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A Glass Half Empty: Drinking Water in First Nations Communities

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Introduction

Water is an essential part of life, especially for First Nations citizens as it contributes not only to their physical survival but their cultural survival as well. Virtually all rights of Aboriginal peoples depend on a viable and sufficient quantity and quality of water. For example, water is essential to the Aboriginal rights to fish, hunt, and trap. Water is also essential as a means of transportation for many Aboriginal people. In fact, the absolute necessity of water to the lives of Aboriginal people has made it a significant part of their spiritual and cultural existence as well. It is for these main reasons that many Aboriginal leaders advocate the recognition of an Aboriginal right to govern this resource within their traditional territories.

All communities rely on sources of potable water for drinking and household use. Native communities that manage their own water systems may face specific problems, as alternative sources of potable water may not be available. The production and delivery of potable water is often taken for granted until problems occur, sometimes with tragic consequences. After incidents in Walkerton, Ontario, in 2000, North Battleford, Saskatchewan, in 2001, and more recently in the First Nations community of Kashechewan, Ontario, in 2005, improving the safety of drinking water has become a priority in Canada, especially in First Nation communities.² Providing safe drinking water involves complex technical, human, financial, and regulatory factors. In First Nations communities, the relationship between the federal government and First Nations, and the unique situation of each First Nation add to this complexity.

Federal programs and funding related to drinking water on reserves are based on government policy adopted in the 1960s and 1970s, and parliamentary appropriations. The objective of the government policy is to ensure that people living on-reserve attain a comparable level of health and have access to water facilities comparable to those of other Canadians living in communities of similar size and location. However, these very government policies often prevent this objective from being attained. This is mainly due to the fact that these policies lack input from Aboriginal communities and fail to take into consideration the unique circumstances and issues that these communities face. Until a regulatory regime which takes Aboriginal concerns and values into consideration is in place, INAC

and Health Canada cannot ensure that First Nations people living on-reserve have access to safe drinking water.

This paper first explores the current federal policy adopted by government to deal with the issue of safe drinking water in First Nations communities, and the insufficiencies of this policy. Secondly, it suggests two working approaches to water quality in these communities. The first is the creation of a co-management regime between the federal government and First Nations governments. The second is a recognition of an Aboriginal right to govern the water resources within their traditional territory.³

Unique Susceptibility of First Nations Communities and Their Members to Pollutants

The economic condition and health status of Aboriginal peoples are among the lowest of any ethnic or minority group in Canada. Poverty, poor health, and more limited access to health care all make Aboriginal Canadians more susceptible to adverse impacts from pollution.⁴ Although fiduciary duties, treaties, and the *Indian Act* obligate the federal government to provide health-related services to First Nations, shamefully, government departments responsible for these services have a history of being grossly under-funded and under-staffed.

Traditional, cultural, and subsistence uses of, and strong dependencies on, natural resources such as water make First Nations especially susceptible to adverse health affects from pollution. In many cases, First Nations “have greater exposure risks than the general population as a result of their dietary practices and unique cultures that embrace the environment.”⁵ Hunting, gathering, and fishing are necessary not only for survival, but also for maintaining the cultural, social, spiritual, and economic aspects of Aboriginal communities. Frequently, the right to engage in gathering, hunting, and fishing is legally protected by treaty. First Nations and their members also use water, plants, and animals in religious, traditional, and cultural ceremonies and practices. When pollutants contaminate the air, water, soil, plants, and animals, these pollutants will likely accumulate in the people through consumption, ingestion, contact and inhalation.⁶

A recent example of the tragedy that can occur when pollutants go unchecked occurred in the Aboriginal community of Kashechewan. Kashechewan’s water treatment plant, funded in 1995 by Indian and Northern Affairs Canada (INAC), was designed by out-of-town consultants. It was placed downstream from an existing sewage lagoon. This essentially means that contaminants flow past the intake pipe that feeds raw water into the complex system to be treated for drinking. In 2004, Indian Affairs spent \$500,000 for upgrades, but did not move the intake pipe.⁷ Furthermore, Band leaders say that they never received proper training, or enough funding to run the plant, which requires 24-hour maintenance.⁸ In late October 2005, the evacuation of more than 1,000 community members began as the situation descended into crisis when federal officials warned of high *E. coli*

levels in tap water. Almost all of these residents were evacuated due to scabies, impetigo and other health-related problems from *E. coli*-laced water.

Unfortunately, the threat of such contamination is not only limited to the health of Aboriginal communities, but extends also to the health and well-being of future generations. Several studies have shown that children are particularly susceptible to the effects of pollution. For example, industry has devastated the traditional lifestyle of the Mohawk community on the Akwesasne reservation. Core samples of the St. Lawrence River bottom have found over 6,000 ppm of polychlorinated biphenyls ("PCBs").⁹ However, while the PCB concentrations in the breast milk of Mohawk women decreased over time, their infants' urine PCB levels were ten times higher than that of their mothers.¹⁰

Situations such as these indicate that oftentimes it is the people who are most at risk who should be entitled to determine the relevant environmental standards that will govern their resources. However, as the next section will demonstrate, Aboriginal peoples have little decision-making authority under the current federal policy governing drinking water quality on reserve lands.

Current Jurisdictional Responsibilities and Policy Over Water Quality

It is current government policy that the management of potable drinking water and waste water on First Nation reserves, from source to tap, is a shared responsibility between First Nations and the federal government. First Nations Band councils, INAC (advised by Environment Canada), and Health Canada provide programs and services that are meant to ensure safe, clean, and secure water on reserves.

Indian and Northern Affairs Canada (INAC) has the primary authority for fulfilling the federal government's constitutional, treaty, political, and legal responsibilities for First Nations. Since the early 1960s, the department has provided support to assist individuals living on-reserve in accessing basic infrastructure services, i.e. water, waste water treatment, roads, bridges, schools etc.¹¹ In addition, the department is authorized to provide funding assistance to operate and maintain these assets. INAC's primary role today is satisfied through the provision of funding and advisory activities.¹²

INAC funding for infrastructure services is provided through a variety of funding arrangements. These funding arrangements include terms and conditions, and reporting requirements that INAC uses to ensure that First Nations meet program requirements. For example, subject to approval, based in part upon a review of the First Nation's financial management track record, and the availability of funds, finances are provided to reserve communities for capital construction and upgrading, operation and maintenance, and water and waste water plants through INAC's Capital Facilities and Maintenance Program. However, INAC's funding to subsidize the operation and maintenance of water treatment and distribution systems is in accordance with an established formula. The remaining

funding is to be provided locally from user fees or other revenue sources.¹³ INAC also provides funding to First Nations to share services, such as water, with neighboring municipalities through municipal-type agreements when this is a cost-effective and practical solution.

