

Flooding of First Nations and Environmental Justice in Manitoba: Case Studies of the Impacts of the 2011 Flood and Hydro Development in Manitoba

S H I R L E Y T H O M P S O N ¹

I. INTRODUCTION

Indigenous communities experience a greater rate of displacement from flooding than non-Indigenous people, which contributes to these communities having worse health outcomes (Ahern et al 2005; Loney 1995; Thompson, Ballard and Martin 2014). All over the world Indigenous communities have been placed on marginal land and/or in remote locations to make room for settlers, which makes these communities vulnerable to the impacts of flooding (WalDRAM 1993). However, there is another story that may explain the higher risk for flooding of Indigenous communities in Manitoba: that the provincial government diverts and dams water to areas occupied by First Nations (FNs) through upstream dams and water control structures without due regard to the environmental, economic and social impacts on FNs (Ballard and Thompson 2013; Thompson, Ballard and Martin 2014).

Upstream dams and water control structures are statistically significantly associated with higher risk of death and injuries to downstream communities (Zahran et al 2008). In Manitoba, this greater risk downstream from dams and water control structures is evident from the high number of displaced FNs communities (Loney 1995; Thompson, Ballard and Martin 2014). Recently the 2011 “superflood” in Manitoba diverted floodwater towards FNs communities to protect downstream

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settler cities, namely Winnipeg and Portage la Prairie (Ballard and Thompson 2013; Thompson, Ballard and Martin 2014). This diversion flooded and permanently displaced most of Little Saskatchewan FN and all of Lake St. Martin FN (Ballard and Thompson 2013; Thompson, Ballard and Martin 2014). In the past, Manitoba's hydroelectric dams permanently displaced two entire FN communities and the water level fluctuations continue to negatively impact many other FN communities. This purposeful diversion of water by the provincial government indicates the government's inequitable treatment of FNs communities.

Why is man-made flooding and permanent displacement a reoccurring story in Manitoba for FNs communities in Manitoba but not for non-FNs communities? In this discussion of flooding and equity, environmental justice will provide a framework to analyze the risk for flooding across FNs and settler societies. Also, to see how inequities occur, treaties and provincial policies as well as the division of water rights and legal authority in Manitoba will be discussed, followed by a profile of the 2011 flood diversion to Lake St Martin and its impact on FNs. As well, impacts of hydroelectric development in the north and water regulation of Lake Winnipeg are studied. Lastly, the discussion looks at how these impacts result in negative outcomes for FNs and how the policies that facilitated them can be turned around towards environmental justice for Indigenous peoples.

Indigenous people are the descendants of those who inhabited their region at the time when people of different cultures or ethnic origins arrived to dominant through conquest, occupation, settlement or other means (Statistics Canada, nd). In Canada, Indigenous people or Aboriginal peoples, include FN, Metis, and Inuit. First Nations is a specific legal identity created by the *Indian Act* in 1876 to define who would be considered Indian (Statistics Canada, nd). A FN community, or simply a FN, is another term for a federal Indian Reserve, which typically is located within a much larger FN traditional or ancestral territory, where people engaged in sustenance and cultural activities. An Aboriginal community is a broader term that could apply to both a Metis settlement as well as an Indian reserve.

II. ENVIRONMENTAL JUSTICE FRAMEWORK

Environmental justice is “the fair and consistent distribution of environmental benefits and burden, without discrimination on the basis of socio-economic status, race, ethnic origin, or residence on an Aboriginal reserve” (Venton and Mitchell, nd). Environmental justice literature contends that despite the seeming universality of modern environmental problems, environmental risk is distributed inequitably along race, class and indigeneity differences (Austin and Schill 1994; Bryant and Mohai 1992; Byrne and Hoffman 2002; Pulido 1996). At the national and international level, allegations are levied against multinational corporations and governments exploiting Indigenous peoples and reducing developing nations to poverty (Kuehn 2000). According to Liu: “Most studies have found that the poor and minorities now bear a disproportionate burden of potential or actual exposure to environmental hazards from air pollution to toxic wastes, while a few offer conflicting evidence” (2001:268). Similarly, Bullard writes about how reserves and other areas of poverty experience higher environmental risk:

Whether in urban ghettos and barrios or in rural “poverty pockets” and Native American reservations, pollution presents potential threats to public health that individuals with affluence or political clout are unwilling to accept. Risk burdens are localized, yet the benefits are generalized across all segments of society. Environmental disparities between white communities and communities of colour reflect larger societal inequities (1994:xv).

In the 1980s and 1990s Indigenous people in Canada and the US were deemed victims of “environmental racism” similar to that of other racial minorities, based on a comparable experience of exclusion, stereotyping and economic and political disenfranchisement (Tsosie 2007). Many examples are available of Indigenous people living in vulnerable communities experiencing greater environmental risk. High levels of toxic chemicals including mercury present hazards to Aboriginal people, particularly in their prenatal and early child development, with First Nation people accumulating higher toxic chemicals than the Canadian population generally (Thompson 2002). Another example of higher contamination is the widespread radioactive contamination of land and water resources in FN communities proximal to nuclear waste sites such as the Hanford Nuclear Reservation in Washington State, USA (Tsosie 2007). Further examples are the “national sacrifice areas,” so-called

by the American Academy of Sciences in reference to coal strip-mining permanently damaging and polluting Navajo lands (Tsosie 2007). Hydroelectric dam developments in the Pacific Northwest US and northern Canada had a severe impact on FNs communities, resulting in a permanent loss of territory, water resources, fishing resources and in some cases, such as the case studies discussed in this paper, permanent displacement (Waldram 1993; Thompson, Ballard and Martin 2014; Tsosie 2007).

Environmental health impacts are not only from pollution, resource extraction and flooding but also from not having enough food, housing, safe drinking water, and health services (LaDuke 2002). Disadvantaged communities often bear the lion's share of negative impacts of development without receiving a fair share of its benefits. FNs suffer from higher water contamination rates compared to non-FNs communities in Canada. Drinking water advisories, which provide a good indicator of quality of drinking water (Isfeld 2009; Baird et al. 2012), are two and a half times more likely to occur in a FNs community than any other community in Canada (Eggertson 2006). In some communities, contamination by gasoline and trihalomethane remains in the water after boiling (Harden and Levaillant 2008). The Health Canada website (<http://www.hc-sc.gc.ca/fniah-spnia/promotion/public-publique/water-dwa-eau-aqep-eng.php>) report reveals the magnitude of the risk from water: "As of June 30, 2015, there were 135 drinking water advisories in effect in 91 First Nation communities across Canada, excluding British Columbia". Some FNs have had water advisories for many years; for example, Neskantanga FN in north-western Ontario is still under a water advisory that started in 1995 (Eggertson 2006). Contaminated water frequently found on reserves puts Canadian FNs people at high risk for contracting water-borne pathogens that are more commonly found in developing countries. An alarming statistic, reported by Eggertson (2006), was that water borne infections occur in FNs 26 times more often than in the general Canadian population.

Environmental justice is a major legal framework in the US but not in Canada. Responding to research that environmental risk was higher for minority and low-income populations, the Environmental Protection Agency (EPA) has required racism and environmental justice to be considered in their evaluation of projects and regulation development. This change occurred on 11 February 1994 when President Bill Clinton

signed Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, with the goal of achieving environmental protection in all communities (Environmental Protection Agency 1994). The EPA applies the following definition to environmental justice: “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies” (Environmental Protection Agency 1994). This definition of environmental justice overlaps environmental law with civil rights law. However, Dean Suagee, a prominent FN attorney and scholar who developed the first Indian Country Environmental Justice Clinic, claims these two aspects were insufficient without indigenous environmental sovereignty:

The concept of environmental justice is not very useful unless it is broader than just the intersection of civil rights and environmental law ... [including] ... a vision of environmental justice must also include the tribal right of self-government...[as] tribal governments must be involved in performing the full range of functions that governments are expected to do in protecting the environment: making the law, implementing the law, and resolving disputes (cited in Tsosie 2007:1632).

The first phase of Indigenous environmental justice is focused on “sovereignty claims” and a call for regulatory authority in the domestic arena. Thus, environmental injustice towards Indigenous peoples includes the federal government’s failure to acknowledge Indigenous nations’ sovereign powers (Tsosie 2007) as well as paternalistic federal management policies that allowed Indigenous resources to be exploited without adequate compensation or mitigation. Sovereignty claims focus on the autonomy for indigenous people to choose the development in their ancestral territory, rather than having to choose between “preservation” and “development.” However recognition of Indigenous sovereignty does not address many complex environmental problems, such as climate change impacts, because the environmental harms are largely occurring beyond the boundaries of their lands.

The second phase of environmental justice for Indigenous peoples lies in the recognition that their identities require environmental self-determination (Tsosie 2007). Indigenous peoples’ identities are rooted in particular regions, cultural attributes and unique histories that reflect the

close bond with their lands and the need for environmental self-determination, evoking a human rights-based set of norms (Tsosie 2007). The United Nations Declaration on the Rights of Indigenous Peoples backs up the claim for self-governance and environmental self-determination in Article 26, stating:

1. Indigenous peoples have the right to the lands, territories and resources, which they have traditionally owned, occupied or otherwise used or acquired.
2. Indigenous peoples have the right to own, use, develop and control the lands, territories and resources that they possess by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired.
3. States shall give legal recognition and protection to these lands, territories and resources. Such recognition shall be conducted with due respect to the customs, traditions and land tenure systems of the indigenous peoples concerned (United Nations 2008:13).

