Contested Waters

Political Ontologies of Water and the Production of Risk in First Nations Water Systems

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Abstract: Indigenous communities in Canada are disproportionately affected by unsafe and insecure water systems. While inadequate federal funding and regulatory gaps have been identified as key barriers to the provision of safe drinking water on reserves, much less attention has been paid to the ways in which water quality risks are defined and managed by state actors, and the consequences of these rationalities and technologies of regulation for Indigenous peoples. Renewed ethnographic attention to infrastructure has called attention to the ways in which infrastructures are critical sites through which narratives, technological assemblages, ideologies, political rationalities, aesthetics, and sensory experiences are produced, encountered, and contested. Infrastructures and their administration are also deeply biopolitical projects that facilitate discipline and control. In this article, we show how water infrastructures are closely tied to ongoing colonial processes that serve to subjugate and, at times, blame Indigenous people for insecure water quality on reserves. In doing so, we interrogate the normative practices and techniques through which the Canadian state assesses water quality risks in Indigenous communities and the associated consequences for water governance.

Keywords: ontologies of water; Indigenous water governance; anthropology of infrastructure; First Nations drinking water; Indigenous-state relations in Canada

Résumé : Les communautés autochtones du Canada sont touchées de manière disproportionnée par des réseaux d'approvisionnement en eau insalubres et peu sûrs. Si l'insuffisance des financements fédéraux et les lacunes réglementaires ont été identifiées comme des obstacles majeurs à l'approvisionnement en eau potable dans les réserves, on s'est beaucoup

moins intéressé à la manière dont les risques liés à la qualité de l'eau sont définis et gérés par les acteurs étatiques, ainsi qu'aux conséquences de ces rationalités et technologies de régulation pour les peuples autochtones. Un regain d'intérêt ethnographique pour les infrastructures a attiré l'attention sur le fait que celles-ci sont des lieux essentiels où se produisent, se rencontrent et s'affrontent des récits, des assemblages technologiques, des idéologies, des rationalités politiques, des esthétiques et des expériences sensorielles. Les infrastructures et leur administration sont également des projets profondément biopolitiques qui facilitent la discipline et le contrôle. Dans cet article, nous montrons comment les infrastructures hydrauliques sont étroitement liées aux processus coloniaux en cours qui servent à asservir et, parfois, à blâmer les peuples autochtones pour la qualité insatisfaisante de l'eau dans les réserves. Ce faisant, nous interrogeons les pratiques et techniques normatives par lesquelles l'État canadien évalue les risques liés à la qualité de l'eau dans les communautés autochtones et les conséquences qui en découlent pour la gouvernance de l'eau.

Mots clés : ontologies de l'eau ; gouvernance autochtone de l'eau ; anthropologie des infrastructures ; eau potable des Premières Nations ; relations entre les Autochtones et l'État au Canada

Introduction

Gathered on the shore of Charlie's Bay, people were busy loading canoes with gear and supplies for the annual trip around Okikendawt Island. The trip brings together youth and community members from Dokis First Nation to undertake a four-day paddle through the waters that surround the community. The eastern side of Okikendawt Island, nearest the community subdivision and marinas that serve as launching sites for recreational boats on the Upper French River, is travelled quite frequently by community members and visitors alike. The western side of the island is far less accessible by boat and has no road access. Yet Dokis people still travel these waterways, and still live along their shores. The canoe trip is one way that Dokis people continue to enact loving relationships with water.

Just before slipping the canoes into the water, we[1] were speaking with a grandmother who had come to the shore of Charlie's Bay to say a prayer for the safety of the travellers, and for water. We were talking about the logistics of the trip, and how our main challenge was to ensure that canoers had access to clean water for drinking, something quite ironic, considering that we were literally surrounded by water. That particular year, to avoid using plastic water

bottles, we had cached large drums of drinking water at campsites along the river. As is the case for Indigenous peoples elsewhere, colonial processes have interrupted the ability for Dokis people to fulfill their responsibilities to water. Throughout the nineteenth and twentieth centuries and into the present, successive intrusions and impositions have had a significant impact on the lives of Dokis people, even as they have resisted and contested these changes (Angus 1989). Logging, the construction of a series of dams from N'bisiing to Georgian Bay, agriculture, pulp and paper mills, and state laws, policies, surveillance, and restrictions on mobility have changed the ways in which people use the land and waterways. The grandmother was the first to articulate what we were all struggling to convey. "Yes, the water in the river is not the same as it used to be," she said. Then she added with a broad smile, "but sometimes when I go out there, I drink the water. It's still good." Her statement is both a deep faith in and knowledge of the water in her territory, gained from a lifetime lived on the river, and a defiance of colonial impositions that continue to push in on Indigenous peoples lives and communities.

