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# Honouring Water: The Mistawasis Nêhiyawak Water Governance Framework

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# Honouring water: The Mistawasis Nêhiyawak water governance framework

**Abstract**
Collaborative water governance in Indigenous territories requires the building of a nation-to-nation relationship where different water worldviews and knowledges are acknowledged, valued, and included in water governance. This article presents the Mistawasis Nêhiyawak Honour the Water Governance Framework, an alternative collaborative water governance approach in Saskatchewan, Canada. The Nêhiyawak principles, identity, knowledge, and self-determination are its foundation. Equitable dialogue is the central axis. The framework represents an alternative water governance structure to the current Canadian system that may more effectively respond to the water challenges of this First Nation. This framework supports the appeal from Mistawasis First Nation and other Nations, for the de-construction of hegemonic colonial water governance systems towards the co-construction of shared processes of water participation, decision-making, and responsibility.

**Keywords**
water governance, Indigenous ontologies, collaboration, dialogue

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# Honouring Water: The Mistawasis Nêhiyawak Water Governance Framework

Water problems in Indigenous territories within the borders of Canada represent a constant challenge for many Indigenous Peoples including First Nations, Inuit, and Métis. Indigenous Peoples' physical health, their social, cultural, and spiritual well-being are negatively impacted by these water challenges (Baird & Plummer, 2013; Basdeo & Bharadwaj, 2013; Bradford et al., 2017). Many water problems can be attributed to failures of the current Canadian water governance system, a system by complex institutional arrangements and power conflicts (Arsenault et al., 2018; von Der Porten & De Loë, 2014b).

In Canada, water governance works through a decentralized and multi-jurisdictional system that constitutionally recognizes the provincial governments as water authorities for waters that lie solely within a province's boundaries. However, the federal government is considered the water authority on First Nations lands. This institutional fragmentation has resulted in inter-governmental conflicts, duplication and overlapping responsibilities, ineffective means of data collection, poor water monitoring, and negative impacts on Indigenous Peoples' wellbeing (Baird and Plummer, 2013; Bakker & Cook, 2011; Bradford et al., 2017). In this complex system, colonial hegemonies exist, and Indigenous Peoples' worldviews, knowledge, voices, and needs are underrepresented, ignored, and excluded. (Day et al., 2020; Jackson et al., 2019; Memon & Kirk, 2012; van Tol Smit et al., 2015; von der Porten & De Loë, 2013a; von der Porten et al., 2016; von Der Porten et al., 2015; Wilson et al., 2019). Changes to the current water governance system are needed so that Indigenous Peoples' needs and aspirations are included. The Canadian water governance system requires reconsideration and modification to provide an opportunity for the co-existence and co-interaction among different ways-of-being with water to exist within the system of governance (Wilson & Inkster, 2018).

Collaborative strategies for water governance, built upon formal approaches to collaborative governance (Koebele, 2015; Simms et al., 2016; von der Porten et al., 2016), have been proposed as suitable approaches towards equitable water arrangements (Harrington, 2017). Collaborative water governance is a mixture of collaboration (cooperation among stakeholders who voluntarily come to participate in public decision-making and meet common goals) and water governance (how societies arrange water actions and decision-making at different scales, levels, and through different mechanisms) (Brisbois & de Loë, 2016; Orr et al., 2015; von der Porten & De Loë, 2013a). Collaborative approaches are defined as holistic, inclusive, and representative (Harrington, 2017). Collaborative arrangements include "face-to-face deliberation, shared learning, a willingness to reconsider assumptions, pooling of resources, construction of long-term relationships, and consensus-focused decision making (Brisbois & de Loë, 2016). Collaborative water governance approaches are seen as attempts to "operationalize" water governance in practice (Harrington, 2017).

Collaborative approaches to governance are commonly cited as appropriate theoretical lenses to frame water governance discussions in Indigenous territories (Jackson et al., 2019; von Der Porten et al., 2015). Collaborative approaches are known to better address representation conflicts while improving the durability and acceptance of decisions collectively taken (Jackson et al., 2019). Although collaborative approaches to water governance are recognized as constructive (Brisbois & de Loë, 2016), collaborative efforts are not facilitated when local Indigenous water governance goals and self-

determination are not recognized (von der Porten & De Loë, 2013a). Inadequate or inappropriate inclusion of Traditional Knowledge (TK), insufficient dialogue, and limited Indigenous representation in water decision-making also affect collaborative water governance efforts with Indigenous Peoples (Jackson et al., 2019). When TK and Indigenous worldviews are omitted in local water governance frameworks, gaps in water policy are often identified (Anderson et al., 2013; Maclean, 2015; McGregor, 2012, 2014; von der Porten et al., 2016).