Acknowledging the importance of this bond between the land and its Indigenous peoples, the International Labour Organisation (ILO) Convention No. 169 states that Indigenous peoples “shall not be removed from their occupied territory” except under limited circumstances and only when necessary as an “exceptional measure” (cited in Tsosie 2007:1656). Geographical location is considered fundamental to Indigenous identity, with history demonstrating repeatedly that removing Indigenous communities by force from their ancestral territory, resources, and culture results in immeasurable harm. As well, the United Nations Declaration on the Rights of Indigenous Peoples repeats this need for a land base in Article 10:

Indigenous peoples shall not be forcibly removed from their lands or territories. No relocation shall take place without the free, prior and informed consent of the indigenous peoples concerned and after agreement on just and fair compensation and, where possible, with the option of return” (United Nations 2008:13).

In the 1980s and 1990s, the EPA made amendments to many of the major federal pollution control statutes for Tribal nations to have regulatory authority partnering with EPA. Although these amendments were unnecessary as Tribal nations have inherent sovereignty, with authority and responsibility to regulate on their own reservation, it also resulted in tribes being eligible for federal funding for tribal programming.

This EPA partnership also provided some control over off-reservation polluters, including upstream inputs to water resources, which would not result simply due to their inherent sovereignty. The EPA's tribal policy favors tribes implementing water and air quality standards with EPA oversight and assistance rather than dual regulation. The active exercise of tribal regulatory authority over the reservation environment is considered an antidote to the perceived victimization of reservation communities by exploitive and environmentally hazardous industries. In addition, the EPA now houses an advisory council on environmental justice, which includes an Indigenous peoples subcommittee, charged with ensuring their role in environmental decision-making (Environmental Protection Agency 2014).

Pulido (1996) contends that structural forces, such as racism and colonialism, account for both the low socioeconomic status of communities (as indicated by income, educational attainment, wealth or other indicators of advantage/disadvantage) and environmental hazards. Environmental justice posits that environmental risks are intensified for those having low socio-economic status due to social risk positions such as indigeneity, race and class. Scholars have identified a number of factors that contribute to why FN communities are more at risk from negative environmental and health impacts. These circumstances include:

- 1) More historic, ancestral and spiritual ties to traditional territory and reserves make them less mobile to avoid environmental threats (Thompson, Ballard and Martin 2014).

- 2) Sustenance lifestyle of hunting, fishing and gathering requires access to healthy wildlife and abundant territory (Grossman 2012; Thompson, Ballard and Martin 2014; Thompson, Wiebe, Gulrukh, and Ashram. 2012; Thompson 2002).

- 3) Economic assets are generally low as FN housing, land and resources are considered the property of the Crown (Ballard 2012); without collateral, capital or credit, FNs people have limited ability to weather difficult times.

- 4) Infrastructure poverty, with many FNs communities lacking adequate safe housing, piped water/sewage, road access and lacking fire stations, landfills and hospitals, placing people in more unhealthy or risky situations (Thompson, Ballard and Martin 2014).

- 5) Reduced human capital on FN reserves provides less adaptive capacity, with these communities having relatively low levels of education, low rates of employment and high rates of disease compared to other

communities in Canada (Statistics Canada 2011).

6) Isolation of many reserves far away from public and media observation with many FNs having no access to a road network and most having no paved roads on reserve (Thompson, Ballard and Martin 2014).

7) Jurisdictional barriers with FN reserves federally managed, without FNs having the regulatory authority or ownership of resources and land/water in their ancestral territory, but with resources, including water, managed provincially (Thompson et al. 2011; Ballard 2012; LaDuke 2002).

8) Less political clout resulting in few opportunities for Aboriginal peoples to influence policies, programs, and their own development (Thompson et al. 2011; Ballard 2012);

9) Social crisis (e.g., higher rates of addictions and violence), as the aftermath to the residential school system, reserve settlements, and the settler education (LaDuke 2002);

10) Location of reserves by government on poor or swampy lands (Thompson, Ballard and Martin 2014).

III. WATER RIGHTS AND LEGAL AUTHORITY IN MANITOBA

Canada's constitution does not list water as a separate area of jurisdiction (Walkem et al. 2004). As a result there is no one level of government that has overarching responsibility over water (Walkem et al. 2004), unlike for lands and resources. The provinces received proprietary rights over lands and resources within their provincial boundaries under sec. 109 of the *Constitution Act, 1867*:

All lands, Mines and Minerals and Royalties ... shall belong to the several provinces ... in which the same are situate or arise, subject to any Trust existing in respect thereof, and to any interest other than that of the Province in the same.

Routinely water has been considered part of land management or the management scheme for other natural resources, which falls under provincial jurisdiction. An exception to this rule is fisheries and their habitat. Another exemption is that FN reserve lands, national parks and other areas of national concern mentioned in table 1 fall under the federal jurisdiction.

Table 1: Constitution Division of Powers related to Water

Federal Jurisdiction	Provincial Jurisdiction
Navigation and shipping	Water use (including water licenses)
Trade and commerce (including bulk water exports)	Water conservation
Water on all federal lands including reserve lands and national parks	Pollution regulation
Canals and public harbours	Hydro-electric power generation
Fish-bearing inland waters	Recreational uses of water
	Control over inland water

Source: (Walkem et al, 2004:6-2).

According to this section, provincial ownership of lands was assumed to cover water bodies and water rights where the Aboriginal peoples ceded Aboriginal title in a treaty or other agreement but not for land with unextinguished Aboriginal title. The province’s powers over water includes water use, conservation, pollution, regulation, hydro-electric power generation, recreational uses of water and water management over all inland waters, except for fisheries and inland waters where activities may impact fish and fish habitat. Although water level regulation and flood management is clearly governed by provincial law in Canada, a few key points about the treaties and water rights are vital to this discussion of water management.

IV. TREATIES AND WATER RIGHTS

The Canadian courts have taken the position that the FNs ceded the land based on the written numbered treaties, not taking into account the different story provided through oral treaties (Walkem et al. 2004). In Manitoba all FNs signed Treaties #1 to #6 or Treaty #10 or their adhesions, with only Buffalo Point FN signing Treaty #3. These treaties provide similar FNs governance rights to water and ceding the land and guarantees for sustainable livelihoods for each FN from the Crown of England. These treaties were signed by FN chiefs, who were typically illiterate in the English language at that time, containing a written clause about ceding the land (Obomsawin 2014). However, according to oral

tradition, what is written in the treaties was opposite to what was agreed to verbally, whereby FNs people only agreed to share the land based on assurances that they would not lose any harvesting, land or other rights with guarantees that they were not ceding the land (Obomsawin 2014). So this Crown finding of extinguishment of Aboriginal land is being contested in Black River FN and other communities as FNs must have either intended to relinquish their Aboriginal title to land or rights in treaties, or the Crown expressed clear and plain intent to extinguish rights. If the Crown determined the land was ceded, activity-based or site-specific rights still need to be considered. The Supreme Court of Canada (SCC) in the case of *Van der Peet*, identified that the right to use land is a fundamental Aboriginal right that is supported in common law and national history and enshrined in the *Constitution Act, 1982*, section 35 (1).

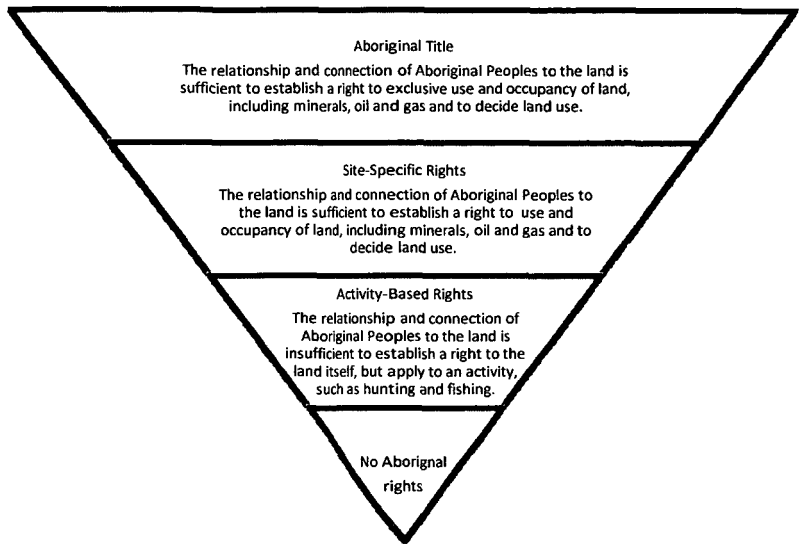
Only if FNs have not specifically given up Aboriginal title to both land and water through treaties and self-government agreements do courts recognize their Aboriginal title to land. In *Delgamuukw v. B.C.*, the court defined Aboriginal title as land rights, including minerals, oil and gas rights, as well as proclaiming that the FNs had the right to decide the use of its lands (Walkem et al 2004). Aboriginal title is held communally and flows from the historic relationship between the people with the lands, water and resources. This includes a right to water as noted in *Calder v. Attorney General of British Columbia*, 1973 SCR 313 by Justice Hall stating “a right to occupy the lands and to enjoy the fruits of the soil, the forest and of the rivers and streams” (cited in Walkem et al 2004:6-6). Thus, water, as part of the land, is encompassed and included within Aboriginal title by the courts. As historic Aboriginal land and water rights and livelihoods existed before colonization, the SCC assumes that they still exist unless there is a treaty limiting their implementation or they have been properly extinguished, considering replacing livelihoods:

In so far as an Aboriginal people under internal law or custom had used the land and its waters in the past, so it must be regarded as having the continuing right to use them, absent extinguishment or treaty ... The fundamental understanding—the Grundnorm of settlement in Canada—was that the Aboriginal people could only be deprived of the sustenance they traditionally drew from the land and adjacent waters by solemn treaty with the Crown, on terms that would ensure to them and to their successors a replacement for the livelihood that their lands, forests and streams had since ancestral times provided them (cited in Phare

2009a:4).

