combining authorizations under section 24, pars.1 and 2, “the Minister shall determine, by order, the fees that may be charged for the processing of an application to combine certificates of authorization and for the issue of an administrative certificate under section 24.1, as well as the manner of payment of those fees. The fees may vary, in particular, accord-

ing to the classes of sources of contamination involved, the number of certificates of authorization concerned and the complexity of the technical and environmental aspects pertaining to the application.”

Section 12 of the *Watercourses Act* indicates a licence fee of \$51 for each work (e.g., an intake pipe) or structure to be constructed. Division VIII deals with rates and charges for hydraulic power, which are administered by the Ministry of Natural Resources and Wildlife.

Certain types of withdrawals, including public suppliers, bottling operations and withdrawals exceeding 75m³ per day, are subject to fees under the *Groundwater Catchment Regulation*.

- *Groundwater Catchment Regulation*.s.39 “The following are rights for the issue or modification of authorizations for the projects listed in section 31: (1) 1 500 \$ for groundwater catchment projects having a capacity less than 75 m³ per day intended to supply more than 20 persons; (2) 3 500 \$ for groundwater catchment projects intended to be distributed or sold as spring water or mineral water or to be an ingredient used in the fabrication, conservation or treatment announced as spring water or mineral water on a product within the meaning of the *Food Products Act* or on the package, container or label of such a product; (3) 1 500 \$ for groundwater catchment projects having a capacity of 75 m³ and not more than 300 m³ per day or that will bring the capacity to more than 75 m³ per day without exceeding 300 m³; and (4) 4 000 \$ for groundwater catchment projects having a capacity of more than 300 m³ per day. The renewal of authorizations referred to in section 38 is subject to payment of rights representing 10 % of the rights provided for in the first paragraph. If there are changes of operating conditions, the rights to be paid are the same as those provided for in the first paragraph.”
- Fees or charges collected form part of a Green Fund established to ensure water governance, water protection and development, and adequate quality and quality of water.
- *Environment Quality Act* s. 31 “The Government may make regulations to... (e.1) establish measures providing for the use of economic instruments, including tradeable permits, emission, effluent and waste-disposal fees or charges, advance elimination fees or charges, and fees or charges related to the use, management or purification of water, for the purpose of protecting the environment and achieving environmental quality objectives for all or any part of the territory of Québec,

and establish any rule necessary or relevant to the functioning of the measures pertaining in particular to the determination of the persons or municipalities required to pay such fees or charges, the conditions applicable to their collection and the interest and penalties exigible in case of non-payment... A regulation made under subparagraph e.1 of the first paragraph prescribing fees or charges related to the use, management or purification of water must provide that those fees or charges are to be paid into the Green Fund for the purpose of ensuring water governance, including protecting and developing water resources and ensuring that there is an adequate quality and quantity of water in a sustainable development perspective.”

11.8. Monitoring of water use

As a general rule, monitoring water use is not a requirement as part of water use authorizations; however, the Minister may require the applicant to submit supplementary information when assessing whether to grant an authorization under the *Environment Quality Act*.

- *Environment Quality Act* s 22, par 2: “The Minister may require from the applicant any supplementary information, research or assessment statement he may consider necessary to understand the impact the project will have on the environment and to decide on its acceptability.”

The *Groundwater Catchment Regulation* outlines strict reporting requirements for groundwater in the following municipalities: Ville de Mercier, Saint-Isidore, Sainte-Martine and Saint-Urbain-Premier. According to section 58, any owner of groundwater in the previous municipalities “must send to the Minister, no later than 15 June 2003, a notice indicating the location of any catchment work, the use of the water collected, an estimate of the average volume of water collected daily and of the daily peak volume, and the number of days per year when water is collected. The owner must then notify the Minister... of any change to the information contained in the notice.” In addition, section 59 states that “The owner of a catchment site that can provide a volume of at least 75 m³ of groundwater per day must send to the Minister, no later than 15 June 2003, a notice indicating the location of any catchment work, the use of that water, the volume of water drawn daily and the number of days per year when water is drawn. The owner must also notify the Minister of any change that may cause the notice to be inaccurate or incomplete.”

Groundwater projects requiring approval from the Minister (s.31) are subject to different types of hydrogeological studies outlined in sections 33 to 36 of the regulation. Section 37 specifies that “studies and reports provided for in sections 33 to 36 must be signed by an engineer member of the Ordre des ingénieurs du Québec or a geologist member of the Ordre des géologues du Québec and the plans and specifications of the catchment facilities must be signed by an engineer member of the Ordre des ingénieurs du Québec.” Authorisations may be subject to any condition the Minister considers necessary.

11.9. Environmental protection

The *Environment Quality Act* focuses on emissions or discharges of contaminants into watercourses or lakes, and the Minister is permitted to order a cessation if a contaminant is being released. However, there is little mention in the regulations regarding the protection of water quantity. This is partially resulting from the recognition that, overall, Québec is privileged to have plenty of water, as stated in the Bilan sur la qualité de l'eau potable au Québec, “au Québec, le combat pour l'eau n'est pas d'abord pour la quantité. Avec ses 3 % des réserves mondiales renouvelables en eau douce, le Québec est, à plus d'un titre, privilégié” [Translation: in Quebec, water conflicts are not typically related to the quantity. With its 3% of the renewable world fresh water reserves, Quebec is, in more than one way, privileged] (MENVQ, 2003). In fact, many of the government commitments outlined in the Quebec Water Policy reflect that flooding has been more of a concern than low water levels. Nevertheless, there is recognition of regions where different uses and limited water supplies could cause conflicts in the near future (MENVQ, 2002b).

Currently, the Politique de Débits Réservés Écologiques pour la Protection du Poisson et ses Habitats (Policy of Ecological Reserved Flow for Protecting Fish and their Habitat) governs the issuance of authorization certificates for hydro-electric facilities, dams, water diversions and withdrawals, in order to maintain adequate streamflow for fish and fish habitat (Faune et Parcs Québec, 1999; MENVQ, 2002b). This policy is implemented by the Ministère du Développement Durable, de l'Environnement et des Parcs.

Under the Quebec Water Policy, the government has endeavoured to expand its present policy to better protect the entire aquatic ecosystem and its other uses (e.g., recreational activities), as opposed to simply

managing water flows necessary to preserve fish habitat (MENVQ, 2002b).

In 1999, bulk water exports of surface and groundwater were prohibited with the enactment of the *Water Resources Preservation Act*, which represented another commitment in the Quebec Water Policy.

The Quebec Water Policy also specifies a commitment to establishing 33 watershed agencies in priority watersheds across the province, with the responsibility of exercising integrated water management and ensuring sustainability of aquatic ecosystems through the development of a Master Plan for Water (MPW) specific to each basin (MENVQ, 2002b). To date, 23 watershed agencies have been established and funded by the government. Operating at the local and regional levels, these agencies will partner with municipalities, government ministries and other organizations to acquire information on water resources from all levels of government, and apply that knowledge to achieve management of water resources and land use activities relating to water (MENVQ, 2002b). Municipalities have responsibilities for managing municipal water courses within their land use and development powers (MENVQ, 2002b).