Access to safe and reliable drinking water has been a concern for many Indigenous peoples living on reserves in Canada. Contaminated drinking water in Indigenous communities has been well documented in academic literature (Chalifour 2013; Latchmore et.al. 2018; MacIntosh 2009; Reading et.al 2011; Walters et. al. 2012), by Indigenous organizations (Anishinabek Ontario Resource Management Council 2009; Assembly of First Nations 2023; Chiefs of Ontario 2019; Ontario First Nations Technical Services Corporation 2022), and in the media (Johnson 2023; Millar and Rae 2018; Stewart 2018). Dokis First Nation is one of 315 First Nations across Canada to have been designated as having a high-risk drinking water system in the Government of Canada's 2011 *National Assessment of First Nations Water and Wastewater Systems* (AANDC 2011). Yet, in our conversations and meetings with community members and leadership, we have been repeatedly told by residents that Dokis First Nation has good water. Secondary analysis by environmental engineers has confirmed that drinking water coming from the Dokis First Nation water treatment plant has consistently been free of microbial and bacterial properties (McCullough and Farahbakhsh 2013). In other words, Dokis First Nation has been characterized as having a high-risk water system even though the quality of their drinking water meets federal and provincial standards. There is a clear incongruence between state designations of water system risks and how water is known and experienced by Dokis people.

In this article, we engage diverse political ontologies of water as a way of understanding how narratives of water infrastructure have been produced by the state, and how they are contested by Dokis people. Not only do infrastructures provide the material distribution of resources required for living, but they are also critical sites through which narratives, technological assemblages, ideologies, political rationalities, aesthetics and sensory experiences are produced, encountered, and contested (Appel et. al. 2018; Harvey et. al 2017). We begin by describing how the complexities of drinking water insecurities on First Nation reserves have often been framed as technical and administrative problems and, as such, deflect from the political ontologies located within state narratives and governance of drinking water in Indigenous communities. As Frank Fischer notes in his work on critical policy studies, problems addressed by political systems and policy interventions are often defined as having material or economic foundations that can be solved by applying technical knowledge, which is seen to compose a rational model of decision-making (2007, 98). Yet policy interventions are often underscored by social and political realities that are constructed in and evident through discourse (2003, 23). For Fischer, reframing policy analysis through what he calls a post-empiricist attention to discursive construction allows for a robust examination and interpretation of policy narratives. Following Fischer, we seek to illuminate how narratives of drinking water problems and their associated solutions are produced as part of a discursive field that normalizes settler ontologies of water. We contrast these state-produced narratives with how Dokis people express their understandings of water as a living relative and the kinds of relations they see as necessary to take care of water. Our understanding of community members' relationships with water is drawn from seven years of fieldwork conducted in partnership with Dokis First Nation from 2011 to 2018, interviews, story circles, and analysis of secondary readings on regional history, ethnography, and documents related to water governance. We then examine the *National Assessment* report as a case study to trace the rationalities and related discourses used by the state to identify and measure the nature and source of water quality risks for Dokis First Nation. We suggest that the state's narrative of risky water imposes assumptions inherent in settler water ontologies and governance that work to suppress Anishinaabe ways of knowing and relating to water by undermining local water knowledge and responsibilities, and by creating confusion and anxiety surrounding predicated water risks. Consequently, Indigenous peoples on reserves not only face a disproportionate lack of access to clean drinking water, but, we suggest, the actual process of assessing and labelling drinking water

risks serves to subjugate Indigenous peoples' relationships with water and, at times, blame Indigenous peoples for the disparities between water quality on and off reserves. In this sense, we offer here an analysis not of a water crisis, but of the normative practices and techniques through which the state assesses water quality risks to highlight the instrumental and political consequences of state drinking water management, even for Indigenous communities that are not facing an immediate water crisis.

Infrastructural Narratives and Colonial Imaginaries

Colonial infrastructures have long been associated with the construction of the nation state. Materially, infrastructures (roads, railways, dams, pipelines) have been essential tools for the expansion of the Canadian state into Indigenous territories, simultaneously providing the physical networks required for settlement and encroachment while also facilitating the disruption of place-based relational ecologies through the rearrangement of landscapes necessary for extractivist projects (Daigle 2018; Day 2016; Pasternak 2014; Spice 2018; Willow 2016). At the same time as massive investments of capital and labour from public and private sectors have been allocated to expansionist infrastructures, investments in infrastructures to service Indigenous communities have been woefully lacking. A recent report by the Assembly of First Nations (2023) estimates that it would take CDN $349.2 billion to address infrastructure gaps in First Nations communities, and to bring infrastructure on reserves to levels comparable with the general Canadian population by 2030. Much has been made politically about the efforts of the federal government to ensure access to safe drinking water on reserves. Prime Minister Justin Trudeau, in his 2015 election campaign, pledged to eliminate long-term drinking advisories in First Nations communities by 2021, and once in office, committed CDN $1.8 billion in the 2016 federal budget toward on-reserve water and wastewater infrastructure. Yet, while 144 long-term drinking water advisories have been lifted since November 2015, at the time that we are writing this article in May 2025, 38 long-term drinking water advisories remain in 36 First Nations communities across Canada, and as some long-term drinking water advisories are remedied, others are added in their place (Indigenous Services Canada 2024).