Canadian law distinguishes between Aboriginal title, which is the right to the land itself, and activity-based rights such as a right to fish or hunt. The SCC describes a spectrum of Aboriginal rights including Aboriginal title, activity-based rights and site-specific rights, as shown in Figure 1.

Figure 1: Aboriginal Right to Water and Land



Revised from: (Walkem et al. 2004:6-6).

When the Constitution was to be repatriated to Canada from Britain, Aboriginal peoples lobbied successfully to include a section to recognize and protect Aboriginal and Treaty Rights. The *Constitution Act, 1982* section 35 states that:

The existing aboriginal and treaty rights of the aboriginal peoples of Canada are hereby recognized and affirmed (cited in Walkem et al. 2004:6-4).

This section of the constitution permits courts to limit government action should they infringe upon, or affect, constitutionally protected rights or interests to, or in, the water. These rights may include activity-based rights (e.g., to fish or hunt), site-specific rights (e.g., right to fish at a particular location) or Aboriginal title. The test for infringement is often

referred to as the “Sparrow test,” as it is taken from the *R. v. Sparrow* case, which asked four questions:

- 1) Can the Aboriginal litigants prove the existence of their Aboriginal Title or Rights?
- 2) Was the Title or Right extinguished before 1982?
- 3) Can the Aboriginal litigants show that their Title or Rights have been infringed? and
- 4) Can government justify its actions? (cited in Walkem et al. 2004:6-5)

Water rights enable water use to provide a moderate living to community members, whether for domestic use or for irrigation, damming, manufacturing or industrial use (Walkem et al 2004). While the SCC recognizes that section 35(1) protects treaty and Aboriginal rights, FNs must pass “the distinctive culture test” showing that an activity existed and was central to the culture at the time of European contact, to support Aboriginal water rights. FNs’ water use is generally considered culturally important for domestic purposes, traditional food activities (wild rice, fish, clams, etc.), travel routes, water ceremonies and habitat protection (Walkem et al. 2004). Aboriginal peoples have the right to make a moderate living required to preserve Indigenous cultures (both traditional and contemporary) and live in their traditional communities. As well, Aboriginal peoples have a right to consultation on development that affects their treaty rights.

V. ABORIGINAL WATER RIGHTS AND MANAGEMENT

Regarding water management, even with the surrender of territory there is an argument that governance (controlling the management and use) over the land and water was not surrendered or extinguished. This power to govern without use is illustrated by the federal government’s jurisdiction to govern exclusively numerous activities, uses, etc., although it has no resource rights to provincial lands and waters. Strong evidence asserts that FNs envisioned maintaining jurisdiction, either exclusive or shared, in line with the sacred trust to manage their territory between FNs people and the Creator, which is impossible to cede (Phare 2009a; Walkem et al. 2004).

Manitoba, like Saskatchewan, Alberta and British Columbia, allocates water rights through the doctrine of prior allocation (meaning whoever got

a license first has first priority to use the water) or “first in line” (Walkem et al. 2004). However, the Alberta government’s willingness to negotiate a settlement in the Piikani case indicates that governments may understand that their prior allocation policies are not legally acceptable and would not survive serious court challenges by FNs (Phare 2009a, 2009b; Walkem et al. 2004). The final settlement was based on the Winters Doctrine (1908) that their rights included the amount of water needed to fulfill the purposes of the reserve as contemplated at the time of the signing of Treaty #7 and that Indigenous people are first in line for water (US Supreme Court 1908). The settlement included per capita and settlement payments, as well as guarantees of Piikani participation in the Oldman River Hydro Dam project, and an assured water supply with a statement that the Province of Alberta was not the sole authority over water (Phare 2009a).

Treaties have limited references to water, except in descriptions of reserves being bordered by a certain river or lake. Thus, water was not directly surrendered by FNs (Phare 2009b). That the Crown was aware of the waterpower but made no direct references to water in the treaty supports that FNs never relinquished waterpower, and other water rights. Thus, according a 1970 analysis of Treaty #3 ceded lands and waters, FNs governance rights could extend to:

- restrict public access to the waters and through water routes;
- restrict non-Aboriginal fishing and hunting of water-fowl;
- restrict public use of islands within the headwaters;
- restrict or eliminate manufacturing and industrial uses of water;
- restrict impacts to fisheries;
- restrict the creation of hydro-electric power or create FN-controlled hydro-power;
- engage in mining activities, which could create water pollution;
- build dams (which could address or create fluctuating water levels) (cited in Phare 2009a:12).

As similar FNs governance rights for water are present in all numbered treaties, these rights should be considered in water management decisions across the province.

VI. FLOODING POLICIES IN MANITOBA

Manitoba’s flooding policies have the stated objective to:

alleviate human suffering and minimize the economic costs of damages caused by flooding. These policies primarily seek to reduce damages and human suffering caused by flooding, through the control of development in flood prone areas and the exploration of economically viable measures to reduce flood damages (Manitoba Conservation 2003:5.1).

However, by policy 5.1 focusing on land-use policies rather than water regulation policies, the province has failed to include FN's communities in a proactive plan for flood protection on FN reserves (Manitoba Conservation 2003). The Manitoba 2011 Flood Review Task Force (2013) gave special mention to the fact that reserves do not have land-use policies defining what can be built, where and at what elevation. Without these land-use plans on reserves, provincial flood policy 5.1 has no bearing to prevent floods. In fact, any FN's land-use plan would be undermined if it were not synchronized with the water management plans of the province.

The province's flood prevention plan does not consider FN reserves with its strong focus on protecting cities. For example, \$160 million was promised in the plan for the Red River floodway expansion, and the ring dikes for southern settler communities. The focus of Provincial Flood Policy 5.2 is on personal and property damage under provincial responsibility (Manitoba Conservation 2003). This policy makes FN's invisible in risk assessment modeling as houses on reserves are not individually owned and the federal government, not the province, is responsible for damages. This approach that makes FN's homes worthless to provincial decision-making models may be contributing to their losses. FN's families that lost their individual homes on reserve through water damage or mould in the 2011 flood were not compensated due to the communal land and home ownership model of Aboriginal and Northern Development Canada (Ballard 2012; Ballard and Thompson 2013). Nor was there adequate compensation to replace lost income when flooding destroyed livelihoods. For example, after destruction of the fisheries on Lake St. Martin, commercial licenses belonging to fishers were given to others in 2011, and the fishers received only \$5,000 in compensation. These fishers and their families cannot survive on this meagre compensation (Ballard and Thompson 2013; Thompson, Ballard and Martin 2014).

In contrast, Provincial Flood Policy 5.3 has great relevance to FN's stating: "The negative impacts of changes to water level and flow regimes

caused by hydro-electric development projects shall be mitigated to the extent possible” (Manitoba Conservation 2003). Hydro dams have enormous impacts but the water levels are controlled only for maximizing profit from energy production and not for fish populations or wild rice production. That fish populations and spawning, wild rice growth, as well as sustainability of livelihoods and environmental issues are not considered in water regulation is extremely problematic for FNs living off the land (Manitoba Conservation 2003).

Water regulation operating guidelines, similar to flood policies 5.1 and 5.2, do not consider FNs land and water rights. For example, Manitoba’s operating guidelines of the Portage Diversion, which affects many FNs, do not mention FNs: “The Portage Diversion operating guidelines allow it to be used for three objectives: minimizing the volume of water diverted to Lake Manitoba, protecting the city of Winnipeg or preventing ice from jamming on the Assiniboine River east of Portage la Prairie” (Manitoba 2011 Flood Review Task Force 2013:4). Since the Portage Diversion reroutes water north to areas occupied by FNs, this denial of FNs issues is of high concern. This flooding had a profound impact on all community members of Lake St. Martin FN as well as three other FNs communities located in the Lake St. Martin basin. Similarly, the Fairford control structure was put in place to maintain Lake Manitoba near a level of 811.9 feet prior to a study by the Lake Manitoba Regulation Review Advisory Committee in 2006 increasing the Lake Manitoba level to 812.5 feet (Manitoba 2011 Flood Review Task Force 2013).