11.10. Enforcement of allocations

Mechanisms for enforcement of allocations are not evident, or else apply mainly to contraventions related to the emission of contaminants into watercourses; however the *Environment Quality Act* and the *Groundwater Catchment Regulation* outline penalties for the contravention of an authorization.

- *Environment Quality Act* s.106 par.1 “A natural person who contravenes any of sections 21, 22 and 31.1, the first paragraph of section 31.16, section 31.23, except subparagraphs 1 and 1.1 of the first paragraph, the first paragraph of section 31.25 or 31.28 or any of sections 68, 70.6, 70.7, 91, 95.1, 95.3, 121, 123.1, 154 and 189 commits an offence and is liable to a fine (a) of not less than \$600 nor more than \$20 000 for the first offence; and (b) of not less than \$4 000 nor more than \$40 000 for a second or subsequent conviction.”
- *Groundwater Catchment Regulation* s.50 “Any person who contravenes any of the provisions of sections 4 to 23, 40, 42, 43, 45, 46, the first paragraph of section 53, the first paragraph of section 54 and sections 58 or 59 commits an offence and is liable to a fine of (1) 500 \$ to 5 000 \$, in the case of a natural person ; or (2) 1 000 \$ to 20 000 \$, in the case of a legal person.”

- *Groundwater Catchment Regulation* s.51 “Any person who contravenes any of the provisions of sections 24 to 26, 28 to 30 and 43 commits an offence and is liable to a fine of (1) 2 000 \$ to 15 000 \$, in the case of a natural person ; or (2) 5 000 \$ to 100 000 \$, in the case of a legal person.”
- *Groundwater Catchment Regulation* s.52 “The fines prescribed in sections 50 and 51 shall be doubled in the case of a subsequent offence.”

Since article 31 is not covered by s.50, s.51, or s.52, *Environment Quality Act* s.109 applies.

- *Environment Quality Act* s.109 “Whoever contravenes this Act or a regulation made under it commits an offence and is liable, in all cases where no other penalty is imposed, to a fine of not less than \$300 and not more than \$5 000.”

11.11. Transferability of allocations

Presently, water allocations cannot be transferred in Quebec, except where the Minister authorizes the transfer and specifies the conditions upon which it can take place. Transferability may not be considered crucial, because it is generally acknowledged that there is plenty of water in the province (Commission de la Gestion de l’Eau, 2000). However, some pockets of the province have experienced agricultural water shortages and water allocation conflicts (MENVQ, 2002b; BPR Consulting, 2003).

- *Environment Quality Act* s.24. par.2 “A certificate of authorization issued under section 22 is non-transferable, except where the Minister authorizes the transfer on such conditions as he shall determine.”
- An authorisation issued under section 31 of the *Groundwater Catchment Regulation* is also non-transferable.

11.12. Compensation if allocations are reduced

There appears to be no clause for compensation or reductions of water allocations.

11.13. Provisions for stakeholder input

Generally, stakeholder input appears to be limited, as it is not required in most allocation decisions; however some major works (e.g., dredging or digging of

lakes and watercourses and certain types of dams) may be subject to an environmental assessment and review procedure under the *Environment Quality Act*. In this case, the BAPE may be required to hold public hearings (MENVQ, 1999).

In terms of decision making on a broader scale, the BAPE was mandated in 1998 to conduct an inquiry into water management practices and issues, involving extensive public consultations held throughout Quebec. On May 1, 2000, the inquiry report was completed by the Commission de la Gestion de l’Eau. The recommendations of this report were subsequently adopted in the Quebec Water Policy (MENVQ, 2002b). As part of the policy, various watershed agencies have been created in an effort to better integrate water decision making and implement integrated water management. These watershed agencies will be composed of representatives from citizens groups, designated elected municipal officials, and representatives of various water use sectors in the basin. In order to devise and implement a Master Plan for Water, these agencies are expected to emphasize public consultation and partnerships with municipalities (MENVQ, 2002b). In 1999, a committee of 23 representatives from the Chaudière River basin was established to draft initial water guidelines and propose a strategy for implementation (MENVQ, 1999).

The Quebec government followed up with a commitment to ensure the involvement of Aboriginal nations and communities in water management, by signing two historic agreements with the Cree and Inuit nations (MENVQ, 2002b).

11.14. Notification of allocation decisions

There is no set procedure for notifying the public of water allocation decisions in the *Environment Quality Act* or associated regulations, unless an environmental assessment of a project is required, in which case a public hearing may be required (MENVQ, 1999).

Regional County Municipalities (RCMs) are responsible for regional development and grant authorizations for water taking, under the Protection Policy for lake-shores, river banks, littoral zones and floodplains (MENVQ, 1999). Where an authorization from the Minister is required, municipalities must be contacted to ensure compliance with relevant municipal by-laws.

In order to receive an occupation licence for the construction of works under the *Watercourses Act*, adjacent landowners must be notified.

11.15. Dispute resolution

In the *Environment Quality Act*, most orders issued by the Minister (including an authorization certificate) may be appealed by the applicant (e.g., municipality or person) before the Administrative Tribunal of Québec, as follows:

- *Environment Quality Act* s.98 “the proceeding must be brought within 30 days of notification of the contested decision.”
- *Environment Quality Act* s.98.1 “the applicant shall, within 15 days after filing his motion at the secretariat of the Tribunal, publish a notice in two consecutive issues of a daily newspaper circulated in the region contemplated by the contested decision.”
- *Environment Quality Act* s.98.2 “the Minister shall, upon receiving copy of the motion, forward a copy to every person or municipality having transmitted to him observations in writing pertaining to the contested decision. In the case where more than one municipality or more than 25 persons have transmitted observations in writing to him, the Minister, instead of transmitting copy of the motion to them, may cause a notice respecting the motion to be published in a daily newspaper circulated in the territory of the region concerned by the contested decision.”

11.16. Other issues

The Quebec Water Policy and legislation relevant to granting authorizations for water works or projects appears to have no provisions relating to drought contingency planning. The policy clearly establishes that water quality is the predominant concern. While recognizing that low flows pose localized problems, actions relating to water quantity have centered on addressing problems of flooding through provisions for floodplain management (MENVQ 2002b). The commitment to water conservation outlined in the provincial policy stems less from a concern with water shortage and more with a need to reduce the costs of operating municipal waterworks (MENVQ, 2002b).

In addition, the province has instituted the Quebec Action Plan on Climate Change 2000-2002, which outlines some basic provisions for adaptation, but is mostly concerned with the reduction of greenhouse gases, with sparse links to water or water management implications (MENVQ, 2000).

Since the development of the Quebec Water Policy, there has been more of a focus on linking water quantity and quality issues. For instance, the Protection Policy for lakeshores, river banks, littoral zones and floodplains outlines provisions for regulating floodplain development. Similarly, new approaches to the management of groundwater under the *Groundwater Catchment Regulation* have focussed on both quality and quantity in monitoring, and linking land use planning and water management within source water protection zones around wells. Similarly, it is hoped that the commitment to watershed management and the creation of watershed agencies may result in more integrated water management.