Health Canada's general mandate regarding the protection of public health is found in the *Department of Health Act*,¹⁴ 1996. This legislation delineates the health matters in which the Minister may act, while respecting provincial jurisdiction. These matters include, but are not limited to, investigations and research into public health, monitoring of diseases, providing public-health information, establishing safety standards for consumer products, and co-operating with provincial authorities to coordinate efforts to preserve and improve public health.¹⁵

Health Canada, in collaboration with INAC, is responsible for ensuring safe drinking water in First Nation communities south of 60°. As part of the Environmental Health Program, and through the Drinking Water Safety Program, Health Canada is responsible for working with First Nations to monitor drinking water quality in distribution systems with five or more connections and cisterns in First Nation communities. Water quality sampling, testing, and interpretations are to be done according to the *Guidelines for Canadian Drinking Water Quality*, Sixth Edition, Health Canada.

Environment Canada's main responsibility in regards to safe drinking water in First Nations communities is with respect to waste water management. Environment Canada provides advice and technical expertise to INAC on assessments under the *Canadian Environmental Assessment Act*, and on requirements related to the *Canadian Environmental Protection Act, 1999*, and the *Fisheries Act*. Environment Canada develops standards, guidelines and/or protocols for waste water systems on federal and Aboriginal lands, including effluent limits.

INAC policy states that on-reserve waste water treatment systems are to be designed and operated in such a way that effluent quality meets the requirements of the latest edition of the *Guidelines for Effluent Quality and Waste water Treatment at Federal Establishments*, established by Environment Canada, and other applicable provincial/territorial requirements, if these are stricter.¹⁶ It is important to note that First Nations values and ideas are not taken into consideration under this current government policy.

Under current government policy, First Nations are responsible for ensuring that water and waste water systems are planned, designed, constructed, and maintained and operated according to funding agreement conditions.¹⁷ First Nations are legally required to comply with all program and financial terms and conditions in their funding agreements. However, there is very little room for First Nations to vary the structure of these agreements to meet local needs and concerns.

All proposed capital projects for water and waste water systems, funded by INAC, must comply with the terms and conditions of the funding agreement

under the Capital Facilities and Maintenance Program. For all INAC-funded capital projects, First Nations are responsible for:

- Project identification;
- Feasibility (engineering) studies;
- Environmental assessments;
- Project design;
- Project construction;
- Plant classification; and
- Commissioning.¹⁸

First Nations are required to:

- Follow INAC's tendering policy;
- Conduct regular site inspections;
- Provide construction and financial progress reports;
- Submit a project completion report;
- Secure "as build" drawings for future reference; and
- Develop site-specific maintenance management plans.¹⁹

First Nations require INAC approvals for all capital project components from the feasibility stage to the commissioning stage as per INAC policy.

Under current government policy, First Nations must follow INACs and Health Canada's monitoring and inspection regimes. All sampling and testing procedures performed during monitoring activities must be carried out as defined in the monitoring and inspection regime, including the use of accredited laboratories. If a First Nation does not follow this regime, and depending on the level of risk to health, gradual compliance assurance will be started by INAC.²⁰ This will include things such as written warnings; holdbacks from "non-essential" funding; and ultimately, third-party management.

INAC provides a funding subsidy to First Nations for the operations and maintenance (O&M) of water and waste water facilities on reserves. First Nations Chief and Council are responsible for assuming partial financial responsibility for the remaining funding through user fees and/or other revenue sources. However, funding for O&M must be used for the purposes described in the funding agreements, and First Nations are responsible for demonstrating that these funds were spent on INAC's intended purposes, regardless of what the First Nation views to be an intended purpose.

As demonstrated by this policy model, currently First Nations have very little flexibility in creating standards or regulations to ensure high water quality in their communities. Under section 81(1) of the *Indian Act*,²¹ a Band council is given the power to make by-laws for a number of different purposes. The provision of section 81(1) which could give a Band council jurisdiction over water quality

management is section 81(1)(l)—the construction and regulation of the use of public wells, cisterns, reservoirs, and other water supplies.

However, bylaws can be disallowed by the Minister of Indian Affairs and Northern Development. Once passed, a bylaw must be forwarded to the Minister, and it automatically comes into force after forty days unless it is disallowed [s. 82(2)]. A further problem, discussed below, is that the by laws are limited in their geographic scope. In other words, by laws only apply on the reserve. Even if a water body or fishery is near the reserve and affects a Band's on-reserve water quality, the bylaw-making power is strictly confined to the physical boundaries of the reserve. Another limitation is that Band Councils do not have the power to make bylaws in relation to "navigable" rivers, even if a river is physically on the reserve.

Another limitation is that the bylaw-making power of Band councils is largely restricted to regulatory and administrative matters. This restriction may prevent the adoption of a proper water management scheme on reserve lands. For example, it is doubtful whether a Band bylaw which attempted to say that all waters are in the control of a Band would be valid. This would be seen as an illegal expropriation.

As a result, drinking water quality on reserves is governed by current federal policy. However, currently there is no regulatory regime in place to deal with this resource. Therefore, funding arrangements seem to play a large role in dictating water quality standards and requirements. As the next section will demonstrate, this policy model creates significant issues in the provision of safe drinking water on reserves.

Issues with the Current Policy Model

Regulatory Gap for Drinking Water on Reserves

In its recent report, the Commissioner of the Environment and Sustainable Development found that INAC, Health Canada, and First Nations do not operate under a regulatory regime as most provinces do. There is no effective legislative base for regulating potable water on reserves. The operative federal standards, set out in the Guidelines for Canadian Drinking Water Quality, are just that—guidelines with no legislative teeth. Instead, INAC and Health Canada use funding arrangements with First Nations, and administrative documents as the means to set and enforce requirements for water quality and safety.

INAC attempts to fill this "regulatory gap" by referring to provincial legislation and regulation in its policies and administrative guidelines, and in funding arrangements with First Nations. However, the Report of the Commissioner of the Environment and Sustainable Development ("the Report") found that important elements covered in most provincial regulatory regimes are missing from the guidelines and funding arrangements.²² These include the approval and licensing of water treatment plants, ongoing monitoring, public reporting requirements, and

compliance and enforcements mechanisms. In practice, this means, for example, that where a province requires water treatment plants to be licensed or certified, the plants located in First Nations communities face no such regulation from the provinces.