VII. CASE STUDY 1: FLOODING IMPACTS ON LAKE ST. MARTIN FIRST NATIONS COMMUNITIES

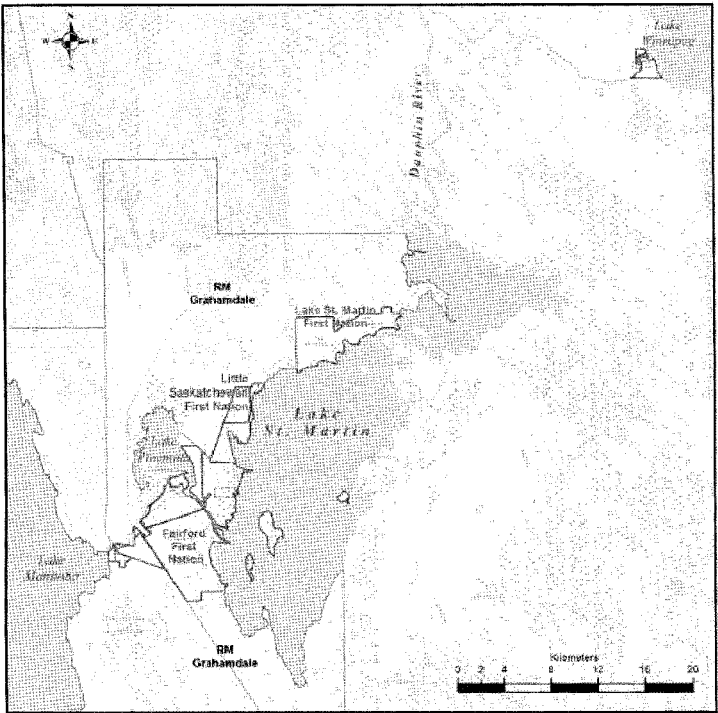
Floods, like other natural disasters, are forces outside of human control. However, although a flood cannot be stopped, floodwater can be diverted to another course. The 2011 Manitoba flood was diverted from its course to Winnipeg through the Portage Diversion, at flows greater than its design capacities, to Lake Manitoba. Little Saskatchewan FN, Pinaymootang FN and Lake St. Martin FN were inundated, as well as Daphne River FN, while cottagers and Winnipeg were spared as a result of the diversion (Ballard and Thompson 2013; Thompson, Ballard and Martin 2014; Manitoba 2011 Flood Review Task Force 2013) (see Figure 2). See Figure 3 for the 2011 water levels, which far exceeded the levels

both after the deepening of the channel and the water control structure at Fairford River, which tripled the flow to Lake St. Martin in the 1960s and after the Portage Diversion in the 1970s. The Portage Diversion increased average annual water volume by 246,800 acre feet (304,400,000 m³) to Lake Manitoba by the Portage Diversion in the 1970s (Government of Manitoba 2013) which then drains northeast into Lake St. Martin (Manitoba 2011 Flood Review Task Force 2013).

Without upstream control structures, the FNs communities around Lake St. Martin would not have been permanently displaced. According to modeling results, the 2011 flood levels would have been much lower if the Fairford control structure had not been there: "Lake St. Martin reached a maximum level of 805.60 feet (245.547 m) versus an unregulated peak level 803.17 feet (244.806 m), meaning that water levels on Lake St. Martin were artificially high by up to 2.4 feet (0.73 m)" (Government of Manitoba 2013:3). The cause of the high levels on Lake St. Martin and the cause of permanent displacement of community members was that the Fairford Water Control Structure has been kept open effectively since August 2005, artificially raising Lake St. Martin water levels in order to reduce Lake Manitoba levels to lower-than-average levels. An emergency channel was constructed from the northeast end of Lake St. Martin to the lower Dauphin River and put into operation on November 1, 2011 to allow the Fairford control structure to remain fully open to Lake St. Martin.

Despite having Aboriginal rights and the duty of government to consult, community members from the four FNs impacted by the flooding of Lake St. Martin have said that they have never been consulted about water levels at any time before or after the Fairford control structure was established or about the emergency channel (Ballard 2012; Ballard and Thompson 2013). Members of Lake St. Martin FN and other communities nearby opposed drawing down Lake Manitoba water by shunting it to Lake St. Martin but were not provided a say in decision-making in the 2011 flood (Ballard and Thompson 2013). In fact, to be able to channel more water to Lake St. Martin, the province applied the Emergency Measures Act (Manitoba Government, 2015), to override the requirement for an environmental assessment and the constitutional duty to consult with Aboriginal peoples on the \$100 million water channel from Lake St. Martin to Buffalo Marsh, Big Buffalo Lake and into Buffalo Creek (Ballard and Thompson 2013).

Figure 2: Four Reserves impacted by the Fairford Control Structure and Emergency Water Channel in 2011



Source: (Manitoba 2011 Flood Review Task Force 2013).

Figure 3: Lake St. Martin Lake Levels pre- and post- Fairford Water Control Structure and Portage Diversion

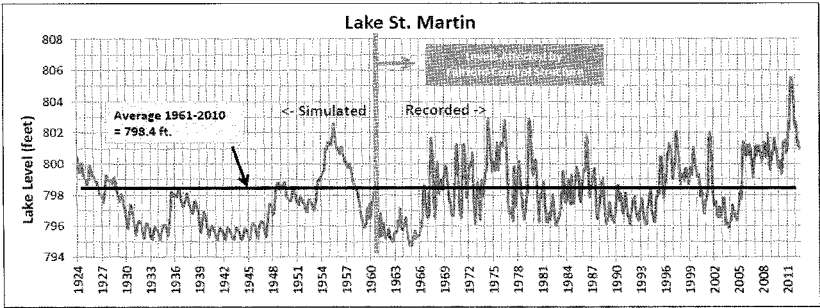
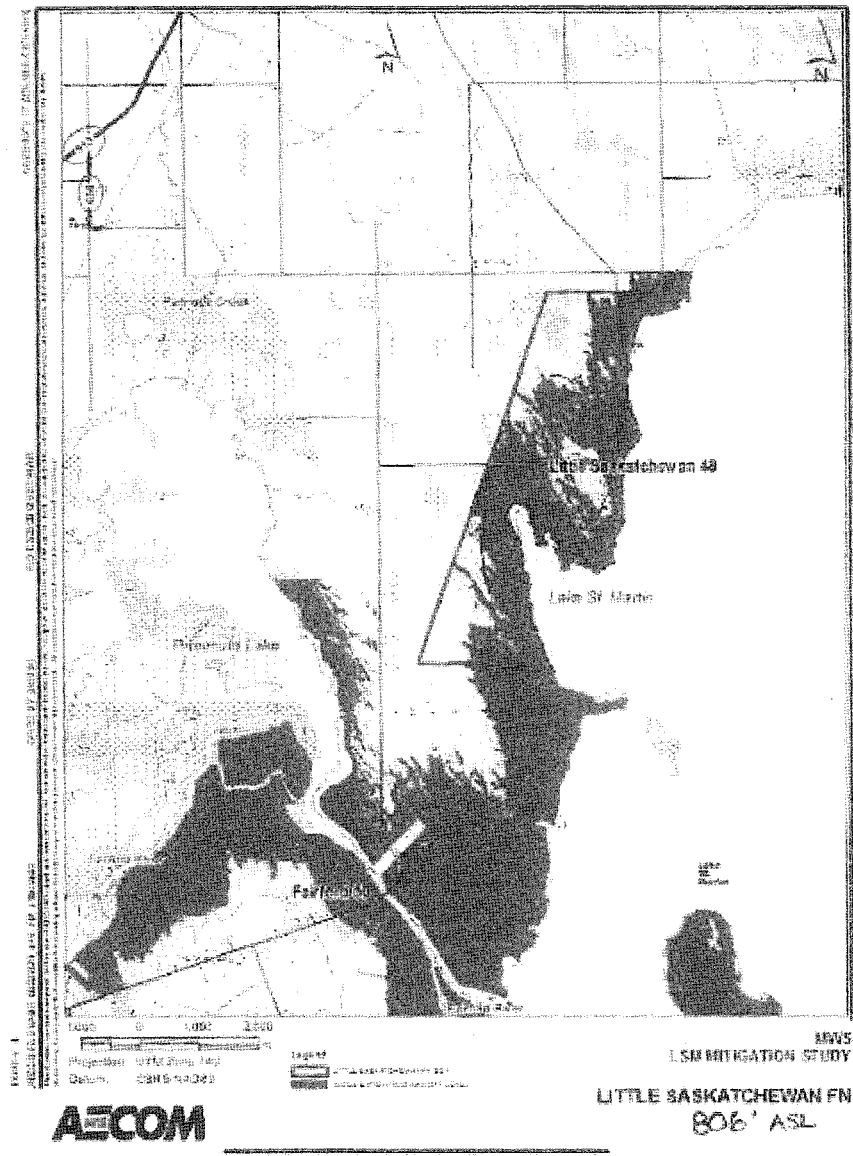


Figure 3.17: Lake St. Martin Lake Levels

Source: (Manitoba Government, 2013)

Considered the “largest spring runoff in the province’s history,” Manitoba’s 2011 “superflood” duration and geographical scope surpassed previous records. Reports prior to the flood indicated devastating impacts: “If no action is taken, extremely high water levels on Lake Manitoba and Lake St. Martin are expected to continue for an extended duration, leaving communities and homes damaged from flooding, wind and waves” (KGS Group & AECOM 2011:7). The response to the call for action was to reduce risk on Lake Manitoba at the added risk to Lake St. Martin and its communities: “Given the design of the structure and the water level objectives established for Lake Manitoba, everything that could be done at the structure to maximize outflows from the lake was done—even at the expense of creating severe water levels on Lake St. Martin” (Manitoba 2011 Flood Review Task Force 2013:ii). The peak water level near 806 feet may be the new “normal” on Lake St. Martin. See Figure 4 from the Physical Development Plan for Little Saskatchewan FN (Stantec 2014), which illustrates how the province will only consider development above 806 feet. The FNs are concerned over loss of waterfront homes, roads and graveyards if flooding is allowed to occur to this level.

Figure 4: Physical Development Plan for Lake Saskatchewan First Nation (Stantec 2014).



At the height of the 2011 flood there were more than 7,100 evacuees, primarily from FNs communities; 4,525 FN people were evacuated from 17 FNs communities in Manitoba (Manitoba 2011 Flood Review Task Force 2013). Although Aboriginal people, including FNs peoples, Metis and Inuit, only represent 17 percent of the population in Manitoba, FNs people living on reserves comprised at least 64 percent of the evacuees (Statistics Canada 2011). According to a Southern Chiefs' Organization resolution in May 2012, one year after the 2011 flood, "There are currently 2,427 displaced evacuees from the eight affected communities, which are comprised of two Southern FNs completely evacuated and unable to return to their respective community with six other communities partly evacuated"(Southern Chiefs Organization, 2012).