“Quebec’s *Groundwater Catchment Regulation* requires catchment projects that will supply drinking water [to more than 20 persons] to include a hydrogeological study establishing the impact of the project on the environment, users, and public health” (Nowlan 2005:55).

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11.18. Legislation Cited

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- Regulation respecting the Water property in the Domain of the State*, R.Q. 2003, c. R-13, r.1.1.
- Water Resources Preservation Act*, R.S.Q. 2001, c. P-18.1.
- Watercourses Act*, R.S.Q. 2003, c.R-13.

12. Saskatchewan

Verified March 2007

12.1. Primary agency responsible for water allocation

The Saskatchewan Watershed Authority is a treasury board crown corporation reporting to the Minister of Saskatchewan Environment (Saskatchewan Watershed Authority, 2003a).

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12.2. Legal authority

The Saskatchewan Watershed Authority issues water rights licenses for surface water and ground water withdrawals under the *Saskatchewan Watershed Authority Act, 2005 (SWAA, 2005)* (Statutes of Saskatchewan 2005, chapter S-35.03 as amended by the *Statutes of Saskatchewan, 2006, c.34*).

- *SWAA, 2005*, s.38 “(1) The property in and the right to the use of all ground water and surface water is, and is deemed always to have been, vested in the Crown. (2) The right to the use of all or any ground water and all or any surface water may be established only pursuant to this Act.”

Groundwater withdrawals, except those for domestic purposes, are further regulated under *SWAA, 2005* and the *Ground Water Regulations* (Saskatchewan Regulations 172/66). Although no regulations currently guide surface water withdrawals/allocations, these regulations are being drafted. Much of allocation processes are often based on unwritten policy (MacDonald, 2002; Shockey and Bowden, 2005).

- *SWAA, 2005*, s.72 “(1) Subject to subsection (2), this Division applies to all sources of ground water and to all wells whether drilled or developed before or after the coming into force of this Act. (2) This Division does not apply with respect to a well that is drilled or developed by an owner on the owner’s land, using equipment owned by him or her, for the purpose of obtaining water for his or her domestic purposes.”

12.3. Clarity of roles

The Saskatchewan Watershed Authority is a provincial crown corporation created in 2002 to consolidate the water management components of SaskWater, Saskatchewan Environment, and the Saskatchewan Wetland Conservation Corporation into a single focus on watershed management, eliminating conflicting priorities among these organizations (Saskatchewan Environment, 2003). Other agencies/boards that might have a role in issues related to water allocation (although not directly involved in allocations) are:

- Saskatchewan Agriculture and Food: The department’s role in water management centres around the relationship between agricultural activities and water resources.
- Prairie Provinces Water Board: composed of one representative each from Alberta, Saskatchewan, and Manitoba; and two from the federal government, Environment Canada, and the Prairie Farm Rehabilitation Administration (PFRA). The Board administers the Master Agreement on Apportionment and ensures among other things, that eastward flowing inter-provincial streams are, in accordance with the provisions of that Agreement, shared equitably (PPWB, 2002).
- Mackenzie River Basin Board: provided for by The Mackenzie River Basin Transboundary Waters Master Agreement, signed by Alberta, Saskatchewan, British Columbia, Yukon, the Northwest Territories, and the government of Canada on 24 July 1997. This board was appointed to address transboundary water management issues such as flow regulation and water quality, but it does not have the legal authority to regulate the water resources of the provinces, territories, or the federal government (Bruce et al., 2003).
- Watershed Advisory Committees, Technical Committees, and Planning Teams: they are a key focus of Protecting Our Water, Saskatchewan Watershed Authority’s watershed and aquifer planning model for Saskatchewan (Saskatchewan Watershed Authority, 2003c). The model is designed to achieve consensus, collaboration, and stakeholder involvement throughout the water planning process, and will emphasize water quality and quantity issues in each watershed.
- SaskWater: “a self-supporting, commercial Crown corporation providing water, wastewater and re-

lated services to municipalities, industry, and rural water associations in the province” (SaskWater, No Date). SaskWater is not responsible for watershed management, well testing, or source water protection. SaskWater retains some roles although not specifically allocation.

- Saskatchewan Environment: The department still retains some roles related to water although not specifically allocation.
- Fisheries and Oceans Canada (DFO): can play a role in regulating water withdrawals to minimise impacts on fish and fish habitat under the *Fisheries Act* (1985, s.22.3, 32, 35(1)).

12.4. Basis of allocation

Water rights licenses are issued for surface water and ground water withdrawals. The Authority issues water rights for the use of ground water and surface water for domestic, municipal, agricultural, industrial, recreation, and wildlife purposes (Saskatchewan Watershed Authority, 2003b).

- *SWAA, 2005* s.50 “(1) On receipt of an application pursuant to section 51, the corporation may issue a water rights licence to any person for the right to the use of any water except any water that may be: (a) allocated for the use of any other person; or (b) withdrawn from allocation by order of the minister.”

Under section 57 of the *SWAA, 2005*, riparian landowners have the right to use surface water or groundwater for domestic purposes, but must have an approval for any “works” constructed to divert surface water; excluding dugouts and pumps used to fill cisterns, etc (see *SWAA, 2005*, s. 59(2)). A domestic water use purpose is defined as water that is to be used for household and sanitary purposes, farm chemical spraying, watering lawns and gardens, and water used for non-intensive livestock and poultry operations (Saskatchewan Watershed Authority, 2003b).

Groundwater withdrawals, except those for domestic purposes, are regulated under the *SWAA, 2005* (Statutes of Saskatchewan 2005, chapter S-35.03) and the *Ground Water Regulations* (Saskatchewan Regulations 172/66).

- *SWAA, 2005* s.75 “No person shall do any of the following, except in accordance with the regulations: (a) undertake a ground water investigation program; (b) drill a water well; (c) use ground water.”

- Regulations “36(1) No person shall use ground water unless such person is licenced under these regulations.”

Under *The Withdrawal from Allocation Regulations* (Chapter W-4.1 Reg 3), water has been reserved for 5 irrigation projects.

In general, the allocation process is based on a review of available water volumes, and takes into consideration all possible uses – including instream requirements (MacDonald, 2002). However, *Protecting our Water*, the watershed and aquifer planning model developed by the Saskatchewan Watershed Authority, proposed a watershed-based collaborative planning process that could have an impact on both water supply and water quality issues (Saskatchewan Watershed Authority, 2003c).

Allocation arrangements take into account apportionment agreements that guarantee natural flows across the borders from Saskatchewan to Manitoba and Montana (Master Agreement on Apportionment, 1969; CVCA and GRCA, 2003).

12.5. Priorities for water use

The *Saskatchewan Watershed Authority Act* does not clarify the basis upon which rights to water are to be allocated. Currently, Saskatchewan does not have a system of established priority uses (i.e., no first-in-time, first-in-right (prior-allocation) and no priority by type of use); the distribution of water resources is based solely upon the discretion of the Authority. Accordingly, the allocation process begins with a review of available water, takes into consideration all possible uses, and tries to reduce the potential for license allocation conflicts (MacDonald, 2002).