The Report also found that INAC administrative guidelines are not consistently implemented.²³ These guidelines require, among other things, that new water systems meet provincial regulations, except where they are less stringent than those of the federal government. Department officials informed the Commissioner of the Environment and Sustainable Development that they do not feel obliged to comply fully with or enforce provincial regulations.²⁴ They also stated that they do not have the human resources and capacity that the provinces have to support and enforce them.²⁵

INAC is drafting new administrative guidelines for drinking water systems in First Nations communities as a component of the First Nations Water Management Strategy. However, the Commissioner of the Environment and Sustainable Development reviewed the document, and found that it falls short of providing an effective regulatory regime because the guidelines apply only to INAC officials.²⁶ Furthermore, the Report found that it will not be enforceable through legislation or regulations, and how it will apply to First Nations remains unclear.²⁷

Most frequently, INAC relies on funding arrangements with First Nations to define drinking water requirements on reserve lands. However, the language in the arrangements is general and does not specifically refer to water systems.²⁸ In 2001, in a submission to the Walkerton Inquiry, the Chiefs of Ontario stated: "First Nations, their consultants, and federal officials are left to discern the applicable standards from vague and conflicting language in funding conditions, guidelines and manuals."²⁹ Unfortunately, even with the First Nations Water Management Strategy, this situation has not changed significantly.

Funding arrangements between INAC and First Nations require First Nations to adhere to all applicable codes and standards, and preserve health and safety. However, it is not clear whether and how the First Nations are to incorporate all the elements found in provincial legislation and regulations in the management of their drinking water. The Chiefs of Ontario also commented, in a submission to the Walkerton Inquiry, that "The question of 'which law applies' is inherently uncertain for most activities that take place on reserves because of the judicially undefined scope of Aboriginal rights and the vague and subjective tests which govern the division of powers impacting on 'Indianness.'"³⁰

Currently, there is no legislation requiring that drinking water quality and safety in First Nations communities be monitored. More importantly, there is no First Nations-specific legislation on water quality of environmental standards in Canada. It is Health Canada's policy that it has no statutory- or regulatory-based enforcement or inspection powers for water quality on reserves.³¹ Therefore, departmental staff members are not legally empowered to ensure that all required

tests are carried out. In addition, First Nations are not legally empowered to test their drinking water. Consequently, residents in First Nation communities do not benefit from testing practices comparable to those in non-reserve communities.

Under the Drinking Water Safety Program, Health Canada enters into funding arrangements with most First Nations, or contracts with individuals, to test drinking water as recommended under the *Guidelines for Canadian Drinking Water Quality*. However, under these arrangements, the only consequence for failing to carry out tests is that funds are withheld.³²

Water Systems Do Not Meet All Applicable Codes and Standards

The Report of the Commissioner of the Environment and Sustainable Development found that INAC has no comprehensive list of codes and standards applicable to the design and construction of water systems.³³ Codes and standards are set out in various documents, funding arrangements, administrative documents, and project briefs. In these documents, the definitions of codes and standards range from the requirement to meet “all applicable codes and standards” to references to either a general or specific list of codes and standards.³⁴ It is unclear which definitions are applicable and will be applied to a given project.

This issue can have consequences for the quality or safety of drinking water. INAC’s 2001 assessment of water systems found many design or construction faults. In fact, these faults explain a portion of the 75% of water systems that were classified as risky.³⁵ As history has demonstrated, these deficiencies can result in risks to operator safety, failure to achieve the treatment performance, or inability to produce the expected water quantity.

Under the First Nations Water Management Strategy, INAC has committed to ensuring that all water systems on reserves are built to standards. It has developed draft administrative guidelines to define its own requirements. In their current form, these guidelines clarify some requirements, but it is not clear how First Nations will implement them.³⁶

Water Testing is Inconsistent

It is well known that drinking water needs to be tested regularly as a final check on the safety of the supply chain for drinking water, and to protect public health. However, regular tests of drinking water are not carried out in most First Nation reserve communities.³⁷

Although Health Canada’s overall target is to reach the testing frequency recommended in the *Guidelines for Canadian Drinking Water Quality* by 2008, as late as November 2005, the department had yet to develop a comprehensive plan, with specific target dates, to meet this overall target.³⁸ In addition, it does not ensure that First Nations test their drinking water as required in the funding arrangements, contracts and Health Canada procedure manual.³⁹ Although Health Canada does not provide funds when tests are not carried out, the absence of tests

hampers Health Canada's and First Nations' ability to detect potential water quality problems and make timely and informed decisions to deal with these issues.

As previously stated, Health Canada's policy is that it has only an advisory role to First Nations when tests show that the drinking water is not safe to drink. At its discretion, the Department may recommend that a First Nation issue a boil-water advisory to users. According to Health Canada, First Nations have the authority to put in place and lift advisories, and they have the responsibility, with assistance from INAC, Health Canada, tribal councils, and other support organizations, to correct the underlying causes. However, some advisories have been in place for many years.⁴⁰

Support and Capacity Development is Inadequate

The Report of the Commissioner of the Environment and Sustainable Development found that INAC's programs are limited in scope, and that the technical help available to First Nations to support and develop their capacity to provide safe drinking water is fragmented.⁴¹ The report identified weaknesses in three main areas: operators, funding, and information and monitoring.

Operators

Most water treatment plant operators in First Nations communities do not possess the knowledge and skills required to operate their plant safely. The 2001 assessment found that approximately 10% of the operators on reserves met the certification requirements of their respective province.⁴² Under the First Nations Water Management Strategy, INAC introduced a requirement that all on-reserve operators be certified to the level of complexity of their water treatment plant, in accordance with the rules applicable in their province. The target is to certify all operators or ensure that uncertified operators are directly supervised by a certified operator by 2006.

INAC's statistics indicate that at the end of March 2005, about 40% of the operators were certified.⁴³ However, for one region included in these statistics, the Commissioner of the Environment and Sustainable Development found that although many of the operators were trained and had passed exams, they were not certified.⁴⁴ In addition, the statistics do not indicate if the operators are certified to the level of complexity of their plants. Furthermore, as provincial certification and training requirements are becoming more stringent, many First Nations operators have difficulty meeting educational and experience requirements. Also, for more complex water treatment plants, a minimum number of years of experience operating such a facility under appropriate supervision is required before certification.