Floods exacerbated the poverty and vulnerability of FNs peoples living around Lake St. Martin. Since then, the numbers of evacuees have not gone down significantly as many homes and the Lake St. Martin FN community, a reserve for 140 years, is now uninhabitable. Four years after the evacuation there remain 1,914 FNs residents around Lake St. Martin basin still evacuated from their communities, mainly in Lake St. Martin (1,158), Little Saskatchewan (405) and Dauphin River (225) FNs (Paul 2015) but no non-FNs remain displaced. The entire Lake St. Martin FNs community remains evacuated four years later in the fall of 2015 with no land base and no hope for return and no land to call home. The great majority (85 percent) of the Lake St. Martin FN reserve has been ruled unsuitable for construction or rebuilding as a result of the operation of the Portage Diversion and the Fairford control structure that place this area at high risk from flooding. People have been living in hotels or temporary housing throughout the province for the last four years, away from their "home" (Paul, 2015). Also, half of the community of Little Saskatchewan FN continues to be evacuated and unable to return four years later (Paul, 2015).

The Manitoba 2011 Flood Review Task Force (2013) reported that effects of displacement included negative effects on social relationships and personal well-being, culture shock, experiences of racism and lost time in school for students. The health and social impact for those evacuated in the 2011 flood included, but are not limited to, premature mortality, higher rates of suicide, worsening of chronic illnesses, substance abuse, post-traumatic stress disorder, depression, increased family violence, family breakups and recruitment of their youth by gangs in host communities

(Stantec 2014; Ballard and Thompson 2013; Thompson, Ballard and Martin 2014).

High anxiety and stress were reported by victims of the 2011 flood, which takes a heavy toll on the overall health of the displaced people. The mental health disorders experienced by the 2011 flood victims are commonly experienced due to displacement and flooding, and include anxiety, depression, post-traumatic stress syndrome and suicide (Albrecht et al. 2007; Crighton, 2004; O'Sullivan and Handal 1988; World Health Organization 2001). The stress of displacement from the 2011 flood resulted in suicide attempts and deaths from suicide, as well as anxiety, post-traumatic stress and depression (Ballard and Thompson 2013; Thompson, Ballard and Martin 2014). FNs experience high rates of chronic diseases, including diabetes, which are exacerbated by the induced displacement and flooding (Ballard and Thompson 2013; Thompson, Ballard and Martin 2014). Difficulties in maintaining a stable medication routine is the key barrier to effectively managing chronic conditions (Thompson, Ballard and Martin 2014). Having continuity of care during the emergency evacuation, and subsequent relocations, was not possible (Ballard and Thompson 2013).

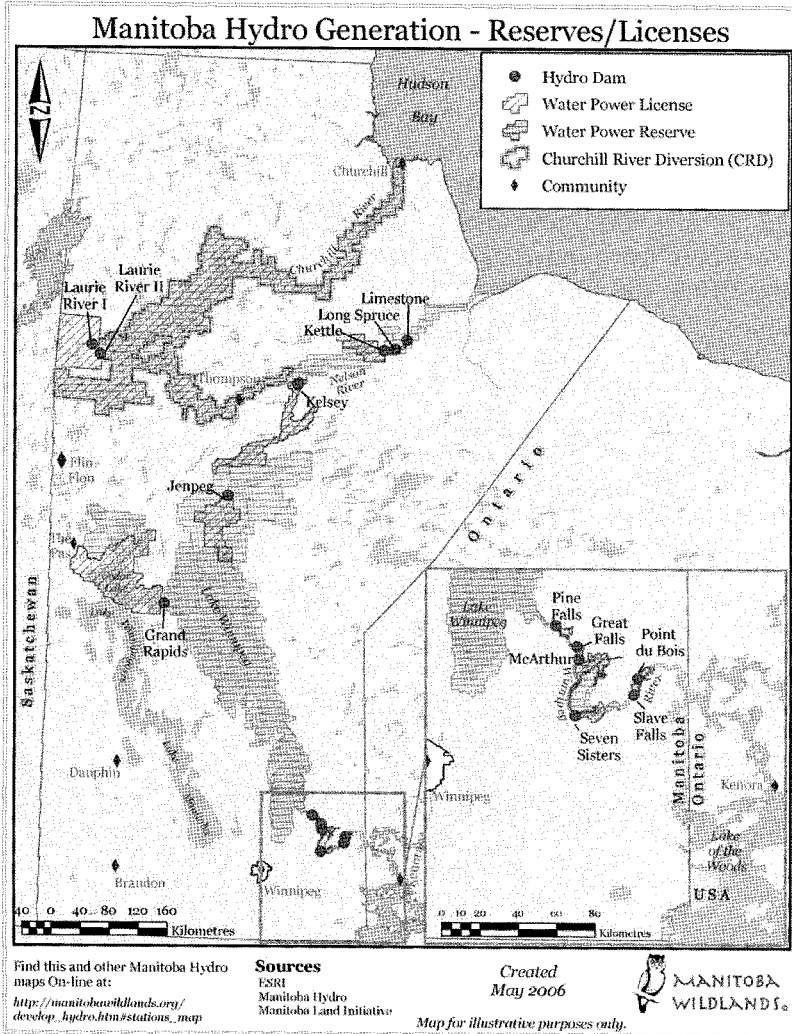
Financial constraints were a contributing factor to stress and ill health, as most community members had little or no savings, credit cards or collateral (Ballard and Thompson 2013). Displaced from their homes and with neither the financial means nor rental history to get more permanent housing, people often had to reside in hotels without a kitchen to make healthy meals. The initial daily allowance per adult evacuee of 24 dollars per diem was inadequate to cover three meals in a restaurant, which was later reduced to four dollars per adult, per diem. Families either had to borrow or access food banks and often family members went hungry (Ballard, Klatt and Thompson 2013).

VIII. CASE STUDY 2: DAMMING OF FIRST NATIONS THROUGH HYDROELECTRIC DAMS

Manitoba has a long history of water regulation negatively impacting FNs communities to provide power and its associated economic benefits to the province (Waldram 1993; Loney 1987). Between 1906 and 1954, a series of dams in Sagkeeng FN territory were built, six of which still operate on the Winnipeg River. Sagkeeng FN reserve borders both sides of the

Winnipeg River a few kilometres downstream of the Pine Falls Dam, which resulted in major land erosion and disrupted river travel (Loney 1987). See Figure 5 for the location of these dams and others nearby and upstream from FN communities.

Figure 5: Location of Hydro generating dams and waterpower reserves (Manitoba Wildlands, nd)



In the 1960s, northern mega hydro projects started after three electric companies consolidated into the Manitoba Hydro monopoly (Martin 2011). The first Manitoba Hydro project in northern Manitoba dammed the Saskatchewan River to create a giant reservoir, or waterpower reserve, at Cedar Lake, displacing the Chemawawin Cree community of 350 people, located in a remote community at the confluence of the Saskatchewan River and Cedar Lake (Loney 1987). The Grand Rapids Forebay Administration Committee, constituted by the Manitoba government, was charged with the responsibility of negotiating with the FNs for the surrender of the reserve land at Chemawawin but only told people in 1960, even though planning was underway since 1957 (Loney 1987). As their home community was flooded, the entire FNs community was displaced to Easterville, with social, economic and environmental problems ensuing. Beginning in 1971, the commercial fishery was closed by the provincial government as a result of mercury contamination from flooding and most people had to give up trapping and moose hunting due to productivity worsening with rising waters destroying beaver and muskrat habitat behind the dam (Loney 1995).

The northern Manitoba Hydro Project drastically altered water regimes in northern Manitoba by reversing the flow of the Churchill River (Waldram 1993) to fuel the three major generating stations of Kettle, Limestone and Long Spruce. To reroute the flows to these dams on the Nelson River, which provides 75 percent of the total electricity produced by Manitoba Hydro, a control structure was constructed at Missi Falls at the northern outlet of South Indian Lake. The control structure flooded the lake by 17 feet creating an enormous reservoir, displacing the South Indian Lake community, now called OPCN, and swamping the territory. The three major generating stations and the smaller Kelsey generating station are situated in the Split Lake Resource Management, which has been the ancestral land of the Split Lake (Tataskweyak) Cree FN. Split Lake was not the only community impacted.

Five communities, namely Split Lake (Tataskweyak) FN, York Landing (Kiche Waskihekan) FN, Nelson House (Nisichawayasihk with South Indian Lake) FN, Cross Lake (Pimicikamak) FN and Norway House (Kinosao Sipi) FN, formed an alliance known as the Northern Flood Committee (NFC) to protest hydro development in the area (Waldram 1993). The NFC negotiated the Northern Flood Agreement (NFA) (Waldram 1993), with South Indian Lake FN people being members of

Nelson House FN at the time. The NFA acknowledged that the Lake Winnipeg Regulation and Churchill River Diversion Project would modify “the water regime [and that] adverse effects have occurred, and may continue to occur, on the lands, pursuits, activities and lifestyles, of the residents, individually and collectively, of the Reserves of Cross Lake, Nelson House, Norway House, Split Lake and York Landing” (Government of Manitoba 1977: iC).