In times of water shortages (and at any time if in accordance with licence conditions), water users are entitled to take their full allocation if it is physically available, regardless of potential downstream impacts (McFadden, 2007). This highlights the importance of fully considering the impacts of new allocations on existing users when making water allocation decisions. Also in times of water shortages, the Saskatchewan Watershed Authority may promote amicable sharing agreements to ensure reasonable access to all water users (McFadden, 2007).

The Water Management Framework, released in 1999 by the Government of Saskatchewan, proposed to develop and implement water allocation policies on a watershed basis instead of province-wide water priorities (Saskatchewan Environment, 1999). *Protecting our Water*, the planning model developed by the Sas-

katchewan Watershed Authority, is based on a watershed-based collaborative planning process that could have an impact on both water supply and water quality issues in the next few years (Saskatchewan Watershed Authority, 2003c). The State of the Watershed Reporting Framework is also intended to guide water management decisions (Saskatchewan Watershed Authority, 2006b).

12.6. Limits/duration of allocation

Licenses have no set duration, but are subject to terms and conditions. Depending on the nature of the license, terms vary from a few weeks (oil and gas), to terms of 5-20 years (irrigation), to perpetuity (municipalities). Allocations are granted on an “as-needed” basis, and except for municipal uses, do not include anticipatory allocations (McFadden, 2007). Allocations described in licenses are purposefully conservative to allow the allocation to be met under all anticipated circumstances (MacDonald, 2002). The Saskatchewan Watershed Authority may cancel licences under certain conditions (Saskatchewan Watershed Authority, 2005a).

- *SWAA, 2005* s. 50: “(2) The corporation may issue a water rights licence pursuant to subsection (1) to any person: (a) for any term that the corporation considers appropriate; and (b) subject to any terms and conditions that the corporation considers appropriate.”

Under the SWAA (2005) licenses cannot be granted for transferring water out of a watershed, except for interbasin transfers within Saskatchewan.

- *SWAA, 2005* s.55 “Subject to section 56 but notwithstanding any other provision of this Act or any other Act, the corporation shall not grant: (a) any licence or approval to construct or operate works for the purposes of transferring water out of a watershed; or (b) any licence or approval to transfer water out of a watershed.
- *SWAA, 2005* s.56 “Section 55 does not apply to water that is: (a) transferred or taken for the purposes of transfer between watersheds, or portions of watersheds, within Saskatchewan; (b) packaged in containers that have a capacity that is less than the maximum prescribed capacity; (c) removed in the ordinary course of carrying water in a vehicle, vessel or aircraft for the use of persons or animals while they are being transported in the vehicle, vessel or aircraft; (d) removed in a vehicle, vessel or aircraft and is necessary for: (i) the ordinary operation of the vehicle, vessel or aircraft; or (ii) the transportation of food or products in the vehicle,

vessel or aircraft; or (e) of a prescribed class or that is removed in a prescribed manner or for a prescribed purpose.”

12.7. Fees/charges

Under the SWAA (2005), license application fees may be charged and collected.

- *SWAA, 2005* s.51 “Every person wishing to obtain a water rights licence shall file with the corporation: (a) an application acceptable to the corporation; (b) the prescribed fee; (c) such plans as may be required by the corporation; and (d) any other information or material that the corporation may request.”
- *SWAA, 2005* s.92 “The corporation may enforce payment of fees, levies, rates, charges, penalties or interest mentioned in clause 6(1)(l) in the same manner as that mentioned in section 86, and for that purpose section 86 applies, with any necessary modification, to that recovery.”

The Saskatchewan Watershed Authority (2006) maintains a schedule of charges for the use of water by industries according to use and source of water that ranges, for the 2004 to 2007 period, between \$1.57 and \$43.07 per 1,000 m³. In cases where industries divert large quantities of water in relation to their consumptive use, and where the water is returned to its original source without significant impairment of its quality, the charge may apply to a stated portion of the water diverted (Saskatchewan Watershed Authority, 2006a). “Charges are applied to industries using water for: processing, mineral exploration and mining, oil exploration and recovery, manufacturing, gravel washing, hydraulic pressure testing, thermal power generation, and other purposes the Saskatchewan Watershed Authority may designate (Saskatchewan Watershed Authority, 2006a:1).” Agricultural industrial water uses (including intensive livestock operations) and industries that are connected to, and supplied water directly from, municipal waterworks systems, are exempted of water charges (Saskatchewan Watershed Authority, 2006a).

- *SWAA, 2005*, s. 27 “revenues of the corporation derived from fees, levies, rates, rents or other charges collected by the corporation pursuant to ‘The Water Power Act’ are to be deposited in the general revenue fund.”

12.8. Monitoring of water use

Generally, there is no specific requirement for water users to monitor and record their water use – although some licences may require this. Industrial water users subject to water use charges are required to install metering devices or other methods of water measurement acceptable to the Saskatchewan Watershed Authority, and to collect data and maintain records of its water use (Saskatchewan Watershed Authority, 2006a).

The Saskatchewan Watershed Authority (2005b:12) continues to “conduct water use audits of municipal, industrial/commercial and agricultural projects to ensure users are in compliance with water rights conditions and water usage is within allocated amounts.” In 2005-2006, “forty-three water use audits were conducted on a variety of municipal, industrial and agricultural,” with 27 detailed assessments conducted on water allocations for industrial projects “to determine actual water use and to determine if water use conditions imposed by the Authority are appropriate” (Saskatchewan Watershed Authority, 2006c:17).

In January 2006, the Saskatchewan Watershed Authority (2006b) released the “State of the Watershed Reporting Framework” to ensure consistent reporting of a standardized set of indicators to assess the condition of Saskatchewan's watersheds.

Groundwater monitoring is required under the *Ground Water Regulations*:

- *Ground Water Regulations* s.34 “Unless otherwise approved by the commission, each licensee or person authorized to construct works for the use of ground water shall: (a) equip and maintain each producing well or battery of production wells with a volume meter or other acceptable measuring device; (b) equip each production well so that the non-pumping and pumping water level can be measured; and (c) maintain permanent observation wells completed in the producing aquifer.”
- *Ground Water Regulations* s.35 “Unless otherwise approved by the commission, each licensee shall maintain monthly records of water use and water levels and shall file such records with the commission on or before the 31st day of January of each year.”

“Two networks operate in Saskatchewan. The first is the Saskatchewan Research Council, which began in 1964 with 54 wells and three surface water stations, and which measures natural groundwater level variations in known environments not affected by humans and related to climate. The second is the Saskatche-

wan Watershed Authority started in 1994 with 18 wells. It measures groundwater levels in stressed systems.” (Nowlan 2005:52). The Saskatchewan Watershed Authority maintains a groundwater database which is an inventory of over 110,000 records of wells and test holes throughout the province. Each record contains 191 variables or fields of information which are updated continuously (Saskatchewan Watershed Authority, 2003d). There is also a partnership between the Saskatchewan Research Council and the Saskatchewan Watershed Authority to create a regional groundwater mapping system (Saskatchewan Watershed Authority, 2006b, 2006d).