As previously stated, the main support available to operators comes from the Circuit Rider Training Program funded by INAC in all regions. However, this type of support and training is not mandatory or accessible to all First Nations.⁴⁵ In addition, INAC does not require a training plan to be in place.⁴⁶ Also, a lot of

the trainer's time is spent resolving immediate technical problems rather than providing training.⁴⁷ In summary, the Report indicates that there is a high probability that the certification target will not be met.⁴⁸

Funding

INAC does not use a consistent method to fund First Nations for the operation and maintenance (O&M) of their water systems. Its policy is to allocate O&M funds on the basis of a formula. The amount allocated to each First Nation should cover 80% of the estimated O&M costs of drinking water systems. However, the formula has not been updated for many years. In some regions, the Department does not use the formula, and provides some First Nations with 80% of their actual O&M costs if they can provide sufficient evidence of paying these costs.⁴⁹

Under the First Nations Water Management Strategy, INAC is implementing a new method to estimate O&M costs and allocate funds. This method takes into account the characteristics of each water system, and as a result, many First Nations are eligible for additional funding. However, it is not clear whether this method will apply to all First Nations, or if actual costs will continue to be paid in some cases.⁵⁰

INAC does not know whether all funds for operation and maintenance are used for this purpose. Under the applicable funding conditions, First Nations have the flexibility to use O&M funds for other purposes, and INAC has limited assurance that they are used for the intended purpose. At this time, it is not clear whether INAC will make funding conditions uniform under the First Nations Water Management Strategy, and how it will obtain assurances that the funds are being used as intended.

Another issue related to operation and maintenance funding of water systems is based on the fact that under INAC's O&M guidelines, First Nations are expected to cover 20% of the O&M costs of water systems through user fees or other sources. In practice, few First Nations collect user fees.⁵¹ Moreover, INAC does not take into consideration whether First Nations have other resources to meet this requirement, and has no means to enforce it.⁵²

Information and Monitoring

INAC has limited information on whether First Nations meet the conditions of their funding arrangements, and whether its programs and funding result in safe drinking water. To monitor the state of water systems, INAC requires First Nations to provide information annually on their O&M plans and activities, and the results of an inspection of the condition of their water systems every three to five years.

However, in many cases, INAC does not know whether regular maintenance identified by First Nations was completed, or whether urgent maintenance or repair projects are needed.⁵³ Some reports requested by INAC are not provided by all First Nations, even though they would be useful to both INAC and the First

Nations. For example, First Nations are supposed to have maintenance management plans in place for their water systems. However, INAC does not require evidence that these plans are in place and used.⁵⁴ In addition, regions are supposed to ensure that annual maintenance inspections are completed. These are not being done systematically.⁵⁵ Moreover, periodic inspections are not always carried out when due, and some inspection reports provided by First Nations contain poor-quality information.⁵⁶ As a result, the information system in place to record the results of water system inspections is not reliable.

As a result of their funding arrangements, when deficiencies in a water system are noted in a report to INAC, First Nations are responsible for correcting them. However, there is no effective means to inform INAC that the deficiencies are corrected, and the Department has limited means to ensure that a First Nation has addressed the deficiencies. Furthermore, INAC cannot threaten to withdraw O&M funding to facilitate a correction because drinking water is an essential service.⁵⁷ Under the First Nations Water Management Strategy, INAC has undertaken a review of its information needs and data collection processes for drinking water, but it is yet to be seen whether this review will be successful and what actions will result from it.

Co-management as a Solution

As the previous section has demonstrated, significant regulatory changes need to be made in order to ensure that Aboriginal communities are receiving good quality water. However, if these changes are to be effective, they must be created and implemented with the participation and support of the Aboriginal communities which they affect. In recent decades, there has been considerable attention paid to co-management as an important mechanism for the effective management of natural resources. The term “co-management” refers to a wide range of organizational arrangements, functions, and levels of power-sharing. It encompasses everything from relatively simple arrangements with government managers sharing power with users over limited resources and geographic areas, to legislated arrangements evolving from Aboriginal self-government negotiations.⁵⁸ As a result, this paper adopts Notzke’s general definition: “‘Co-management’ broadly refers to the sharing of power and responsibility between government and local resource users. This is achieved by various levels of integration of local and state level management systems.”⁵⁹

Aboriginal support for a co-management role over water and other natural resources is aimed at the recognition and integration of Aboriginal concerns, Aboriginal rights, and Aboriginal expertise into the management and policy arenas concerning water resources. Aboriginal governments argue that the era of paternalistic, unilateral decision-making by the federal government is over, super-ceded by the more forward-looking policy of encouraging the exercise of Aboriginal rights and Aboriginal self-determination. Co-management is one

approach that fits within this era of recognition and reconciliation of Aboriginal rights with the rights of the Canadian population at large.

Integration of First Nations as co-managers provides an effective means of addressing some of the complex issues discussed above concerning the provision of safe drinking water to Aboriginal communities in Canada. Integration of tribes as co-managers moves the major parties closer to developing more effective measures to deal with the difficult scientific and policy issues involved with water quality. Co-management provides a unique opportunity for the application of Aboriginal traditional ecological knowledge to increasingly complex problems that require a broader and deeper understanding of the phenomena at issue.⁶⁰ As previously stated, often times it is the community most affected by an issue which is in the best position to come up with the most effective and appropriate means to deal with the problem.

The 1987 amendments to the United States' *Clean Water Act*⁶¹ demonstrate an example of one of the highest forms of co-management—one that has been enshrined in federal legislation. The 1987 amendments to the *Clean Water Act* provide the Environmental Protection Agency (EPA) with the authority to approve a tribe for treatment as a state for certain purposes enumerated in the act.⁶² One of the enumerated sections for which tribes may seek approval is Section 303, the water quality standard provision of the act. Section 303 permits a state, or a tribe treated as a state, to establish water quality standards for the water resources within the state's or the tribe's governmental jurisdiction. However, a tribe must first demonstrate four categories of authority and capability in order to be treated as a state by the EPA. First, the tribe must be one that is recognized by the Department of the Interior.⁶³ Second, the tribe must have a governing body carrying out substantial governmental duties and powers.⁶⁴ Third, the functions to be exercised must concern the management and protection of the water resources which are held by an Indian tribe, held in trust by the United States for Indians, held by a member of an Indian tribe subject to a restriction, or otherwise within the borders of an Indian reservation.⁶⁵ Finally, the tribe must show that it is reasonably expected to be capable, in the Administrator's judgment, of carrying out the functions to be exercised.⁶⁶

Water quality standards establish the desired ambient nature of a water body.⁶⁷ Under this co-management system, the appropriate state or tribal authority establishes designated beneficial uses for the water resources under its jurisdiction, then develops narrative and numerical criteria to protect the designated uses.⁶⁸ Each set of standards must contain an anti-degradation clause, intended to prohibit further polluting of the water.⁶⁹