Conditions contributing to water insecurity on reserves in Canada are complex. There has been significant critique surrounding the inadequacy of federal funding provided for drinking water infrastructure and maintenance in First Nations communities (AFN 2023; Boyd 2011), the effectiveness of federal

policies and processes that govern the allocation of funding (McCullough and Farahbakhsh 2013; Morrison et. al. 2015), and the ability for current levels of funding to enable First Nations to effectively operate water systems, especially as important components of operation and maintenance are being shifted to First Nations without associated increases in the real costs of water service provision (AFN 2012). There is also a growing literature pointing to the ways in which gaps in regulation have left many First Nations vulnerable to insecure water systems (Auditor General of Canada 2011; Boyd 2011; MacIntosh 2009). For example, while federal regulatory frameworks include laws requiring the provision of clean drinking water to people under federal jurisdiction (such as inmates, federal employees, and passengers on airplanes), no such regulatory protection exists for First Nations people living on reserves. This helps to explain the absurdity of scenarios described by Chalifour (2013) where Health Canada has installed small water treatment units for federal employees working in buildings on reserves with long-term water advisories, while Indigenous peoples on those same reserves are not able to access clean water. Michael Mascarenhas (2012) points out that these infrastructure gaps are not only a result of inadequate funding or political will but constitute a form of environmental racism that reinforces and reproduces racialized stratification. Taken together, this long-term lack of infrastructural funding and regulation reveals what Rob Nixon (2013) has called the "slow violence" of environmental crises, and what Carmela Murdocca (2010) has identified as a particular form of structural violence and systemic racism reflective of the wider necropolitics of neocolonial state policy in Canada.

Yet, while inadequate federal infrastructure and operations funding and associated bureaucracy and regulatory gaps have been identified as key barriers to the provision of safe drinking water on reserves, there has been much less focus on the ways in which water quality risks are defined and managed by the state, and the consequences of these rationalities and technologies of regulation for Indigenous peoples. That is, there is an assumption that providing more funding, more adequate regulation, or devolving operation and maintenance tasks to First Nations should improve the state of drinking water on reserves. As such, poor water quality on reserves is framed largely as a technical or administrative problem attributable to individual cases or to mismanagement by First Nations, rather than as a reflection of wider forms of structural or colonial oppression. In his analysis of neoliberal water reforms in Ontario, Mascarenhas describes how environmental injustices, such as reduced access to safe drinking

water on reserves, are often discursively framed as either personal or localized troubles or as temporary environmental technical errors or mistakes that can be fixed through engineering or economic expertise (2012, 10). According to Mascarenhas, consequences of these narratives of infrastructure not only deny racialized groups access to the resources of life but also discursively construct those who are suffering from institutional racism as "outcasts of modernity" (2012, 7). Mascarenhas argues that discourses associated with neoliberal reforms to water governance not only privilege technical expertise, competency, and knowledge, often applied through external auditors and consultants, but also "often blame (First Nations) for their lack of expertise, culture of poverty and traditional approaches to modern problems" (2012, 124).

In this sense, Michel Foucault's theorization of the power-knowledge-discourse nexus is useful to demonstrate how state-constructed narratives of drinking water risks in First Nations, and their associated interventions, are not just technocratic assessments but form a political discourse whose normalizing power works as a form of biopolitics and surveillance that directs how people should think about and act towards water. For Foucault, power is not conceptualized as explicit coercion but rather is seen in the production of authoritative rationalities and forms of knowledge/discourse that identify and construe various domains of social life as governable and administrable. This historically situated art of governing, what Foucault terms governmentality, includes "the ensemble formed by institutions, procedures, analyses and reflections, calculations, and tactics that allow the exercise of this very specific, albeit complex, power that has the population as its target, political economy as its major form of knowledge, and apparatuses of security as its essential technical instrument" (2007:108). Importantly, though these techniques of government construct the project of management as an essential requirement for the maintenance of a healthy population, these biopolitical techniques and apparatuses also serve as a means of social control and regulation. Processes of biopower in the modern era work to define the parameters of normalcy in both biological and social terms, and to regulate and manage those that fall outside of the normal range. As we will show below, the biopolitics of drinking water assessment not only identifies First Nations as populations who violate the normative standards of modern water knowledge and management, but situate Indigenous ontologies and ethics of care for water as antithetical to modernity itself.