12.9. Environmental protection

The Water Management Framework released in 1999 by the Government of Saskatchewan recognizes the importance of protecting aquatic ecosystems. Stated goals include healthy aquatic and riparian ecosystems and drinking water sources, and safe and sustainable aquifers (Saskatchewan Environment, 1999).

Protecting our Water is the watershed and aquifer planning model developed by the Saskatchewan Watershed Authority in 2003. Watershed or aquifer plans across the province will, ideally, document “the state of the water resources from a quantity and quality perspective, the health of the ecosystem as it impacts the water resources, and an overview of the basin water demand with an emphasis on source water” (Saskatchewan Watershed Authority, 2003c). One aquifer plan and three watershed plans have been completed to date, with three other plans currently under development.

12.10. Enforcement of allocations

In the case of industrial water users subject to water use charges, the Saskatchewan Watershed Authority may undertake inspections of works or measuring devices, and examine water records (Saskatchewan Watershed Authority, 2006a).

12.11. Transferability of allocations

There is no formal provision for water transfers within the province. In the context of concerns for future water scarcity, the province has begun to investigate the possibility of water rights transfers (CBC Calgary, 2003).

Transfers of groundwater licences are regulated by the *Ground Water Regulations*:

- *Ground Water Regulations* s.36 “(1) No person shall use ground water unless such person is licenced under these regulations. (2) No licence issued under these regulations may be transferred without the approval of the commission and payment of the transfer fee.”

12.12. Compensation if allocations are reduced

Under the SWAA there are grounds for cancellation of licenses, both with and without compensation.

- *SWAA, 2005* s.53 “ (1) The corporation may cancel, amend or suspend a water rights licence, without compensation to the holder of the licence, if:(a) the holder of the licence agrees to the cancellation, amendment or suspension; (b) the licence was issued subject to terms and conditions to be complied with by the holder of the licence and the holder of the licence fails to comply with a term or condition of the licence; (c) the water acquired is being used for a purpose other than that for which the licence was acquired; (d) the corporation considers that the holder of the licence no longer requires a right or the rights granted by the licence; (e) the holder of the licence contravenes any provision of this Act, the regulations or any order made pursuant to this Act; or (f) the holder of the licence defaults in the payment of any fee, levy, rate, charge or other consideration required by the corporation.”
- *SWAA, 2005* s.54 “(1) Subject to the approval of the Lieutenant Governor in Council, if the corporation considers it to be in the public interest to do so for any reason other than those mentioned in subsection 53(1), the corporation may cancel the right to the use of any water granted by the corporation to any person. (2) Any person whose right to the use of water has been cancelled pursuant to subsection (1) is entitled to compensation from the Crown for the actual value, at the time of cancellation, of any structures or works that the person used to secure water and transport it to the point of use. (3) If the Crown and the person mentioned in subsection (2) do not agree on the amount to be paid as compensation or the terms of payment of the compensation, an arbitrator shall determine the matter.”

12.13. Provisions for stakeholder input

When an application for a water rights licence or approval to construct and operate works under the *Saskatchewan Watershed Authority Act* is filed, the corporation publicises the application (e.g., in a newspaper or post office). If there is potential for conflict with other water users indicated through a formal filing of an objection, the corporation may require public consultation. This process may result in additional investigation, special terms or conditions added to the approval, development of mitigative plans, and/or denial of approval (Saskatchewan Watershed Authority, 2003d).

- *SWAA, 2005* s.61“(1) Subject to subsection (6), immediately after an application for an approval is filed with the corporation pursuant to section 60, the corporation shall make any arrangements that the corporation considers necessary to advertise the application. (2) If, in the corporation’s opinion, the works proposed in an application filed with the corporation may impair the environment or have an impact on natural resources, the corporation may forward a copy of the application to the minister responsible for *The Environmental Management and Protection Act*, 2002. (3) Within 30 days after the day on which an application for an approval is first advertised, any person who objects to the granting of the approval applied for may file with the corporation a statement of reasons for the objection. (4) If the corporation receives objections pursuant to subsection (3), the corporation may require any investigations to be made and any public meetings to be held that it considers necessary to inquire into the objections. (5) As soon as the corporation makes a decision with respect to an application for an approval, the corporation shall give notice to all persons who filed objections pursuant to this section. (6) If the corporation considers it expedient to do so, the corporation may waive the necessity for advertising the application for an approval.”

The Water Management Framework released in 1999 by the Government of Saskatchewan is based on partnerships, among other principles (Saskatchewan Environment, 1999). Accordingly, stakeholder involvement is a key component of Protecting Our Water, Saskatchewan Watershed Authority’s watershed and aquifer planning model for the province (Saskatchewan Watershed Authority, 2003c). The model is designed to achieve consensus, collaboration and stakeholder involvement throughout a water planning

process that will emphasize water quality and quantity issues in each watershed.

“Saskatchewan’s participation rights changed when the SWAA came into force in 2002, and greatly reduced the number of decisions that could be appealed. Now only a drainage approval may be appealed to the Water Appeal Board; however, a person can appeal approval or license decisions to the courts.” (Nowlan 2005:67).

12.14. Notification of allocation decisions

There is no public registry of water allocation decisions. According to s.52 of the *Saskatchewan Watershed Authority Act*, if the corporation “refuses to issue a water rights licence, the corporation shall cause notice of the refusal to be served on the applicant for the licence.” Subsection 53(2) of the same Act provides the right of a licensee to receive a written notice of the corporation's intention to cancel, amend or suspend a licence.

12.15. Dispute resolution

The corporation policy is to grant conservative allocations to reduce the potential for conflict. However, when conflict does arise due to shortages of water, the corporation will intervene with licensees to negotiate an arrangement with a high degree of flexibility, as the legislation does not contain priority rights (MacDonald, 2002).

According to subsection 53(2) of the *Saskatchewan Watershed Authority Act*, 2005, if the corporation cancels, amends, or suspends a water rights licence, it shall “give the holder of the licence 30 days from the date of the notice...to make written representations to the corporation as to why the licence should not be cancelled, amended or suspended.” Subsection 54(3) of the same Act provides for arbitration when there is no agreement between the licensee and the corporation concerning compensation of a cancelled water rights licence.

The Water Appeal Board receives and acts on appeals from decisions, orders, and actions of the Saskatchewan Watershed Authority under the authority of the *Water Appeal Board Act* (Statutes of Saskatchewan 1983-84, chapter W-4.01). If a person is in disagreement with a decision or order of the board, subsection 26 of the same Act provides for the right to ap-

peal by filing a notice of appeal with the local registrar of the court within 30 days.

The Saskatchewan Watershed Authority attempts to mediate conflicts and bring non-compliance issues into compliance by meeting with individuals and reviewing licence conditions, etc. Failing this, conflicts are dealt with through the Saskatchewan Justice Department, usually in the case of drainage-related disagreements (McFadden, 2007).

12.16. Other issues

The Water Management Framework released in 1999 by the Government of Saskatchewan is based on, among other principles, integrated management (Saskatchewan Environment, 1999).