The NFA was negotiated over a three-year period from 1974 to 1977. Initially the province and Manitoba Hydro wanted to unilaterally decide the fate of Manitoba Crown lands, within their powers under the Constitution, refusing to negotiate (Loney 1987). The only bargaining chip of the NFC was that this development would impact Reserve Land, which the federal government had constitutional authority over. The Government of Canada sided with the FNs stating that they would not permit “Indian” lands to be impacted unless the FNs agreed. However, the province continued to act unilaterally, rejecting a draft of the NFA with revenue sharing and a royalty clause. A lesser agreement without regular revenues to ensure economic development was signed by the NFC, Canada, Manitoba and Manitoba Hydro in December 1977, and was ratified by the membership of each FN in March 1978. Each of the NFA FNs that negotiated implementation agreements in the 1990s found that implementations were unsatisfactory in dealing with the devastating impact of flooding.

In 2014, the Cross Lake (aka Pimicikamak) band occupied the site of the Jenpeg generating station, with the community and Chief Cathy Merrick arguing that NFA broke its promises to adequately compensate for altered water levels, which disrupted fishing, trapping and hunting (Merrick 2014). Further, with Pimicikamak having an unemployment rate of 85 percent, clearly no follow through occurred on the pledge of “setting forth the best-case community-development scenario and joint action program for the eradication of mass poverty and mass unemployment and the improvement of the physical, social and economic conditions and transportation” (Government of Manitoba 1977: E2). As the waters flow by FNs communities at unnatural levels to make electricity, many community members are cut off of hydroelectricity which heats and powers their houses, even in mid-winter, when unable to pay their hydro bills (Waldram 1993). Despite suffering high environmental, economic and social costs from hydroelectricity, a community energy study

conducted by the Pembina Institute noted that “Aboriginal communities consistently spend higher amounts on energy (on per house and per person basis) than in non-native communities or when compared to provincial averages” (cited in Bhattarai 2013: 45). Clearly hydro-impacted people do not benefit from cheaper electricity although their ability to afford electricity bills is seriously undermined by the hydro dam’s negative economic impact.

In 2015, the premier of Manitoba wrote an apology for the impacts of hydroelectric development on FNs, Metis and other Indigenous peoples in Manitoba:

Hydroelectricity development has changed the water regimes on some lakes and rivers and we now understand how significantly this affects many Indigenous communities. The effects of hydro projects include effects on transportation in summer and winter, effects on fishing, effects on water quality and, which in some cases includes significant flooding of First Nation reserve land and other lands traditionally used by Indigenous people. The effects are more than just those on land and water and on plants and animals. We recognize that hydro development can affect the cultural identities of Indigenous peoples because of the close relationship of Indigenous people to the land and resources (Government of Manitoba 2015:1).

The many Indigenous communities impacted negatively by hydropower include those around Lake Winnipeg, which is used as a water-power reservoir. In 1970, the province granted Manitoba Hydro an interim licence to regulate Lake Winnipeg outflow by a control structure at Jenpeg Generating Station on the Nelson River near the lake’s outlet, despite this control structure creating a major reconfiguration of waterways. The interim license for Lake Winnipeg Regulation was recently under review by the Clean Environment Commission (CEC). At a 2015 CEC hearing, the Chief of Black River FN, Frank Alexander, depicted the CEC as a three-headed snake to show this commission is not impartial, but rather it is part of the provincial government, along with Manitoba Hydro and Manitoba Conservation. This lack of impartiality is clear from the province directing CEC to document the hearings without providing any recommendations to government and only for Lake Winnipeg (not including NFA and other northern flood impacted communities). As a result of this partiality, CEC’s consultation with FNs cannot impact the license contents for Lake Winnipeg Regulation or stop it from being granted.

As set out in the Water Power Regulation, a full license for Lake Winnipeg Regulation would run until 2026, which is 50 years from the completion of construction in 1976 after the interim license in 1970 was granted (Government of Manitoba, 1988). This license requires extensive surveying and mapping, negotiation of complex compensation agreements, remedial works and ongoing programming and processes for impacted communities. However, it does not require an environmental assessment or any environmental justice considerations and so does not consider FNs issues. These megaprojects undermined the water, landscape and ancestral ways of life of Aboriginal peoples.

Winnipeg Lake Regulation has negatively impacted many FNs including Hollow Water FN, Black River FN, Berens River FN and many more on Lake Winnipeg, as well as those downstream of Jenpeg, without any compensation or reparation. The impacts of water regulation on Lake Winnipeg communities include: 1) the flooding of housing and neighbourhoods, creating risks to health and safety from electrical, mould and mobility risks; 2) wild rice economy and sustenance completely destroyed due to fluctuating water levels; 3) erosion of land and destruction of biota (trees, muskrat habitat and muskrats, etc.) due to high and fluctuating water levels; and 4) increased perils and decreased livelihoods faced by the fishing industry (Thompson and Oyegunle 2015; Thompson with Bushie 2015).

Higher water levels, due to water regulation, inundated the housing in FNs communities around Lake Winnipeg (Thompson and Oyegunle 2015). Due to its relatively shallow depth and large surface area, Lake Winnipeg experiences wind setup events that cause the flooding. Manitoba Conservation indicated that “The frequency of occurrence of major wind setup events doubled in the period 1992-1999 as compared to the period 1974-1991” (cited in Manitoba Hydro 2015). It was also reported that Lake Winnipeg water levels were about 0.4 feet above the long-term average during this period. This higher level of water creates life-threatening risks of fire and shock hazards because of electrical wire in housing being exposed to moisture and pollutants in floodwater. The growth of mould occurs when susceptible building materials are wet for long enough to allow the mould spores to germinate and multiply. There is no safe level of airborne mould exposure in buildings and symptoms include running nose, eye irritation, cough, nasal congestion, aggravation of asthma, headache and fatigue. In particular, people with a

compromised immune system risk fungal respiratory infections from mould.

The water fluctuations in Lake Winnipeg decimated the abundant harvest of wild rice or “manoomin,” which is culturally, nutritionally and spiritually important to Anishinaabe people. High in protein, yet low in fat and calories, manoomin has a very high nutritional value and provides multiple health benefits to the community eating and harvesting it in a tradition that goes back thousands of years. A Hollow Water FN community member stated: “At one time in the past wild rice was abundant on the Wanipigow and Rice Rivers up to the first rapid bridges, as well as some bays on Lake Winnipeg, Clangula Lake on Wanipigow River. Certainly there is some bearing [from water regulation on decimation of rice]” (cited in Thompson and Bushie 2015). The decimation of these supplies and overharvesting what little remained left Manitoba’s FNs people with few, or no, sources of wild rice. The older people miss the taste of wild rice, which can be stored for long periods, and the food security this staple provided. This high value crop provided a good income to Anishinaabe prior to water regulation. For example, Hollow Water FN had a large wild rice processing plant in the community that employed many people to process and package this high value crop. However, since water depth is critical for manoomin plant survival, hydro fluctuation of water levels can be clearly pointed at for its demise.

Another livelihood negatively impacted is fishing (Thompson and Oyegunle 2015). With higher water levels, the shorelines are eroded bringing soil, brush and trees into the water. This “muck” ends up in the fishnets and destroys them or makes them so heavy to pull up that they fall to the bottom of the sea. Boat travel safety is perilous with sunken logs, reefs and underwater islands from the flooding of land. As well, the populations of fish are much lower due to hydro impacts. Fish eggs are destroyed by being exposed to air due to water fluctuations during spawning season (Thompson and Bushie 2015). This lack of successful spawning, due to fluctuating water levels, reduces the fish populations and the livelihoods of fishers. The sturgeon is no longer seen in these waters, where once it was plentiful.

Fluctuating water levels to maximize hydro generation is causing erosion to FN reserve land, traditional territory, islands and “everywhere” (Thompson and Oyegunle 2015). Cumulative impacts of flooding cause declines in the productivity and biodiversity of downstream river systems.

Rare or endangered species that are especially vulnerable to these changes include lake sturgeon, moose and woodland caribou in Manitoba. Many of the affected wildlife including muskrat, ducks and moose are also “cultural keystone” species that have been hunted, trapped, and consumed since time immemorial (Thompson and Bushie 2015). Also, flooding reduces the locations where medicinal plants, such as snakeroot, grow so that they can no longer be obtained. High mercury levels also typically erode community confidence in traditional foods, accelerating a nutrition transition from healthy country foods to highly processed, store-bought foods rich in fats, sugars and salts. This transition, in turn, contributes to increases in rates and severity of diabetes, obesity, heart disease and other chronic diseases such as cancer, as well as cultural loss.

IX. DISCUSSION

The destruction of livelihoods, health risks and undermining of natural habitats is occurring due to hydroelectric development, water regulation and flood management by the province and Manitoba Hydro. Like Indigenous peoples around the globe, Manitoba FNs have a higher risk of severe flood exposure, which results in negative health, displacement and other negative outcomes (Ahern et al. 2005; Albrecht et al. 2007; Crighton 2004; O’Sullivan and Handal 1988). The most severe and enduring effects of relocation are known to be where the entire community is affected and where the flooding is a human outcome rather than a natural occurrence (Albrecht et al 2007; Crighton 2004; O’Sullivan and Handal 1988), which is the situation for three FNs communities in Manitoba. These three displaced communities, as well as the mostly displaced Little Saskatchewan FN, are expected to experience long-term negative impacts. In addition, FN people have a strong spiritual connection to their ancestral land. This adds an extra dimension, which generally makes them more impacted by displacement than non- FNs. Part of FN people’s relationship to the land, air and water are the stories, rules, norms, beliefs, dreams and connection back to ancestral beings from the time of creation. Although the relationship with the land is changing over time, there are notable differences between Europeans and Indigenous peoples (Ballard 2012). Like rural Indigenous communities around the world, after involuntary displacement, these displaced FNs communities are experiencing increased dependency upon the government, resistance

to innovation and a cultural identity crisis, as well as increased morbidity and mortality (O'Sullivan and Handal 1988; Lowney 1987; Waldram 1993). Clearly displacement in Manitoba compromises cultural identity for FN's communities, which has a high morbidity and mortality toll.