Indeed, narratives of infrastructures are deeply entangled in colonial materialities *and* imaginaries and carry not only corporeal but also moral connotations. Brian Larkin notes that analytical categories of "infrastructure" emerged in relation to Enlightenment ideas associated with evolutionary paradigms, such that "the possession of electricity, railways, and running water came to define civilization itself" (2013, 332). Larkin writes that infrastructures "come to represent the possibility of being modern, of having a future, or the foreclosing of that possibility and a resulting experience of abjection" (2013, 333). Even what "counts" as infrastructural can reveal deeply embedded settler notions of modernity and progress, often in ways that violently subvert Indigenous relational ecologies. Anne Spice (2018), for example, illustrates how state discourses and definitions of oil and gas pipelines as critical infrastructure constitute a form of colonial violence that enables particular kinds of economic and ecological relations seen as necessary for settler futures while simultaneously delegitimizing Indigenous sovereignties, care-taking relations, and futurities.

Without minimizing the importance of appropriate funding structures and processes, and regulatory frameworks for water infrastructure on reserves, in this article we are interested in discerning the political address associated with narratives of drinking water infrastructure in First Nations communities, and what this can reveal about settler-colonial water governance. In their work on water governance in Yukon, Wilson and Inkster argue that water conflicts in that territory are rooted in ontological differences between Indigenous understandings of water as a living entity and settler-colonial views of water as a "resource available for human consumption and use that can be known and managed or manipulated by humans" (2018, 518). Attention to political water ontologies exposes the ways in which Indigenous water ontologies are negated by the state and the associated consequences for Indigenous governance, sovereignties, and abilities to uphold responsibilities to water. What is more, taking Indigenous water ontologies seriously allows for meaningful water alternatives that may indeed lead to cleaner water and a more livable earth.

Taking Care of Water

The Anishinaabe community of Dokis First Nation sits on Okikendawt Island, named for the bucket-like formations in the rocks that are made by fast-flowing water over long periods of time. These waters are sacred places, travelled by Anishinaabe people since a time beyond memory, places where people left

offerings of sema for safe travel along the vast network of rivers and rapids that connect N'bisiing—what is now called Lake Nipissing—and Georgian Bay. The ancestors of Dokis people travelled and lived on a wide expanse of lands and waters that extended from Penetanguishene to Lake Nipigon, to Oka, Quebec. Consequently, Dokis people were constantly on the water and moved through expansive social and water networks in their everyday lives.

Dokis reserve land, located along the French River approximately twenty kilometres downstream from N'bisiing, was allotted in 1850 as part of the Robinson-Huron Treaty, but permanent settlement did not occur until the late 1890s. Dokis First Nation reserve lands are comprised of two islands surrounded by the river (DFN, n.d.). Until a road was built in the 1950s, the river served as the primary mode of transportation, and people travelled to and from the community by boat in the summer and across the ice by horse-drawn carriages in the winter. Many people recall the time before the road fondly, and often talk about how the relative isolation gave community members a sense of interdependence and connectedness (DFN n.d). Given that Dokis First Nation is surrounded by water, it is not surprising that water plays a vital role in community life. Spending time on the land and water also serves to connect people to the stories and places of their ancestors, relatives, and to places that hold memories. As one woman described,

> I was born right by the water, so I was always swimming, fishing. It was really a gathering place when I was little you know…and it was really that, it gave us almost that sense of family, and that is how powerful that water is. If you go back to the cultural teachings, it talks about that healing, and it's a really powerful medicine to have (Anonymous. 2014. Interview with Dokis First Nation member by P. Restoule. 28 April.).

People from Dokis First Nation express ontologies of water that are rooted in Anishinaabe understandings of water as life. That is, water is seen not only as necessary for all beings to live, but water itself is alive and has a spirit (Anderson 2010; Blackstock 2001; Craft and King 2021, LaValley 2006; Palmater 2023). Indigenous knowledge keepers from diverse nations have noted that different waters have distinct natures, abilities, and characteristics, and as such can be thought about as filling different roles and purposes (Anderson et. al. 2013; OFNTSC 2022). As living relatives, waters are sentient and capable of establishing relationships with human and non-human beings. In her work on Anishinaabe understandings of water justice, Deborah McGregor (2015) points out that, as a sentient being and a relative, water, like Indigenous peoples, has

suffered from the violence of settler colonialism. McGregor writes, "the waters we interact with today have experienced historical traumas, just as we have as Indigenous peoples, to the point where the waters are no longer able to fulfil their duties" (2015, 72). McGregor argues that an Anishinaabe notion of water justice "considers not only the trauma experienced by people and other life due to water contamination but values the waters themselves as sentient beings in need of healing from historical traumas" (2015, 72). In this sense, ensuring water is clean and life-sustaining is not a project of management at all, but rather of care. One way that McGregor suggests that this can be done is through the Anishinaabe concept of *zaagidowin* or love, and that through enacting relationships of loving responsibility, water, like Indigenous people, can heal and recover from historical trauma, and can contribute to the well-being of future generations.