Protecting Our Water, Saskatchewan Watershed Authority’s watershed and aquifer planning model for Saskatchewan, envisions a planning process that addresses concerns about water management; the quality and quantity of the water resources in contrast to the demands that are placed on the resource; flooding and drought; climate change; the protection of riparian and wetland areas; and the maintenance of biodiversity (Saskatchewan Watershed Authority, 2003c). The current application of the planning model will provide a focus on source water protection, with an emphasis on both water supply and water quality issues. The potential impact of climate change will be an important factor in the planning process.

Saskatchewan Agriculture, Food and Rural Revitalization has a “drought watch” web site which provides fact sheets regarding farm response to drought, assistance programs, as well as links to other relevant web sites. The Saskatchewan Watershed Authority also provides monitoring information and reports on climate conditions and soil moisture on its website.

The legislation provides an opportunity to address climate change by granting Saskatchewan Watershed Authority with general powers to control flow, support conservation programs, and alter conditions of licenses. There is some promotion of water sharing agreements during times of water shortages. In some cases, like the Bigstick Basin, moratoriums are placed on new allocations – this can be seen as a method to deal with potential/future water shortages (McFadden, 2007).

Some confusion exists related to water management rules because of the numerous predecessor statutes, changes in agencies responsible for water allocation, and changes to water allocation rules (McFadden, 2007; Shockey and Bowden, 2005).

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13. Yukon

Verified November 2006

13.1. Primary agency responsible for water allocation

The Yukon Water Board, an independent administrative tribunal established under the *Waters Act* (Statutes of Yukon 2003, chapter 19), is responsible for issuing water use and waste deposit licences. The Board is organized under the Government of Yukon's Executive Council Office (headed by the Commissioner).

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Whitehorse, YT Y1A 3V1
Phone: (867) 456-3980
Fax: (867) 456-3890
Email Address: ywb@yukonwaterboard.ca

13.2. Legal authority

Water use licences are issued by the Yukon Water Board under the *Waters Act* (Statutes of Yukon 2003, chapter 19). Additional guidance is found in the *Waters Regulation* (O.I.C. 2003/58) which applies to designated water management areas in the province. The *Yukon Environmental and Socio-economic Assessment Act*, Statutes of Canada, 2003 sets out the process for assessing impacts.

- *Waters Act* s.3 “(1) The Commissioner has the administration and control of all rights in respect of water in Yukon, other than waters in a federal conservation area as defined in the Yukon Act (2). Subsection (1) is subject to any rights granted by or under an Act of Parliament in respect of waters. (3) Subsection (1) does not apply to the right to the use and flow of waters for the production or generation of waterpower to which the Dominion Water Power Act applies.”

13.3. Clarity of roles

In addition to the Yukon Water Board, the following boards/departments play a role in water allocation issues:

The Yukon Environmental and Socio-economic Assessment Board (YESAB) was established in 2004 under the *Yukon Environmental and Socio-economic As-*

essment Act (YESAA). YESAB assess the environmental and socio-economic effects of water allocations as part of the licensing process.

Yukon Environment is the department responsible for enforcement of all water uses licenses, except placer mining licenses, which are enforced by Yukon Energy Mines and Resources.

13.4. Basis of allocation

Water is allocated through water use licences. The regulation sets out criteria and thresholds for type A and B licences according to the amount and type of water use (e.g., mining, municipal, industrial, power, recreational, agricultural, conservation, miscellaneous).

- *Waters Act* s.12 “(1) Subject to this section, the Board may issue type A licences and type B licences, in accordance with the criteria set out in the regulations made under paragraph 31(1)(c), for a term not exceeding twenty-five years, permitting the applicant for the licence, on payment of the fees prescribed by regulations made under paragraph 31(1)(k) (a) at the times and in the manner prescribed by any applicable regulations made under paragraph 31(1)(l), or (b) in the absence of such regulations, at the times and in the manner set out in the licence, to use waters or deposit waste, or both, in connection with the operation of the appurtenant undertaking and in accordance with the conditions specified in the licence. (2) The Board shall not issue a licence in respect of a use of waters referred to in subsection 6(2)”
- *Waters Act* s.6 “(1) Subject to subsection (2), no person shall use, or permit the use of, waters in a water management area except (a) in accordance with the conditions of a licence; or (b) as authorized by regulations made under paragraph 31(1)(m). (2) Subsection (1) does not apply in respect of the use of waters (a) by a domestic user; (b) by an instream user; or (c) for the purpose of (i) extinguishing a fire, or (ii) on an emergency basis, controlling or preventing a flood. (3) Where any person diverts waters for a purpose set out in paragraph (2)(c), the person shall, when the need for the diversion has ceased, discontinue the diversion and, in so far as possible, restore the original channel conditions”

- Water management areas may be established by the Commissioner in Executive Council under section 31 of the Act. Water management areas have been designated under the *Waters Regulation*, and appear to cover all of Yukon's major river basins.

13.5. Priorities for water use

Priorities are established through a first in time principle.

- *Waters Act* s.27 “(1) Where two licensees have licences permitting the use of waters, the licensee who first filed an application with the Board in accordance with the regulations made under paragraphs 31(1)(d) and (e) is entitled to the use of waters in accordance with that licensee's licence in precedence to any use of the waters by the other licensee. (2) Subsection (1) applies, with such modifications as the circumstances require, in respect of any rights acquired by a licensee through an amendment to the licensee's licence. (3) Subject to subsection (2), a licence that has been renewed or assigned shall, for the purposes of this section, be deemed to be a continuation of the original licence”

13.6. Limits/duration of allocation

Under section 12 of the *Waters Act*, licence terms may not exceed 25 years. Under section 16 of the Act, licences may not be renewed for a term exceeding 25 years.

- *Waters Act* s.13 “(1) Subject to this Act and the regulations, the Board may include in a licence any conditions that it considers appropriate, including, without limiting the generality of the foregoing, (a) conditions relating to the manner of use of waters permitted to be used under the licence”
- *Waters Act* s.16 “the Board may renew a licence and change conditions on a licence when the licensee applies for a renewal, or at any other time “where the renewal appears to the Board to be in the public interest” or “to deal with a water shortage in any water management area”; amendments may be temporary or permanent; the Board may also cancel a licence if it's in the public interest to do so, or if the rights under the licence haven't been used for 3 successive years

Under section 32 of the Act, the Commissioner may temporarily or permanently reserve from allocation water from water bodies specified in an order.

13.7. Fees/charges

Under section 31 of the *Waters Act*, the Commissioner may make regulations about fees “for the right to use waters, or to deposit waste, pursuant to a licence” and “for the filing of any application with the Board”. Fees are payable to the Government of Yukon, and go into general revenue.