Compulsory relocation disrupts people's social support networks and requires significant psychological adjustment. To make things worse, low socio-economic status intensifies the experience of displacement. The community members had few resources to begin with, and these resources were diminished further. These evacuees are not having their basic needs met and they experienced intense racism from settler society (Ballard and Thompson 2013). The low education levels, minimal financial resources, language barriers, loss of sustenance and lack of non-FN's social networks do not provide adequate resources to allow them to cope well with their displacement. This displacement creates new calamities for the people trying to endure the flood. Floods exacerbate the poverty and vulnerability of FN's people (Ahern et al 2003; Waldram 1993). In 1998, Canada placed highest in the Human Development Index (HDI) on well-being. Meanwhile, FN's people living on-reserve ranked alongside Peru and Brazil, scoring 78th on this same list, indicating the poor living conditions for the population on-reserve (Martin 2010).

By framing flooding within a context of environmental justice, the negative role of the state is clear and demonstrates the need for laws upholding environmental justice. Clearly, from both hydro development and flood management, the environmental injustice is not only the flooding impacts but also the government's failure to acknowledge the FN's sovereign powers and exploitation of their resources without adequate compensation or mitigation. To address FN's unique cultural and place-based identity there is a need for FN's to have self-governance, cultural integrity and environmental self-determination (Tsosie 2007). The United Nations Declaration on the Rights of Indigenous Peoples upholds self-governance, cultural integrity and environmental self-determination in Article 26 (United Nations 2008:13). History has demonstrated repeatedly that removing Indigenous communities by force from their ancestral territory, resources and culture results in immeasurable harm (Tsosie 2007; United Nations 2008) and calls for action to ensure that does not happen, which requires a change in water management policy. Currently, flood management and hydro projects undermine FN's by flooding and displacing them from ancestral territory, and contribute to other negative

impacts. The US EPA provides a model for environmental justice for FNs by providing a federal-tribal partnership to fund and assist tribal programming (Environmental Protection Agency 2014), which allows tribes to gain some control over off-reserve development, such as implementing water control structures and dams. Providing the full Aboriginal rights FNs are entitled is another way.

X. CONCLUSION

By studying both the impacts of water diversion for floods and hydroelectric development it becomes clear that Manitoba FNs suffer worse impacts from provincial water policy than non-FNs, as FNs are the only communities that have been permanently displaced. The entire communities of Lake St. Martin FN, Chemawawin Cree FN and OPCN, as well as most households in Little Saskatchewan, were permanently relocated to serve provincial development. Although Manitoba claims to control water in the common good, clearly the “bads” inequitably fall on FNs communities. This greater risk is not only due to their placement by colonial government on marginal land but is based in the present-day biased decisions and policies of the provincial government. These policies and decisions continually provide inequitable treatment to land occupied by FNs except for their utility in placing upstream dams and water control structures to flood these areas.

Indigenous peoples in Manitoba have a higher risk of severe flood exposure, which results in more negative health, social, environmental, livelihood and other outcomes. The displacement of OPCN, Chemawawin Cree FN and Lake St. Martin FN represents the most severe and enduring effects of relocation as the entire communities were affected and the flooding was man-made rather than a natural occurrence (Albrecht et al 2007; Crighton 2004; O’Sullivan and Handal 1988; Thompson, Ballard and Martin 2013). Due to issues related to socioeconomic status, FNs people face many more struggles with the negative impacts from flooding. FNs have many issues that leave them less able to cope (poverty, racism, lack of non-FNs social networks, etc.). With a greater attachment to land, the FNs are more devastated and distressed by relocation and permanent flooding of their home community than other cottage or settler communities would be (Albrecht et al 2007; O’Sullivan and Handal 1988). The inundation of FNs in Manitoba has

destroyed livelihoods and eroded deep spiritual connections by decimating the land and water, where their ancestors rest and from which they depend for basic needs, spiritual holism and sustenance (Ballard and Thompson 2013; Ballard 2012).

Provincial governments usurped their legal authority to manage water resources, including water regulation and risks from flooding, despite FNs having a spectrum of Aboriginal rights over water. In the case of water level control in either flood management or hydro development, FNs were not even consulted regarding the decisions that were made around the 2011 flood or other decision-making on water management, water-levels, etc. The 2015 CEC hearing provides a prime example of how the province's consultation with FNs is not allowing them to be at the decision-making table, with this consultation not even providing an opportunity for recommendations to be issued. Thus, provincial government has embedded inequitable treatment to FNs in its policies, rather than consideration of Aboriginal rights, which make FNs communities more vulnerable to man-made flooding. The Province of Manitoba and their utilities have taken the approach that waterpower and waterways are a common property resource. With this approach, FNs become "sacrifice zones" in the broader development of settler capitalist society in Manitoba, continuing and perpetuating its colonial legacy. Clearly, these policies go against the United Nations Declaration on the Rights of Indigenous Peoples as it forces Indigenous people from their ancestral territory, resources and culture, resulting in immeasurable harm (Tsosie 2007; United Nations 2008) and does not recognize their right for self-governance and environmental self-determination. History demonstrates repeatedly that forcibly removing Indigenous communities results in irreparable harm (Tsosie 2007; United Nations 2008), yet current policies result in these ends. Clearly, FNs communities need their Aboriginal rights realized for environmental self-determination and environmental justice.

Upholding Aboriginal rights and enabling FNs self-governance should enhance water governance. The case of the NFA, where the Government of Canada required the province and Manitoba Hydro to negotiate with the five affected FNs, would have been an important first small step towards environmental justice, had the agreement been honoured and a chance for self-determination provided. This agreement without revenue sharing was never ideal but lack of follow-through of this agreement

compromised it further. The FNs were not provided any replacement of livelihoods that were lost as the 85 percent unemployment rate at Cross Lake indicates. Clearly, the political power and legal rights of FNs communities would benefit from something similar to that of the US, whereby EPA partners uphold agreements and Aboriginal rights in the courts. If environmental legislation similar to the US's EPA environmental justice was in place, FNs representatives supported by the federal government would be at the table with the province to negotiations water levels and water strategies, which would help prevent displacement of FNs communities. Thus, provincial water management has to be remedied so that FNs have a strong voice in the water-management decision-making process, which is enshrined in laws that incorporate Indigenous rights, as noted by Tsosie:

We cannot afford to maintain a set of domestic laws based on Anglo-American cultural categories, such as "property rights," "environmental rights," and "religious rights," just because they are the ones we have always had and we know how and when they are enforceable, if the end result is to continually perpetuate grave injustices upon indigenous peoples. We must open our collective minds to a notion of justice that is truly intercultural in nature. Such a notion of justice must incorporate an indigenous right to environmental self-determination that allows indigenous peoples to protect their traditional, land-based cultural practices regardless of whether they also possess the sovereign right to govern those lands or, in the case of climate change, prevent the practices that are jeopardizing those environments.

The past practices of national governments in dispossessing indigenous peoples of their lands and resources and forcibly colonizing them have created a grave contemporary injustice that can only be redressed through special rights that protect what little of their land remains. This argument would support indigenous claims for repatriation of traditional lands in some cases and would also provide a positive right against the destruction or dispossessing of their remaining land-base. This argument, which to some extent can be associated with a concept of reparations, would also support the mandatory inclusion of indigenous peoples within the institutional processes that have historically excluded them (2007:1652).

Since Indigenous peoples have rights on the basis of the territorial sovereignty over their ancestral lands, there is a political argument for indigenous environmental and water rights, as well as an ethical argument for environmental justice legislation considering the greater harm done by flooding to FNs.

XI. ACKNOWLEDGEMENTS

This article thanks people in communities of Hollow Water First Nation, Little Saskatchewan, Lake St. Martin First Nation, Black River First Nation and O-Pipon-Na-Piwin Cree Nation who participated in this research. This research was done through Dr. Thompson's SSHRC Insight Grant 435-2013-1575 called "Participatory Research on Harvesting Community Economic Development in Northern Manitoba and Sharing the feast of Ithinto Mechisowin (food from the land) and grow North: Food-based community development at O-Pipon-Na-Piwin Cree Nation and Northern Manitoba."

References

- Albrecht, Glenn, Gina-Maree Sartore, Linda Connor, Nick Higginbotham, Sonia Freeman, Brian Kelly, Helen Stain, Anne Tonna, and Georgia Pollard. 2007. "Solastalgia: The distress caused by environmental change." *Australasian Psychiatry* 15 (1): S95-S98.
- Austin, Regina, and Michael Schill. 1994. "Black, brown, red, and poisoned." In *Unequal Protection: environmental justice and communities of color*, edited by R. Bullard, Washington: Sierra Club.
- Baird, Julia, Blair Carter, Kate Cave, Diane Dupont, Paul General, Clynt King, Ryan Plummer, and Apryl Varewyck. 2012. *Gaining Insights About Water: The Value of Surveys in First Nations Communities to Inform Water Governance*: Ontario: Environmental Sustainability Research Centre (ESRC) Working Paper Series ESRC-2012-001.
- Ballard, Myrle. 2012. "Flooding sustainable livelihoods of the Lake St Martin First Nation: The need to enhance the role of gender and language in Anishinaabe knowledge systems." Doctoral dissertation. Winnipeg, Manitoba, Natural Resources Institute, University of Manitoba.
- Ballard, Myrle, Ryan Klatt, and Shirley Thompson, S. 2012. Video, 2, May, 2013. *Flooding Hope: The Lake St. Martin First Nation story*: <http://www.youtube.com/watch?v=SQStePF5jeg>.
- Ballard, Myrle and Shirley Thompson. 2013. "Flooding Lake St. Martin First Nation Community: Impacts to and Future Community Plans for Sustainable Livelihoods." *Canadian Journal of Nonprofit and Social Economy Research* 4(1): 43-65.
- Bhattarai, Prasad Ram. 2013. "Optimizing an off-grid electrical system in Brochet, Manitoba, Canada." PhD diss., University of Manitoba.