Dokis people describe their relationships with water in multifaceted and dynamic ways. Water is considered a relative, and relationships with water are ones of "trust, love, and faithfulness" (Bedard 2008; see also McGregor 2008). Water has been described as a life-giver, a teacher, a healer, and a gatherer of stories, memories, and people. While all people have a responsibility to care for and protect the water, as the ones who carry life, Anishinaabe-kwe (women) have a unique relationship with and responsibilities to and for water, and the women that we know take these responsibilities seriously. Anishinaabe-kwe describe their responsibilities to enact loving relationships with water by caring for, honouring, and protecting water, speaking for water, singing to water, and engaging in ceremony. Enacting loving relationships with water reflects what Dakota scholar Kim TallBear (2019) has called caretaking relations, a relational ecology that prioritizes being in good relation with others—both human and other-than-human. Central to caretaking relations is a rejection of the Euro-dominant animacy hierarchy—a hierarchy of life that grants greater sentience to some beings over others and that allows for the infliction of violence on de-animated bodies, something that TallBear points out is central to the colonial project. Maintaining loving relations with water emphasizes principles of relationality (Atleo 2004; Wilson 2009), kincentric ecologies (Salmon 2000), responsibility, and reciprocity (see also Wilson and Inkster 2018). In reciprocal relation, water fulfills responsibilities by giving life. Engaging in loving relationships with and protecting water is important not only for human beings, but also for the well-being of other-than-human relations—plants, animals, insects, fish, birds—that all need water to live.

A number of Anishinaabe women who we have learned from describe how the spirit of water can be changed or damaged when subjected to mistreatment. Bottled water has been described as "dead water" by some women, and we have been strongly discouraged from serving bottled water at events or gatherings that we host. The story that we shared at the beginning of this article about caching drinking water on our annual canoe trip is an example of how we have honoured the spirit of water by caring for water as a living relative and by refusing the commodification of water. People have also talked about how applying chemicals to water, such as chlorine applied as part of water treatment processes, can change the spirit of water. At a community workshop that was teaching skills for tanning hides, we were taught that it was best to use water from the river to bathe and work with the hides because the unchlorinated water from the river was best for nurturing the hides and honouring their spirit.

Historically, the French River and natural springs were the primary sources of water for the community. Residents recall going down to the river to collect their drinking and household water up until the late 1950s. When hydroelectricity was introduced in 1958, people began to pump water from individually drilled wells into their homes. Some households drew on the natural springs for their water, taking care to clean them out every spring. In the 1970s, the community put in a water treatment plant, and people shifted from using household drill wells and natural springs to a centralized drinking water system. Some community members indicated that the switch was made because there was too much iron in the water coming from household drill wells, something noted by community members and later identified by public health officials (Walters et. al. n.d.). Others indicated that treated water was required because people could no longer drink the water from the river. Daniel Walters and colleagues noted:

> Many community members still recall carrying a cup to drink from the lakes, rivers, and springs while fishing or travelling on the landscape. The cup signified when community members felt safe to drink water within their territory. This was a way of life up until the late 1970s. There does not appear to be a single event that triggered the change in perception, just the incremental loss of confidence in the purity of water (Walters et. al. n.d, 8).

While there was no single event that precipitated changes in how people from Dokis First Nation accessed their drinking water, concerns that community

members expressed about the condition of water are connected to wider settler incursions into their lands and waters, and the loss of control over land and water use within and beyond their territories. Increased boat traffic on the river from tourists and cottagers is especially seen as a cause of deteriorating water quality. As one hunter said, "[water] is being polluted so quickly by all the people that are travelling in and around it. People don't understand how the pollution is really affecting the water system." A grandmother agreed. "Once the boats started coming in here, [they] just ruined everything…just pollution and garbage in the water ruining the water system, the natural flow, that kind of thing. You don't even see the children swimming there anymore."

Community members also see industrial activities conducted off reserve land as affecting the water quality in their community. Just as colonial processes have inflicted violence on Indigenous peoples, these incursions have harmed the water that travels throughout the territory. Just sixteen kilometres upriver, N'bisiing has been subjected to various extractivist and settler frontiers that have worked simultaneously as forms of dispossession and sources of water degradation. In her work with stories of N'bisiing, Megan Lozicki-Paulin writes:

> It was the caviar trade, the uranium mining, the dumping of toxic waste, the steamboats, the pulp and paper mills, the silver smelters, the hydro-electric dams, the livestock and agriculture, the cottage boom, the golf course, that led to the decline of the health of N'bisiing and her waters, her swimmers, her crawlers. And when you live on that water and drink that water and eat those fish then it becomes what my children are made of. What I am made of (2023, 1).

What Lozicki-Paulin makes clear is that there is an intimate relationship between the ongoing violence of land dispossession and environmental contamination that echo within Indigenous lands and waters, bodies, families, and communities that are tied to settler colonialism and the infrastructures such as mills, smelters, and dams, that extractive capitalism requires (see also Simpson 2017, 2025). Indeed, in contrast to Indigenous infrastructures, such as fish weirs, that largely maintain caretaking relations, colonial infrastructures have worked to rearrange and dislocate local ecologies in ways that transform what are kincentric relations for Anishinaabe people into commodities exported to capitalist markets. Anishinaabe scholar, writer, and activist Leanne Betasamosake Simpson, in her book *Theory of Water*, reminds us that the health of water, from the very smallest streams to the Great Lakes and

Oceans, is directly related to the health of our own bodies, our families, and our communities (2025). When the water is sick, as it so often is under the violence of capitalism, so are we. Simpson advocates for us to think with and alongside water to illuminate the radical relationality of life across multiple scales, and to remind us that water is at once within us and part of larger cycles that connect across generations and geographies.