- *Waters Regulation Regulation* s.6 “The fee payable on the submission of an application for a licence or for the amendment, renewal, cancellation or assignment of a licence or of an application under section 29 of the Act is \$30”
- *Waters Regulation* s.8 “(1) Subject to subsections (4) and (5), the fee payable by a licensee for the right to the use of water, calculated on an annual basis, is (a) in respect of an agricultural undertaking, the greater of (i) \$30, and (ii) \$0.15 for each 1,000 m³ authorized by the licence; (b) in respect of an industrial, quartz mining, or miscellaneous undertaking, the greater of \$30 and the aggregate of (i) for the first 2,000 m³ per day that is authorized by the licence, \$1 for each 100 m³ per day authorized, (ii) for any quantity greater than 2,000 m³ per day but less than or equal to 4,000 m³ per day that is authorized by the licence, \$1.50 for each 100 m³ per day authorized, and (iii) for any quantity greater than 4,000 m³ per day that is authorized by the licence, \$2 for each 100 m³ per day authorized; and (c) in respect of a placer mining undertaking, the greater of \$30 and one-half the aggregate determined under paragraph (b); and (d) in respect of a power undertaking, (i) for a Class 0 power undertaking, nil, (ii) for a Class 1 power undertaking, \$1,500, (iii) for a Class 2 power undertaking, \$4,000, (iv) for a Class 3 power undertaking, \$10,000, (v) for a Class 4 power undertaking, \$30,000, (vi) for a Class 5 power undertaking, \$80,000, and (vii) for a Class 6 power undertaking, \$90,000 for the first 100,000 kW of authorized production and \$1,000 for each 1,000 kW of authorized production in excess of 100,000 kW... (4) Licence fees are payable only for the portion of the year during which the licence is in effect. (5) No fees are payable under subsection (1) in respect of a diversion of water where the water is not otherwise used.”

13.8. Monitoring of water use

- *Waters Act* s.13 “(1) Subject to this Act and the regulations, the Board may include in a licence any conditions that it considers appropriate, including,

without limiting the generality of the foregoing... (d) conditions relating to studies to be undertaken, works to be constructed, plans to be submitted, and monitoring programs to be undertaken”

- *Waters Act* s.31 “the Commissioner may make regulations “(p) requiring persons who use waters or deposit waste in a water management area (i) to maintain records as prescribed for the proper enforcement of this Act, and (ii) to submit to the Board, regular monthly, quarterly, semi-annual, or annual reports on their operations to which this Act applies, and specifying the information to be contained therein”
- *Waters Regulation* s.14 “(1) Every licensee shall maintain accurate and detailed books and records, and shall submit a report to the Board each year, on or before the anniversary of the date of issuance of the licence, setting out the quantity of water used under the licence and the quantity, concentration, and type of any waste deposited under the licence. (2) A report submitted pursuant to subsection (1) shall be signed by (a) the licensee, where the licensee is an individual; or (b) an authorized agent of the licensee, where the licensee is not an individual”

13.9. Environmental protection

- *Umbrella Final Agreement* s.14.1.1 “The objective of this chapter is to maintain the Water of the Yukon in a natural condition while providing for its sustainable use.”

All Water Use Licences include terms and conditions that are intended to avoid or minimize adverse effects on the environment. Development of those terms and conditions are the primary focus of water board deliberations (White, 2006). The Yukon Water Board has specific responsibilities under the *Yukon Environmental and Socio Economic Assessment Act* (YESEAA). The Board cannot issue a water use licence, or set terms of a licence, that are contrary to a decision document issued under that legislation. For this reason, an application for a water use licence must be accompanied by a decision document issued under YESAA (Yukon Water Board, 2006).

- *Waters Regulation* s.4 “(1) A person may use water or deposit waste without a licence if the proposed use or deposit (a) has no potential for significant adverse environmental effects”
- YESAA s.12(1) Every screening or comprehensive study of a project and every mediation or assessment by a review panel shall include a consideration of the following factors:(a) the environmental

effects of the project, including the environmental effects of malfunctions or accidents that may occur in connection with the project and any cumulative environmental effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out;(b) the significance of the effects referred to in paragraph (a);(c) comments from the public that are received in accordance with this Act and the regulations;(d) measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the project; and (e) any other matter relevant to the screening, comprehensive study, mediation, or assessment by a review panel, such as the need for the project and alternatives to the project, that the responsible authority or, except in the case of a screening, the Minister after consulting with the responsible authority may require to be considered.(2) In addition to the factors set out in subsection (1), every comprehensive study of a project and every mediation or assessment by a review panel shall include a consideration of the following factors: (a) the purpose of the project; (b) alternative means of carrying out the project that are technically and economically feasible and the environmental effects of any such alternative means;(c) the need for, and the requirements of, any follow-up program in respect of the project; and (d) the capacity of renewable resources that are likely to be significantly affected by the project to meet the needs of the present and those of the future. (3) The scope of the factors to be taken into consideration pursuant to paragraphs (1)(a), (b), and (d) and (2)(b),(c) and (d) shall be determined (a) by the responsible authority; or (b) where a project is referred to a mediator or a review panel, by the Minister, after consulting the responsible authority, when fixing the terms of reference of the mediation or review panel.”

13.10. Enforcement of allocations

Devolution included all Department of Indian and Northern Affairs (DIAND) responsibilities, including enforcement of water use licences. Through an Order in Council, the responsibility was delegated to the Minister of Environment, who, in turn, delegated some responsibility (specifically in relation to placer mines) to the Minister of Energy, Mines, and Resources. Penalties for non compliance for the two types of licences are indicated in the legislation.

- *Waters Act* s.28"(2) A licensee who holds a type A licence who (a) contravenes or fails to comply with any condition of the licence, where the contravention or failure to comply does not constitute an offence under section 39, or (b) without reasonable excuse, fails to furnish or maintain security as required under subsection 15(1) is guilty of an offence and liable on summary conviction to a fine of up to \$100,000 or to imprisonment for a term of up to one year, or to both. (3) A licensee who holds a type B licence who (a) contravenes or fails to comply with any condition of the licence, where the contravention or failure to comply does not constitute an offence under section 39, or (b) without reasonable excuse, fails to furnish or maintain security as required under subsection 15(1) is guilty of an offence and liable on summary conviction to a fine of up to \$15,000 or to imprisonment for a term of up to six months, or to both. (4) Where an offence under this section is committed on, or continued for, more than one day, it shall be deemed to be a separate offence for each day on which it is committed or continued."

13.11. Transferability of allocations

- *Waters Act* s.17 "(1) Any sale or other disposition of any right, title, or interest of a licensee in an appurtenant undertaking constitutes, without further action by the licensee, an assignment of the licence to the person or persons to whom the sale or other disposition is made if the assignment of the licence is authorized by the Board. (2) The Board shall authorize the assignment of a licence if it is satisfied that (a) the sale or other disposition of any right, title, or interest of the licensee in the appurtenant undertaking at the time, in the manner and on the conditions agreed to by the licensee, and (b) the operation of the appurtenant undertaking by the prospective assignee would not be likely to result in a contravention of, or failure to comply with, any condition of the licence or any provision of this Act or the regulations. (3) Except as provided in this section, a licence is not assignable"

13.12. Compensation if allocations are reduced

"Chapter 14 of the UFA [Umbrella Final Agreement] establishes a compensation system which complements the statutory compensation provisions of the ...*Waters Act*, and consistent with the principle of

prior allocation, protects YFNs [Yukon First Nations] and Yukon Indian People who may suffer adverse effects, loss or damage from new use of water licensed under the Act or from other water uses." (Yukon Territory Water Board 2001:1).