Once established and approved, these water quality standards apply to lakes, rivers and streams, or portions thereof. If there is a discharge into a segment of the water body, the required permit issued to the discharger must nominally meet any applicable water quality standards.⁷⁰ A permit cannot be issued if the discharge

would violate these standards.⁷¹ When drafting a permit, the EPA seeks certification from the state or from a tribe that the limitations in the proposed permit will not violate existing water quality standards.⁷² Moreover, a discharge permit must be conditioned so as not to violate downstream stands.⁷³

These aspects of tribal power under the *Clean Water Act* have been upheld by United States courts. For instance, in New Mexico, the Isleta Pueblo, an Indian tribe downstream from the City of Albuquerque on the Rio Grande, was granted *Clean Water Act* tribes-as-states status, and adopted water quality standards more stringent than those of the state of New Mexico.⁷⁴ Albuquerque challenged the EPA's approval and subsequent enforcement of those standards—which included requiring changes to Albuquerque's National Pollution Discharge Elimination System (NPDES) permit for an upstream waste water treatment facility—on a variety of grounds, including challenging the authority of EPA to implement more stringent tribal standards against non-Indian entities off-reservation.⁷⁵ The court upheld the EPA's application of the tribe's standards, expressly holding that the Isleta Pueblo's right to adopt water quality standards more stringent than those of an upstream state was rooted not just in the *Clean Water Act*, but also in the tribe's "inherent sovereignty."⁷⁶

There is no one-size-fits-all approach to co-management. Each First Nation, as a unique, self-determining community, has developed its own institutions, resources, and procedures. Each First Nation's rights are based on legal documents, i.e. treaties, and histories specific to that community. Furthermore, the local situation within which each First Nation is embedded is unique, with particularized landscapes, resource issues, and user groups. Therefore, the means by which a particular First Nation can be integrated into a decision-making process for water and waterways needs to be developed on a First Nation-specific basis.

Nonetheless, there are some fundamental, overarching principles that can govern each co-management agreement regarding water quality. First, the role that First Nation governments play in a co-management regime must be developed within a framework that recognizes that they are in fact governments, accountable for the health and welfare of their membership. Such recognition can serve to ensure the protection of the Aboriginal interest in resources critical to the long-term economic security, political integrity, and health and well-being of their communities.

Second, First Nations should be made an integral part of the decision-making process. The very term co-management means that First Nations participate in the decision-making process. First Nations should be sitting at the table from the earliest stages of policy formulation, problem identification, and development of solutions to water quality. In order to effectively deal with the water quality issues within Aboriginal communities, their leaders or representatives need to be included at the very beginning of the decision-making process. Such front loading of First Nation participation not only reduces the potential for long-term, disruptive

conflict over policies and proposed solution, but it also facilitates the incorporation of critical information and technical expertise possessed by the Aboriginal communities.

Third, the input provided by tribes should be considered expert information, and given a certain degree of deference. Traditional Aboriginal knowledge of ecological systems, developed from generations of interaction with the environment, influences tribal beliefs regarding resource use and management.⁷⁷ Aboriginal environmental knowledge is integrated with tribal religious beliefs and world view in many different ways.⁷⁸ While current economic, social, and political factors affect Aboriginal world views,⁷⁹ there is a certain consistency of traditional environmental knowledge influencing First Nation environmental decision-making.⁸⁰ A water resource co-management approach is an important tool because it offers First Nations the opportunity to integrate traditional Aboriginal values and knowledge with contemporary resource management policies.

Fourth, a co-management system should incorporate mechanisms for resolving disputes, and differences in opinion and approach among the co-managing parties. As diverse stakeholders with interests and perspectives that might be at odds, the parties to a co-management regime must develop methods and mechanisms to deal with disputes. Unilateral decision-making by one party upsets the power balance between the co-managing powers. One useful model for integrated decision-making and dispute resolution is the Columbia River Fisheries Management Plan (CRFMP), a complex arrangement for the management of Indian and non-Indian fisheries on the Columbia River that involves four Indian tribes, three states and two federal agencies. The CRFMP contains detailed provisions for dispute resolution among the parties, recognizing the likelihood of disagreement on technical and policy matters.⁸¹ The CRFMP provides for an internal dispute resolution mechanism through which policy or technical disputes are brought before the Policy Committee, a body comprised of representatives appointed by each party, and charged with the task of “facilitating cooperative action by the Parties.”⁸² Moreover, the CRFMP remains under the continuing jurisdiction of the federal district court for Oregon, and a special magistrate is available to hear and resolve disputes between the parties that cannot be resolved through the internal dispute resolution process.⁸³

Though a co-management regime is not without its faults, a co-management regime for water resources offers several advantages to First Nations, including the opportunity to participate in and influence the development of water quality policies that affect them. Once First Nation governments gain “a seat at the table,” they have the opportunity to integrate Aboriginal beliefs and management practices with mainstream policies on water quality. At the same time, co-management approaches also help water quality policymakers learn about the values, culture and way of life of Aboriginal people. This is important because it helps

government policymakers understand traditional Aboriginal views, and avoid potential disputes and tragedies, such as the recent incident at Kashechewan.

Self-governance as a Solution

Though co-management is a desirable objective for First Nation governments, arguably many leaders are advocating for a system of self-governance to rectify issues in their communities, such as water quality. A definition of Aboriginal “self-government” is difficult to formulate, as the term has been used to describe many different types of political systems. Essentially, self-government arrangements grant Aboriginal people some degree of decision-making power in specified areas. In *Delgamuukw v. The Queen*⁸⁴ the Gitskan and Wet’suwet’en people claimed ownership and jurisdiction, including self-government, over a territory in central British Columbia. In dissent, British Columbia Court of Appeal Justice Lambert articulated the plaintiffs’ claim for self-government as a claim for a “right of self-regulation of themselves and their institutions.”⁸⁵

Self-government is critical to Aboriginal culture. The plaintiffs in *Delgamuukw* argued that self-government is necessary “in order to determine their development and safeguard their integrity as Aboriginal peoples” and “to preserve and enhance their social, political, cultural, linguistic, and spiritual identity.”⁸⁶ Since contact, Aboriginal communities have done everything humanly possible to maintain the integrity and vitality of their own traditions, languages, ceremonies, and other authoritative internal arrangements, and to continue fulfilling their ancestral obligations to one another and the rest of creation,⁸⁷ despite immense changes to their physical and economic circumstances, and pressures from non-Aboriginal institutions.⁸⁸ Arguably, ensuring high water quality is necessary to preserve Aboriginal traditions and customs, as well as to preserve the health and well-being of the communities themselves. This, combined with the fact that the current federal policy on drinking water quality on reserves lacks a sufficient regulatory regime, makes it clear why First Nation governments would find a right to govern water quality preferable.