Risky Water

Anishinaabe water ontologies as we have described above have been excluded from water governance in Canada (Blackstock 2001; OFNTSC 2022; Mascarenhas 2012; McGregor 2015; Wilson and Inkster 2018). Narratives of water and water infrastructures constructed by the state reveal very different ontologies of water, ones that are typically associated with settler colonialism and convey understandings of water as a resource, a commodity, as property, and as manageable by those with credentialized expertise or through technological innovation. What is more, framed as acultural or technological practices, settler water ontologies are enacted and legitimized through such narratives in ways that not only subvert Indigenous water ontologies, but that constrain Anishinaabe peoples' ability to uphold their responsibilities to water and ultimately blame them for drinking water insecurities.

The *National Assessment* is the "most comprehensive and rigorous survey ever undertaken of First Nation water and wastewater systems by a federal government" (AANDC 2011b). Commissioned by then Aboriginal Affairs and Northern Development Canada (AANDC), the independent contractor hired to conduct the assessment, Neegan Burnside, visited and assessed four thousand on-reserve water and wastewater systems in 571 First Nation communities between September 2009 and November 2010. The scope of the assessment of water and waste water systems is unprecedented in other Canadian political jurisdictions, as the *National Assessment* emphasized, "no other municipality, province, or territory in Canada measures risk as comprehensively as the Department does" (AANDC 2011c, 2) something in itself that is reflective of what Mascarenhas calls "the audit explosion" characteristic of neoliberal governing practices and reforms that unfairly burden First Nations in Canada (2012, 18). The results of Neegan Burnside's assessment were released in 2011 as an overall *National Report* and eight *Regional Reports*. Each community's water risk-rating was posted publicly on the AANDC website, and individual communities that

participated in the assessment were also given a *Site Visit Report* reflecting the specific assessment of the water system(s) in their community. The findings for the *National Assessment* were, according to AANDC, to be used by the Department to direct resources to where they are needed most. Interestingly, those Indigenous communities without water systems who might be most in need of resources were excluded from the *National Assessment* altogether.

Importantly, the ways in which water quality risk ratings were calculated in the *National Assessment* were not a reflection of actual water quality or safety. As was the case with Dokis First Nation, the *National Assessment* acknowledged that "in many cases, systems identified as 'high risk' are providing safe water to communities" (AANDC 2011a.). The methods of assessment identified five areas that were seen as potential sources of water problems, and each was given a different relative weighting. The technical design of the water system and the systems operation and maintenance were seen as the most important factors, each weighted thirty percent respectively, the level of training and certification of the water operators was worth twenty percent, reporting and record keeping was weighted at ten percent, and analysis of source water was weighted at only ten percent. Overall, the operation and maintenance of the water system, water operator training and certification, and record-keeping—all activities that are the responsibility of First Nations governments and their staff –account for sixty percent of the total measurement of water quality risk. This weighting of risk factors, according to AANDC, underscores the importance of having trained and certified operators for reducing risk and helping to ensure safe drinking water in First Nation communities (AANDC 2011b). However, this particular weighting of risk factors also simultaneously presumes that the majority of problems, or contributors to water safety risks, can be controlled through correctly managing the people (and governments) that are charged to run the water system in the first place.

The logics used to assess water quality risks in the *National Assessment* reveal a number of key assumptions inherent in settler colonial water ontologies. While Anishinaabe water ontologies emphasize water as a living relative and the importance of taking care of and enacting loving relationships with water, in the *National Assessment*, the management of water is viewed as a technical and administrative problem, one that disassociates water from kincentric and relational ecologies described by Anishinaabe people. Rather than emphasizing caretaking relations, such as caring for source water, narratives of water risks produced within the *National Assessment* assume technical interventions in water

treatment as a starting point for safe water provision. The *National Assessment* articulates this rationality for risk evaluation as follows:

> The water source risk was given a low weight in the overall risk because, although the raw source water might be 'unsafe' to drink, and thus theoretically pose a high risk, in theory the actual treatment system should deal with this water and treat it to make it safe.... This, however, implies that the design of the system, and how it is run, is therefore the most important aspect of the system (AANDC 2011a: 63).