"The most important water rights granted by the UFA are found in subsections 14.5.4 and 14.8.1. This includes the exclusive right to use water which is on or flowing through Settlement Land and the right to have water which is on or flowing through Settlement Land remain substantially unaffected as to quality, quantity or rate of flow, including seasonal rate of flow. These UFA rights are subject to the laws of general application and in this context, that means the *Waters Act*. The UFA adopts the Yukon Water Board as the Board responsible for the implementation of Chapter 14." (Yukon Territory Water Board 2001:1). [Note: The above text has been modified to include name changes associated with devolution in 2003, such as *Waters Act* (no "Yukon"), and Yukon Water Board (no "Territory")].

"Generally no compensation offered if agency reduces the allocation assigned to a user. Allocation would only be reduced through an amendment process, with full input from the licensee, or upon renewal...[i]In the case of water use licences, water is more "borrowed" than "used". Quantity is seldom an issue - the focus is more on the quality of water that is returned" (White, 2003).

- *Waters Act* s.12 "(4) Where an application for a licence is made, the Board shall not issue a licence unless the applicant satisfies the Board that (a) either (i) the use of waters or the deposit of waste proposed by the applicant would not adversely affect, in a significant way, the use of waters, whether in or outside the water management area to which the application relates, (A) by any existing licensee, or (B) by any other applicant whose proposed use of waters would take precedence over the applicant's proposed use by virtue of section 27, or (ii) every licensee and applicant to whom subparagraph (i) applies has entered into a compensation agreement with the applicant; (b) compensation that the Board considers appropriate has been or will be paid by the applicant to any other applicant described in clause (a)(i)(B) but to whom paragraph (a) does not apply, and to (i) licensees to whom paragraph (a) does not apply, (ii) domestic users, (iii) instream users, (iv) authorized users, (v) authorized waste depositors, (vi) owners of property, (vii) occupiers of property, and (viii) holders of outfitting concessions, registered trap-line holders, and holders of other rights of a simi-

lar nature who already were such licensees, users, depositors, owners, occupiers, or holders, whether in or outside the water management area to which the application relates, at the time when the applicant filed an application with the Board in accordance with the regulations made under paragraphs 31(1)(d) and (e), who would be adversely affected by the use of waters or deposit of waste proposed by the applicant, and who have notified the Board in response to the notice of the application given pursuant to subsection 21(1) and within the time period stipulated in that notice for making representations to the Board... (5) In determining the compensation that is appropriate for the purpose of paragraph (4)(b), the Board shall consider all relevant factors, including, without limiting the generality of the foregoing, (a) provable loss or damage; (b) potential loss or damage; (c) the extent and duration of the adverse effect, including the incremental adverse effect; (d) the extent of the use of waters by persons who would be adversely affected; and (e) nuisance, inconvenience, and noise.”

- *Waters Act* s.28 “(1) Except as otherwise provided by a compensation agreement referred to in subparagraph 12(4)(a)(ii), a person who is adversely affected as a result of (a) the issuance of a licence, or (b) a use of water or deposit of waste authorized by regulations made under paragraph 31(1)(m) or (n) is entitled to be compensated by the licensee, authorized user, or authorized waste depositor in respect of that adverse effect, and may sue for and recover any such compensation in any court of competent jurisdiction. (2) A person is not barred from exercising any rights conferred by subsection (1) merely because of having been paid compensation referred to in subsection 12(4), or because of having been paid compensation pursuant to paragraph 15(2)(a) or pursuant to a compensation agreement referred to in subparagraph 12(4)(a)(ii)”

13.13. Provisions for stakeholder input

Under section 19 of the Act, the Board is required in some cases to hold public hearings for licence issuance, renewal, or amendment; in other cases, holding a public hearing is up to the discretion of the board.

“For type B licences, all applications are advertised in local newspapers, and we maintain distribution lists that include anyone who wants to be on the list, plus the usual government departments, First Nations, etc.

A deadline is established. Licensing Officers work with all parties to resolve issues that can be resolved, and then they make recommendations to the (Water) Board. The parties do not attend the [Yukon Water] Board meeting. For type A licences, public hearings are mandatory. Again, notice is provided through newspapers, Yukon Gazette, and a distribution list. A deadline for interventions is established, and a public hearing is held where all parties present their positions, and a transcript is produced. Then the board meets and reaches decisions; the parties do not attend the meetings. Both of these descriptions are really just overviews of what is actually a complex process” (White, 2003).

The Yukon Water Board maintains a public register. “Since all of the information about an application is public and readily available, access to information requests are rare” (White, 2006).

13.14. Notification of allocation decisions

Under section 21 of the *Waters Act*, the Board is required to give notice of licence applications and public hearings. In addition, reasons for decisions are also publicly accessible.

- *Waters Act* s.24 “The Board shall issue and make available to the public written reasons for its decisions or orders relating to any licence or any application”

“Copies of the licence, the reasons for decision, and the environmental assessment screening report, are sent to all "parties" (that is, anyone who made any submissions, including the applicant), to enforcement agencies (although they are almost always a party anyway), and to any First Nation where the project is located on their traditional territory (again, they are usually included as a party). Copies are made available to anyone who asks, and we maintain a public water use register” (White, 2003).

13.15. Dispute resolution

- *Waters Act* s.25 “Except as provided in this Act, every decision or order of the Board is final and conclusive”
- *Waters Act* s.26 “(1) An appeal lies from a decision or order of the Board to the Supreme Court on a question of law or a question of jurisdiction, on leave being obtained from that Court on application made within forty-five days after the making

of that decision or order or within such further time as that Court, or a judge of it, under special circumstances allows. (2) No appeal lies after leave has been obtained under subsection (1) unless the notice of appeal is filed in the Supreme Court within sixty days after the making of the order granting leave to appeal."

13.16. Other issues

There are no formal mechanisms for addressing climate change or drought management in the water allocation system.

13.17. References

Nowlan, L. 2005. *Buried Treasure: Groundwater Permitting and Pricing in Canada*. Toronto, Ontario: Walter and Duncan Gordon Foundation. Available at www.gordonfn.org/resfiles/Buried_Treasure.pdf

White, J. 2003 and 2006. Manager, Yukon Water Board, Personal Communication.

Yukon Water Board. 2006. "HomePage." Web page, [accessed on November 22, 2006]. Available at www.yukonwaterboard.ca.

Yukon Territory Water Board. 2001. "A Guide to Claiming Water Compensation under Chapter 14 of the Umbrella Final Agreement." Web page, [accessed 13 January 2006]. Available at www.yukonwaterboard.ca/Policy/AGuidetoClaimingCompensationunderUFA.pdf

13.18. Legislation Cited

Waters Act, S.Y. 2003, c. 19.

Waters Regulation, Y.O.I.C. 2003/58.

Yukon Environmental and Socio-economic Assessment Act (YESAA), S.O. 2003, c. 7.