If First Nations were able to prove an Aboriginal right to self-governance, then this right would receive protection through s. 35(1) of the Constitution Act, 1982. This section reads:

35. (1) The existing Aboriginal and treaty rights of Aboriginal peoples of Canada are hereby recognized and affirmed.

However, as case law has demonstrated, proving an Aboriginal right to self-governance is not an easy right to prove. Courts have yet to articulate a clear statement on the legal status of the right to self-government, let alone on the scope of the right and its relationship to federal and provincial laws.⁸⁹

*R. v. Van der Peet*⁹⁰ sets out the test for determining the practices, customs, and traditions which fall within s. 35(1) and, as such, provide the legal standard

against which a claim to regulate water quality as a part of self-government must be measured. In *Van der Peet*, the test for identifying Aboriginal rights was said to be as follows: "... in order to be an Aboriginal right an activity must be an element of a practice, custom, or tradition integral to the distinctive culture of the Aboriginal group claiming the right."⁹¹ In applying this test, the court must first identify the exact nature of the activity claimed to be a right, and must then go on to determine whether, on the evidence presented to the trial judge, and on the facts as found by the trial judge, that the activity could be said to be "a defining feature of the culture in question" prior to contact with Europeans.⁹²

In turning to the first part of *Van der Peet*, the court held that:

To characterize an applicant's claim correctly, a court should consider such factors as the nature of the action which the applicant is claiming was done pursuant to an Aboriginal right, the nature of the governmental regulation, statute or action being impugned, and the practice, custom or tradition being relied upon to establish the right.⁹³

In *R. v. Pamajewon*⁹⁴ the court considered whether the right to self-government falls within the scope of the Aboriginal rights recognized and affirmed by s. 35(1) of the Constitution Act, 1982. In making its decision, the court assumed, without deciding, that s. 35(1) encompasses claims to Aboriginal self-government; however, the applicable legal standard is that laid out in *Van der Peet*. Speaking for the court, Lamer, C.J. stated:

Assuming s. 35(1) encompasses claims to Aboriginal self-government, such claims must be considered in light of the purposes underlying that provision and must, therefore, be considered against the test derived from consideration of those purposes. This is the test laid out in *Van der Peet*. In so far as they can be made under s. 35(1), claims to self-government are no different from other claims to the enjoyment of Aboriginal rights and must, as such, be measured against the same standard.⁹⁵

The court found that to recognize "a broad right to manage the use of their reserve lands" would be to cast the court's inquiry at a level of excessive generality.⁹⁶ Therefore, the right to self-government must be looked at in light of the specific history and culture of the Aboriginal group claiming the right.⁹⁷ The right to self-government, according to the test laid out in *Van der Peet*, must be considered at the appropriate level of specificity.⁹⁸

According to these tests, the correct characterization of the right put forward is that of a right to regulate water quality as part of self-government. Therefore, individuals and First Nations' government advocating for recognition of this right must first prove that the practice of managing water quality was exercised prior to the contact. Though little physical evidence is likely to exist to demonstrate this fact, oral histories and the "common law" practices of these groups could be used to demonstrate that this right existed, and that it was exercised prior to European contact. However, under the tests enunciated in these cases, First Nations must also prove that regulating water quality was integral to their distinctive cultures. As previously stated, water is the lifeblood for many of these communities. It is used to not only meet physical needs, but cultural and sacred needs as well. Many

Aboriginal villages were traditionally located on waterways, and this resource was depended upon for food, household needs, travel, and ceremonial practices. Arguably, ensuring water quality was “integral to the distinctive culture(s)” of these Aboriginal groups and should be found “worthy” to merit the constitutional protection of s. 35(1).

Even if courts were to recognize an Aboriginal right to regulate water quality, this will not necessarily solve all the issues outlined in the first part of this paper. As this paper has demonstrated, one of the major issues affecting water quality on First Nation reserves is capacity building. Even if First Nations were to gain ownership and control of this resource, this in itself, would not be enough to solve this problem. In fact, some may even argue that this change in ownership and jurisdiction would do more to reduce capacity building than develop it. Some critics of Aboriginal self-governance argue that Aboriginal communities have too few members with sufficient leadership skills, technical expertise, or practical experience to meet the collective’s needs in these highly complex and difficult circumstances.⁹⁹

However, aggregation could be used by First Nations to help improve and build capacity within their communities. The Royal Commission on Aboriginal Peoples (RCAP) commented extensively on this issue and argued that individual Aboriginal communities are too small to develop the necessary capacity to govern the many jurisdictions often contemplated by the negotiating parties.¹⁰⁰ RCAP recommended that these governance functions be carried out by Nations, rather than individual Aboriginal communities. However, RCAP’s Nation-based solution would represent a radical departure for a great majority of Aboriginal groups across the country. Thus, while sympathetic to the commission’s premise that the community may not represent the ideal governing building block for all jurisdictions, many involved in self-government negotiations are discussing other aggregation options.

One type of aggregation that could be used to more effectively govern water in Aboriginal communities is a two-tier level of aggregation. Two-tier aggregation involves a number of governments coming together and forming a second level, “regional” government to deal with those issues that are beyond the capacity of any of them to handle individually.¹⁰¹ In doing so, the participating governments aggregate a number of their governance structures, processes, and functions upwards to the newly formed body.¹⁰² The strength of the two-tier government lies in the framework it provides for: a) local Aboriginal communities to work together to deliver services; b) the formalization of the political relationships amongst local Aboriginal communities; and c) the establishment of a mechanism for joint decision-making.¹⁰³ In looking at well-established, non-Aboriginal two-tier aggregation models, it has been observed that, “the inherently flexible, non-interventionist approach and the gradual expansion of activities in response to local decisions have resulted in a system that is accepted, practical, and functional.”¹⁰⁴

One must also consider the benefit of a two-tier system, in that it could be structured to permit the assignment of operating responsibilities to one tier and regulatory responsibility to the other. Brian Crowley, president of the Atlantic Institute for Market Studies, a Halifax-based think tank, stated:

When the government is a supplier of a service, such as water, it tends to be a poor regulator of quality. Regulator and supplier often work in the same department, may belong to the same union, and are both responsible to the same elected officials—who want to avoid unpleasantness and conflict. Problems are bushed up or ignored with a wink and a nod. Governments can be far more rigorous regulators when they are at arm’s length from the supplier.¹⁰⁵

However, whether such delegation will be used with potable water, whether it would be sustainable given that delegated responsibilities can be withdrawn and whether a large Aboriginal body, such as a tribal council, is of sufficient size and independence to exercise regulatory responsibilities is still unknown.¹⁰⁶

Other potential weaknesses of this type of aggregation include that they are not easy to understand and therefore reduce accountability to citizens or membership.¹⁰⁷ This could pose an even greater disadvantage in Aboriginal communities where citizens, on average, have lower education levels, and where accountability of government institutions is very important. Secondly, two-tier aggregation requires a lot of effort to ensure that there is good coordination among the various levels.¹⁰⁸ As was previously mentioned, Aboriginal communities are already struggling with capacity and resource issues. Finally, these types of systems are costly to run¹⁰⁹ and First Nation governments are often working from very limited funding arrangements.