These rationalities disassociate drinking water from wider ecologies of water throughout the watershed and fail to consider water as a living relative or how other non-human beings also rely on source water and need clean water to sustain life. What is more, by framing water quality as a technical problem, wider political questions associated with appropriate land and water use throughout Dokis First Nation territory—those concerns that Dokis people expressed about water quality on their reserve—become fundamentally outside of the scope of the solution. Thus, narratives of water infrastructures within the *National Assessment,* which are cloaked in technical and apolitical terms, work to eclipse what are fundamentally political questions around Indigenous sovereignties, treaty relationships, and restoration of jurisdiction. Aimée Craft and Lucas King (2021) note that the failure to acknowledge the deleterious impacts on water associated with industry, tourism, and recreational cottage use on watershed management and planning, and the exclusion of Anishinaabe water ontologies in water governance, is a fundamentally political act, one that challenges Anishinaabe jurisdiction and responsibilities toward water.

The deflection away from caring for source water toward technological interventions and water treatment plant operation not only fails to acknowledge the seepage of contaminants throughout the watershed but also suggests that the responsibility for "risky water" rests with the community itself. Sarah Wiebe describes similar discursive and administrative assemblages in her work on environmental injustice in Chemical Valley (2016). In this particularly egregious example, Weibe shows how while Aamjiwnaang First Nation is surrounded by over sixty chemical factories that expose the community to creeping chemical contamination that originates beyond but leaks across the borders of the reserve, health concerns raised by Aamjiwnaang residents were often blamed on personal or lifestyle choices, rather than on the toxic environment just steps from their doors. Jurisdictional gaps in regulation have left the community bearing the burden of proving environmental contamination, while at the same

time, community members are expected to take responsibility for monitoring their own health and well-being and to become responsible environmental citizens (2016, 59). Like the neoliberal discourse associated with chemical pollution in Aamjiwnaang described by Wiebe, the *National Assessment* metrics craft narratives that work to blame First Nations governments and staff for presumably failing to properly operate water infrastructures. Indeed, in its summary report of the findings of the *National Assessment*, AANDC asserted that overall "the results show the majority of risk is due to capacity issues, although infrastructure issues and lack of enforceable standards are also a factor" (AANDC 2011b). In the evaluation of drinking water risk, the *National Assessment* places significant emphasis on the technical design of the water system, though notably not on funding structures required to maintain and operate the physical infrastructure.[2] In its evaluation of the design features of the water system, the *National Assessment* described the risk rating for the design of the water system in Dokis First Nation as "moderate" due to system reliability concerns, especially surrounding the dependability of the power source and the backup generator. Overall, however, the *National Assessment* determined that, at least theoretically, if the water system was operated correctly, the infrastructure was capable of providing clean water to the community.

The operation of water treatment infrastructure was also seen as an important factor in determining water quality risks. The operation risk level was based on whether appropriate operation and maintenance processes were being followed by water treatment plant personnel and First Nation governments. The *National Assessment* found that the water treatment system in Dokis First Nation was adequately maintained, that operation and maintenance procedures were in effect and being used, and that maintenance and operator activity logs were kept. However, it was also noted that the water system "fails [applicable water quality legislation guideline] parameters occasionally, but with low magnitude" (AANDC 2011a, 68). This, of course, increased the assessor's estimation of the level of risk; however, what is important here is *where* the attribution of the risk was placed. Because the design of the system was considered adequate, if operated perfectly, to provide the community with safe drinking water, the reason for an increased risk for water contamination must be associated with the systems' operation. This was true even though there were no other indications that the reason the water quality occasionally falls outside of normative ranges has anything to do with how the water treatment plant is operated. In fact, because the system was determined to be adequate in its design, it was, and

must be, according to the assessment instrument, ipso facto that the cause of the abnormalities rests in the system's operation itself. In this sense, the evaluation of risks attributed to design and operation are also an evaluation of the conduct of institutions and of persons working in the water treatment plant to mitigate or manage the supposed risk.

As Akhil Gupta notes, infrastructures and their administrations can be biopolitical projects that both "aim to address the health and welfare of the population, while also facilitating discipline and control" (Gupta 2018, 64). In the case of infrastructural narratives constructed by the *National Assessment*, assessment metrics double as a form of surveillance, a kind of governmental gaze, that are linked in important ways to wider colonial and neocolonial discourses of modernity and regulation that have framed federal policy in Canada as a settler state, and as we argue here, are extended in subtle ways to characterize Indigenous peoples and nations in the present. Not only are Anishinaabe water ontologies and concerns about water governance excluded from the *National Assessment*, but the narrative construction of drinking water risks offered instead works to normalize settler ontologies of water and to discipline those who may think and feel and act toward water differently.