- Bullard, R. (1994). *Unequal Protection: Environmental Justice and Communities of Colour*. Washington: Sierra Club.
- Bunyan, Bryant, and Paul Mohai. 1992. "Race and the incidence of environmental hazards: A time for discourse." Boulder: Westview.
- Byrne, John, and Steven M. Hoffman. 1996. *Governing the Atom: The Politics of Risk*. Vol. 7. North Atlantic Books.
- Eggertson, Laura. 2006. "Safe drinking water standards for First Nations communities." *CMAJ*, 25 April: 174(9): 1248.
DOI:10.1503/cmaj.060399
- Government of Manitoba. 2013. *2011 Flood: Technical Review of Lake Manitoba, Lake St. Martin*. October. Winnipeg.
- . 2015. *Emergency Measures Act 25/88*.
http://web2.gov.mb.ca/laws/regs/current/_pdfregs.php?reg=25/88R
- . 1977. *Northern Flood Agreement (NFA)*. <http://www.nfa-arb.org/agmnt/preamble>
- . 2015. *Statement by Premier Greg Selinger apologizing for the impacts of hydroelectric development on First Nations, Métis and other Indigenous Peoples in Manitoba*. 20 January.
<http://www.gov.mb.ca/ana/interest/agreements.html#1>
- Grossman, Zoltán, ed. 2012. *Asserting native resilience: Pacific rim indigenous nations face the climate crisis*. Oregon State University Press.
- Harden, Andrea, and Holly Levillant. 2008. *Boiling Point!* Ottawa: Polaris Institute.
http://www.safewater.org/PDFS/inthenews/PolarisInstitute2008_YQ_FN_report.pdf

- Huang, Peng, Hongzhuan Tan, Aizhong Liu, Shuidong Feng, and Mengshi Chen. 2010. "Prediction of posttraumatic stress disorder among adults in flood district." *BMC Public Health* 10 (1): 207.
- Isfeld, H. 2009. *Boil Water Advisory Mapping Project: An exploration and review of available data*. Winnipeg: Prairie Women's Health Centre of Excellence.
- KGS Group & AECOM. 2011. *Analysis of options for emergency reduction of Lake Manitoba and Lake St. Martin levels*. Winnipeg, MB: Manitoba Infrastructure and Transportation.
- Kuehn, Robert R. 2000. "A taxonomy of environmental justice." *Environmental Law Reporter* 30: 10681.
- LaDuke, Winona. 2002. *The Winona LaDuke Reader*. Voyageur Press.
- Liu, Feng. 2001. *Environmental justice analysis: theories, methods, and practice*. Washington, DC.
- Loney, Martin. 1987. "The construction of dependency: The case of the Grand Rapids hydro project." *Canadian Journal of Native Studies* 7 (1): 57-78.
- Loney, Martin. 1995. "Social problems, community trauma and hydro project impacts." *Canadian Journal of Native Studies* 15 (2): 231-254.
- Manitoba 2011 Flood Review Task Force. 2013. *Manitoba 2011 Flood Review Task Force Report*. Winnipeg: Minister of Infrastructure and Transportation.
- Martin, Katia Liénafa Thibault. 2010. "Beyond the Conflict: The Reconstruction of the O-Pipon-Na-Piwin First Nation Community in Manitoba." In *Geography Research Forum* 30: 50-65.
- Martin, Thibault. 2011. *Power struggles: hydro development and First Nations in Manitoba and Quebec*. Univ. of Manitoba Press.

Manitoba Hydro. 2015. *Appendix 12 – Lake Winnipeg Water Regulation*. Winnipeg: Manitoba Hydro. Available at https://www.hydro.mb.ca/.../Appendix_12_Lake_Winnipeg_Regulation.

Manitoba Conservation.. *Manitoba Water Strategy*. Winnipeg: Manitoba Water Stewardship. <https://www.gov.mb.ca/conservation/waterstewardship/waterstrategy/pdf/index.html>

Merrick, Cathy. 2014. "Why we've taken JenPeg Back." *Winnipeg Free Press*, 24 October. <http://www.winnipegfreepress.com/opinion/analysis/why-weve-taken-back-jenpeg-280281072.html>

Obomsawin, A. 2014. *Trick or Treaty?* Ottawa: National Film Board. https://www.nfb.ca/film/trick_or_treaty.

O'Sullivan, M. H., and Paul J. Handal. 1988. "Medical and psychological effects of the threat of compulsory relocation for an American Indian tribe." *American Indian and Alaska Native Mental Health Research* 2 (1): 3-20.

Panelli, Ruth, and Gail Tipa. 2009. "Beyond foodscapes: Considering geographies of Indigenous well-being." *Health & place* 15 (2): 455-465.

Phare, Merrell-Ann S. 2009a. *Aboriginal Water Rights Primer*. Secretariat of the Assembly of First Nations of Quebec and Labrador: Labrador and Quebec.

—. 2009b. *Denying the Source: The Crisis of First Nations Water Rights*. Calgary: Rocky Mountain Books Ltd.

Pulido, Laura. 1996. *Environmentalism and economic justice: Two Chicano struggles in the Southwest*. University of Arizona Press.

- Southern Chiefs' Organization. 2012. Resolution #5. SCO Flood Affected First Nations. Passed May 2012, Brokenhead, MB.
- Speldewinde, Peter C., Angus Cook, Peter Davies, and Philip Weinstein. 2009. "A relationship between environmental degradation and mental health in rural Western Australia." *Health & Place* 15 (3): 880-887
- Stantec Consulting Ltd and Landmark Planning and Design Inc. 2014. *Physical Development Plan for Little Saskatchewan First Nation*. Winnipeg, MB: Province of Manitoba.
- Statistics Canada. 2011. *Aboriginal Peoples in Canada: First Nations People, Metis and Inuit*. <http://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-011-x/99-011-x2011001-eng.cfm>
- Statistics Canada, nd. Membership in a First Nation or Indian band of person. <http://www.statcan.gc.ca/eng/concepts/definitions/aboriginal5>
- Thompson, S., J. Wiebe, A. Gulrukh, and A. Ashram. 2012. "Analyzing food-related economic development in Indigenous communities in Northern Manitoba for impacts on food sovereignty, food security and sustainable livelihoods". *Canadian Journal of Nonprofit and Social Economy Research* 3 (2): 43-66.
- Thompson, Shirley and Ahmed Oyegunle. 2015. *Sinking Under the Negative Impacts of Manitoba Hydro: Hollow Water FN's Submission to the Clean Water Commission*. [video]. <http://youtu.be/ph7Kw1LFWS4>.
- Thompson, Shirley, Myrle Ballard and D. Martin. 2014. "Environmentally and Developmentally Induced Displacement: Lake St. Martin First Nation Community Members' Experiences - "We're like refugees". " *Refuge* 29(2): 75-86.
- Thompson, Shirley, and Garf Bushie. 2015. *Hollow Water First Nation Submission to the Clean Environment Commission (CEC) on Water Regulation*. Winnipeg.

- Thompson, Shirley. 2002. *Environmental justice in a toxic economy: Community struggles with environmental health disorders in Nova Scotia*. University of Toronto.
- Traverse, Myrle J. 1999. "Analyzing the Effects of the Fairford Dam on Lake St. Martin First Nation." PhD diss., University of Manitoba.
- US Supreme Court. 1908. United States Supreme Court Case *Winters versus US*. US Supreme Court. <http://caselaw.findlaw.com/us-supreme-court/207/564.html>
- United Nations. 2008. *United Nations Declaration on the Rights of Indigenous People*. March. http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf.
- United States Environmental Protection Agency.. Federal actions to address environmental justice in minority populations and low-income populations. <http://www2.epa.gov/laws-regulations/summary-executive-order-12898-federal-actions-address-environmental-justice>.
- . 2014. *EPA Policy on Environmental Justice for Tribes and Indigenous Peoples*. <http://www.epa.gov/environmentaljustice/indigenous/>.
- Venton, Margot and Mitchell, Kaityln. Nd. A dark day for Sydney residents & environmental justice in Canada. <http://www.ecojustice.ca/a-dark-day-for-sydney-residents-environmental-justice-in-canada/>
- Waldram, James B. 1993. *As long as the rivers run: Hydroelectric development and native communities in western Canada*. Univ. of Manitoba Press.
- Walkem, A., C. Sharvit, H. Bruce, T. Williams-Davidson,, and Environmental Aboriginal Guardianship through Law and Education. 2004. *Lifeblood of the land: Aboriginal peoples' water rights in British Columbia*. Surrey: Environmental Aboriginal Guardianship through Law and Education.

World Health Organization. 2001. *The World Health Report 2001: Mental health: new understanding, new hope*. Geneva: World Health Organization.

Zahran, Sammy, Samuel D. Brody, Walter Gillis Peacock, Arnold Vedlitz, and Himanshu Grover. 2008. "Social vulnerability and the natural and built environment: a model of flood casualties in Texas." *Disasters* 32 (4): 537.