Instead of a tiered governance structure, aggregation can take many other forms. A less “ambitious” form of aggregation, some may argue, is through special purpose bodies that have the following characteristics:

- They usually focus on one area of public concern, such as education, policing and water etc.;
- Unlike governments, they do not have the power to legislate;
- Any powers they do have are established in legislation of some level of government; and
- The leadership of the body is not necessarily elected by citizens at large.¹¹⁰

These special purpose bodies could have legislated powers, or they could not. Those without any real powers tend to be advisory or advocacy in nature, and in many instances they provide services to governments.

It has been stated that “in the everyday world of Canadian municipal government, especially in the rural areas of the smaller provinces, inter-municipal problems are not solved by establishing new tiers of government or by drastically altering municipal boundaries.”¹¹¹ In fact, local governments have found

many advantages to using special purpose bodies to carry out their governance functions. For example, local governments can remain distinct and responsible for the things that they do best on their own. At the same time, they can join with other local governments to undertake the delivery of services that are better or more efficiently done in concert. Protection service, such as fire and ambulance, sewage and waste disposal, and planning services are examples of services most commonly delivered by joint agreements. However, this does not mean that potable water could not fit within this realm as well. This service is greatly related to sewage and waste disposal. In many instances these agreements can provide an expanded level and variety of services to rural residents.¹¹² Other reasons local governments find this aggregation attractive are that they can save on costs by either sharing expensive services, or by obtaining volume discounts.¹¹³ Furthermore, “joint hiring practices allow small local governments to recruit and share professional and technical staff.”¹¹⁴

These advantages do not mean that this type of governance structure is not without its disadvantages. However, it has been stated that these types of agreements are most effective in the provision of regional services in either of two situations: 1) they are effective in predominately rural areas where services are limited, and there is economic and demographic stability; or 2) they are effective where a second tier of government takes responsibility for them.¹¹⁵ Therefore, this might suggest that if Aboriginal governments were to gain jurisdiction and control over water, a combination of a two-tier government system and a special purpose body might be the most effective way to manage and regulate the resource.

Though recognizing a right to regulate water quality provides one potential solution for drinking water quality on reserves, it is not without its own set of potential obstacles and concerns. Currently, many Aboriginal communities do not have the capacity or financial resources to effectively manage this resource. However, there are steps these communities could take to increase their capacity and resources to a higher level. One potential solution is aggregation. However, because benefits tend to be over-estimated and costs tend to be under-estimated,¹¹⁶ this solution would have to be carefully studied before Aboriginal communities committed to it.

Conclusion

Currently, Indian and Northern Affairs Canada, Health Canada, and First Nations do not operate under a regulatory regime for drinking water as most provinces do. As this paper has demonstrated, there are also many weaknesses in program management in federal departments. As a result, when it comes to the safety of drinking water, residents of First Nations communities do not benefit from a level of protection comparable with that of Canadians living off-reserve. This is not acceptable. Aboriginal Canadians, including Indigenous people living on “land reserved for Indians,” are residents of the country, and should be entitled to safe

drinking water on the same terms as those prevailing in other similarly placed communities.

Water and water quality has always played an integral role in the lives of Canada's Aboriginal peoples. For many First Nations, water is a sacred element in their existence, and forms an important part of their understanding of who they are as a people. Based on these traditions, it is not inconceivable to consider that Aboriginal peoples in Canada could have a right to manage this resource, or at the very least a right to co-manage this resource. Though it would be naïve to believe that all the issues surrounding water quality in First Nation communities will simply disappear through a transfer or sharing of jurisdiction, it is not inconceivable to think that because of their vested and personal interest in this resource, First Nation communities would be more willing to create regulatory structures to govern this vital resource. If such a transfer were to occur, arguably aggregation could prove to be a useful tool for these communities.

Not all First Nations communities may wish to have jurisdiction over this resource, and, in reality, many may not be in a position to take over responsibility for safe drinking water in their communities. Co-management then offers a unique solution in which Aboriginal communities work together with government players to help ensure the provision of quality water in these communities. One thing is clear, however, if First Nation communities are to have quality drinking water—comparable to other mainstream Canadian communities—changes have to be made to the current government policy on safe drinking water. The creation of legislation and an adequate regulatory body must be a priority for all parties responsible for this resource. To deal with such a complex set of issues all major players and their political representatives will need to be involved. Only then can a policy be created which recognizes and addresses all the concerns of the parties involved—one that will ensure the provision of safe drinking water equally to all Canadians.

Endnotes

- 1 LL.M. candidate, University of Arizona.
- 2 In 2000, the deaths of seven people from *E.coli* contamination in Walkerton's drinking water, and illnesses in that community and others affecting approximately 2300 others put the spotlight on Canada's capacity to provide its citizens with safe drinking water. See Ontario, Ministry of the Attorney General, *Part Two: Report of the Walkerton Inquiry*, Chapter 15 (Ottawa: Queen's Printer for Ontario, 2002) (Commissioner: Dennis R. O'Connor). The Battleford area of Saskatchewan experienced an outbreak of gastroenteritis between late March and early May 2001. An estimated 5,800 to 7,100 people from the Battleford area were affected along with hundreds of visitors from other parts of Saskatchewan, Alberta, Manitoba, and British Columbia. By May 2001, *C. parvum* infection was confirmed in 275 people. See Public Health Agency of Canada, *Canada Communicable Disease Report*, Volume 27–22, available at <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/01vol27/dr2722.html> (last accessed February 11, 2006). In 2005, approximately 1000 members of the Kashechewan First Nation were evacuated due to high *E. coli* levels in tap water. See note 6.
- 3 Although the author recognizes that the issue of water quality encompasses many aspects of First Nations lives, this paper will focus mainly on drinking water as a case study of this issue.
- 4 J. Walker, J. Bradley & T. Humphrey, Sr., "Environmental Justice: A Closer Look at Environmental Injustice in Indian Country" (2002) 1 *Seattle J. Soc. Just.* 379 at 386.
- 5 National Environmental Justice Advisory Council, *Integration of Environmental Justice in Federal Agency Programs* 46 (May 2002), available at <http://www.epa.gov/compliance/resources/publications/ej/>.
- 6 *Supra* note 4 at 386.
- 7 S. Bailey, "Indian Affairs Minister Visits Remote Reserve Battling Waterborne Hazards" *Maclean's* (October 19, 2005), available at: www.macleans.ca.
- 8 *Ibid.*
- 9 Laduke, W. (1999). *All Our Relations: Native Struggles for Land and Life*. Cambridge: South End Press. 18 (the Mohawk PCB standard was 0.1 parts per million).
- 10 *Ibid.* 11–23.
- 11 Canada. (2001). *Safe Drinking Water on First Nation Reserves: Roles and Responsibilities*. Ottawa: Indian and Northern Affairs Canada. 2.
- 12 *Ibid.*
- 13 *Ibid.* 3.
- 14 *Department of Health Act*, R.S.C. 1996, c. 8.
- 15 *Ibid.* s. 4.
- 16 *Supra* note 11 p. 14.
- 17 *Ibid.*
- 18 *Ibid.* 9.
- 19 *Ibid.*
- 20 *Ibid.* 11.
- 21 *Indian Act*, R.S.C. 1985, c. I–5.
- 22 Canada, Office of the Auditor General of Canada. (2005). *Report of the Commissioner of the Environment and Sustainable Development—2005*, "Chapter Five—Drinking Water in First Nations Communities" Ottawa: Minister of Public Works and Government Services Canada. 10.
- 23 *Ibid.* 11.
- 24 *Ibid.*