Good Water

Sitting in the community complex at Dokis First Nation in the fall of 2012, seven of us had come for a meeting to talk about water. We had asked community members to join the research team for lunch to identify and discuss any concerns that they had about their water. People were generally very knowledgeable about the history of their drinking water and the technical aspects of their water system. They readily identified natural springs in their community that had—and in some cases continue to—serve as a source of fresh drinking water. Some people identified the quantity of the drinking water as a concern, but also offered practical solutions to address this perceived problem. Some people worried about whether the current water system would be able to accommodate future community growth and expansion. Overall, however, most people were confident in the quality of the drinking water in their community. One person asserted, "The community needs clean water to drink, which we are fortunate to have." People also tended not to think of the quality of the drinking water as separate from the general quality of water in and around their territories. In contrast to the categorization of drinking water as a unique category of water articulated in the *National Assessment*, Dokis people often

referred to the connective relationships that they have with water when asked if they thought their water was safe to drink. As one woman said,

> I think my community does fairly well at protecting the waters.... Our waters are pretty clean and we have healthy fish, healthy animals that surround our water and we still have our medicines everywhere and that's all because of the water (Anonymous. 2014. Interview with Dokis First Nation member by P. Restoule. 22 May.).

Though community members asserted that settler incursions had impacted water in their territories, they also recognized the role that the community has played in taking care of water over generations, and the vital importance of Indigenous sovereignties for protecting water for the future. One hunter said, "There's too much going around, such as farming and cities. But if we control, have some control on it, we might be able to save what we have left." Dokis people have pushed back against state interventions in water in multifaceted ways: through their assertions that they have "good water," through continuing to enact loving relationships with water, and by occasionally drinking the water in and around their community, as described by the grandmother at the start of our canoe trip. Some community members still go out to the natural springs to get water because they describe spring water as "cold and refreshing" and "sweet-tasting," especially in contrast to the chlorinated water provided by the community water system. Many community members perceived the natural springs as cleaner because the water comes from "right down in the earth" and does not need to be treated before drinking. As one grandmother said, "Compared to even if we just think about our water system now, even though it has the chemicals and it's treated so that it can be safe drinking water. Those natural springs didn't need any of that." Rudolf Mrázek (2002) describes how materials of infrastructure are not just apprehended by the mind but are also sensed through the body in ways that assume symbolic meanings. Chlorinated water may be one intervention that can make water safe to drink, but the taste of chlorinated water also stands as an embodied reminder of settler incursions into Indigenous lands and lives and bodies that made water that was once safe to drink now characterized as risky.

When the federal government produces a report that designates the water system in your community as "high risk," turning on the tap can be a constant source of uncertainty and worry. "We have good water," one mother said, "but even though we have good water, we need to know more about what we should be checking. What are some issues to look at? Should we be more aware?

What dangers are there?" Importantly, while community members expressed confidence in the drinking water, they did express worry about the quality of their water simply because they live in a First Nations community. "I know that there are a lot of First Nations that have been on boil water advisories for years and years, so that is concerning to me." Another person stated, "I see a lot of other First Nations. I watch that on the APTN channel there, and a lot of those reserves, they can't even fish and hunt anymore." Thus, state infrastructural narratives of risky water have multiform effects; not only do they enact ontological violence in ways that undermine Anishinaabe peoples' relationships with water and associated forms of water governance, narratives of risky water also create very real uncertainty and anxiety that trouble peoples' relationships with water every time they take a sip.

Conclusion

It is perhaps not surprising that living in an era of increasing disruption of earth systems characteristic of the Capitalocene, that many of the changes to water are human induced: increased agricultural runoff, the discharge of sewage and other industrial material into the lakes and waterways, increases in boat traffic and associated oil skims on the water, and the release of toxic chemicals into the water from extractive industries. It is also not surprising, given the underlying presumption of water as a resource or a commodity, that many of the solutions that are proposed or imagined for addressing questions of water quality are technological in nature: that if we only design or implement the right kinds of technology we can engineer our way to clean water, to clean air, to a livable earth. Here, we suggest that the prioritization of technological salvation apparent in the *National Assessment* is one illustration of how settler ontologies shape (and restrict) possibilities for water quality solutions and, consequently, how we might imagine and plan for environmental futures. We do not diminish the important role of the development and use of new technologies for protecting water; however, our point is that a focus on technological remediation of risky water obfuscates the wider political ecologies that contribute to environmental injustice. A focus on technological intervention works to justify continued colonial violence inflicted upon the water without requiring substantive reordering of settler relationships with water or asking different kinds of questions that lead to supportable solutions. Instead of asking how best to remediate risky water, we suggest that we should be asking: why can we not drink from the lake or river in the first

place? Infrastructural narratives offered by the state to explain drinking water problems on First Nation reserves tend to locate the source of water inequity inward—as rooted in underdevelopment—that deflects from ongoing colonial violence, racialized environmental injustice, the abrogation of treaties, and trauma inflicted upon the water by industrial capitalism, and as such eclipses the wider historical-political dimensions of water inequity on reserves, along with the structural changes required to achieve water justice.

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Notes

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2 The relationships surrounding the management, jurisdiction and funding of First Nations water systems on reserve are complex. Indigenous Services Canada provides funding for water system construction, and a proportion of funds in annual block funding for water system maintenance and operation. First Nations provide for the daily operation and management of the water system, along with twenty percent of the operation and maintenance costs.

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