25 *Ibid.*

26 *Ibid.*

27 *Ibid.*

28 *Ibid.*

29 *Ibid.*

30 Ontario, Ministry of the Attorney General. (2002). *Part Two: Report of the Walkerton Inquiry*, Chapter 15 Ottawa: Queen's Printer for Ontario. (Commissioner: Dennis R. O'Connor). 492.

31 *Supra* note 22 p. 11.

32 *Ibid.* 12.

33 *Ibid.* 15.

34 *Ibid.*

35 *Ibid.*

36 *Ibid.* 16.

37 *Ibid.*

38 *Ibid.*

39 *Ibid.*

40 *Ibid.* In one First Nation community, a section of the community had been under a boil-water advisory for over three years before the corrective actions were taken and the advisory lifted.

41 *Ibid.* 17.

42 *Ibid.*

43 *Ibid.* 18.

44 *Ibid.*

45 *Ibid.*

46 *Ibid.*

47 *Ibid.*

48 *Ibid.*

49 *Ibid.* 19.

50 *Ibid.*

51 *Ibid.*

52 *Ibid.*

53 *Ibid.* 20.

54 *Ibid.*

55 *Ibid.*

56 *Ibid.*

57 *Ibid.*

58 E. Peters, "Organisational Design for Co-Management: Comparing Four Committees in Nunavik" 44 C. de D. 667 at 669.

59 C. Notzke. (1995). "A New Perspective in Aboriginal Natural Resources Management: Co-management." 26 (2) *Geoforum* 187.

60 See generally Rebecca L. Tsosie. (1996). "Tribal Environmental Policy in an Era of Self-Determination: The Role of Ethics, Economics, and Traditional Ecological Knowledge." 21 Vt. L. Rev. 225 (describing function and value of tribal traditional ecological knowledge in dealing with contemporary environmental problems).

61 *Clean Water Act* 33 U.S.C. (1988).

62 33 U.S.C. 1377(a) (1988).

63 33 U.S.C. 1377(h)(2) (1988).

- 64 33 U.S.C. 1377(e)(1) (1988).
- 65 33 U.S.C. 1377(e)(2) (1988).
- 66 33 U.S.C. 1377(e)(3) (1988).
- 67 33 U.S.C. 1313 (1988) The rules and regulations for establishing, submitting, and approving standards are in 40 C.F.R. 131 (1993).
- 68 33 U.S.C. 1313(c)(2)(A) (1988).
- 69 *Ibid.* Anti-degradation measures provide that existing uses may not be lowered, very high quality waters must be maintained and protected, and high quality waters in state and national outstanding resource areas must be maintained and protected.
- 70 33 U.S.C. 1341(a) (1988).
- 71 33 U.S.C. 1341(a)(2) (1988).
- 72 *Ibid.* The certifying authority is the governmental entity with legal jurisdiction over the water body where the discharge originates, and which has water quality standards. A permit cannot be issued if the certifying authority determines that the discharge will violate the standards.
- 73 40 C.F.R. 131.10(b) (1993).
- 74 See *City of Albuquerque v. Browner*, 97 F.3d 415, 419 (10th Cir. 1996).
- 75 *Ibid.*
- 76 *Ibid.* 423. However, the court noted that the tribe was not regulating the City of Albuquerque, but rather that EPA was “exercising its own authority in issuing NPDES permits in compliance with downstream state and tribal water quality standards.” *Ibid.* 424.
- 77 *Supra* note 60 at 272–76.
- 78 *Ibid.* 274.
- 79 D. Martinez, “American Indian Cultural Models for Sustaining Biodiversity,” available at www.fs.fed.us/pnw/pubs/gtr63/gtrw063g.pdf (last visited January 31, 2006) at 115–16.
- 80 *Ibid.* at 110, 115.
- 81 Columbia River Fish Management Plan (Oct. 7, 1988) at 54–56.
- 82 *Ibid.*
- 83 *Ibid.* 7 & 56.
- 84 *Delgamuukw v. The Queen*, [1993] 5 W.W.R. 97 (British Columbia Court of Appeal).
- 85 *Ibid.* 348.
- 86 *Ibid.* 149.
- 87 See generally J.J. Borrows. (1992). “A Genealogy of Law: Inherent Sovereignty and First Nations Self-Government” 30 *Osgoode Hall L.J.* 291 (Anishnabek).
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- 89 B. Morse. (1997). “Permafrost Rights: Aboriginal Self-Government and the Supreme Court in R. v. Pamajewon.” 42 *McGill L.J.* 1011 at 1016.
- 90 [1996] 2 S.C.R. 507 [hereafter *Van der Peet*].
- 91 *Ibid* at para. 46.
- 92 *Ibid* at para. 59.
- 93 *Ibid* at para. 53.
- 94 [1996] 2 S.C.R. 821 [hereafter *Pamajewon*].
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- 104 *Ibid.*
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- 108 *Ibid.*
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- 110 *Ibid.* 30.
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- 112 *Ibid.*
- 113 *Ibid.*
- 114 *Ibid.*
- 115 *Ibid.* 37.
- 116 *Supra* note 101 at 48.

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