Both in theory and practice, collaborative water governance requires the building of genuine relationships with Indigenous Peoples from a nation-to-nation perspective and the reassurance of Indigenous Peoples' self-determination, knowledge, and worldviews (von der Porten & De Loë, 2013a). The recognition of alternative water governance models aware of a nation-to-nation foundation is needed. Nations are demanding that TK form an integral part of water governance. TK bring insights and values that are currently missing in the water governance dialogue (McGregor, 2014). Alternative models of and holistic elements to frame water governance are needed to open spaces for shared dialogue and for the creation of meaningful collaborative water governance approaches that are respectful of Indigenous Peoples' historical water demands and needs.

The purpose of this article is to contribute to the discussion on collaborative water governance through the presentation of a collaborative water governance framework co-developed with Mistawasis Nêhiyawak First Nation (MNFN) in Saskatchewan, Canada. The Mistawasis Nêhiyawak Honour the Water Governance Framework represents an alternative water governance structure to the Canadian system that may more effectively respond to the existing water challenges in MNFN. The Mistawasis Nêhiyawak Honour the Water Governance Framework affirms the importance of holism, inclusiveness, and representation. It presents and represents, the Nêhiyawak way-of-being with water, their knowledge, and their interconnected relationships with water. The meaning of water governance for the people of MNFN is represented through a symbolic framework that promotes collaborative water governance by honouring water.

This paper begins with a theoretical discussion of collaborative water governance and decolonized approaches for opening paths for shared dialogue. The importance of water ontologies and epistemologies for decolonized collaborative water governance are discussed. From this theory, the case study and methodology are presented. The Mistawasis Nêhiyawak Honour the Water Framework is then introduced. The meaning of water from the voices of MNFN members' and each framework element is presented and described. The importance of the framework as an alternative to the current water governance system and for decolonizing collaborative water governance is discussed. We argue that by opening decolonized paths to reconcile Indigenous and non-Indigenous worldviews and perspectives positive outcomes for holistic, collaborative water governance systems in Canada may be achieved. Finally, conclusions and final thoughts are offered.

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## Collaborative Water Governance from a Decolonized Perspective

### Defining Collaborative Water Governance

Water is considered a 'multipurpose flow resource', whose benefits or harms cross political boundaries affecting different "users, sectors and scales of governance" (Baird & Plummer, 2013, p. 277). As a multipurpose flow resource, water governance requires more systemic approaches that can promote active stakeholder participation, governance institutions' flexibility, and be sensitive to local contexts (de Loë & Patterson, 2017; Schulz et al., 2017).

One systemic approach is collaborative water governance. This approach comes from a political perspective that points to formal arrangements among state and non-state actors, who voluntarily come to participate in public decision-making (Orr et al., 2015). The rationale of a collaborative approach refers to shared processes of decision-making among actors involved in and affected by water conflicts to achieve consensus by incorporating different types of knowledge (Brisbois & de Loë, 2016; von der Porten et al., 2016; von Der Porten et al., 2015). Specific guiding principles like representation, inclusiveness, fairness, equity, endured relationships, and face-to-face interactions contribute to consensus achievement (Brisbois & de Loë, 2016; von der Porten & De Loë, 2013a; von Der Porten & De Loë, 2014b).

Collaborative water governance represents an opportunity to actively include Indigenous Peoples in solutions to water conflicts. Nonetheless, collaborative solutions can fail when Indigenous governance foundations are omitted. For example, Wilson (2020) argues that placing Indigenous Peoples as stakeholders in the governance system reinforce colonial relationships based on power asymmetries. Instead of stakeholders, Indigenous Peoples are right-holders having legitimate inherent rights for authority and power of decision-making from a nation-to-nation basis (Castleden et al., 2017; von der Porten & De Loë, 2013a; von Der Porten et al., 2015; Wilson, 2020). The reassertion of Indigenous self-determination provides the political framework for the recognition and inclusion of Indigenous worldviews and knowledge into water decision-making (Bradford et al., 2017; de Loë & Patterson, 2017; Montgomery et al., 2015; von der Porten & De Loë, 2013a; von der Porten et al., 2016). The Recognition of Indigenous self-determination, worldviews, and knowledge is foundational for constructive decolonial venues for trustful relationships and shared arrangements in water decision-making (von Der Porten & De Loë, 2014b; von Der Porten et al., 2015). The recognition of Indigenous self-determination, acknowledgement of different ontologies and knowledge systems, spaces for co-building formal arrangements of shared decision-making, and working towards co-building long and trustful relationships between Indigenous nations and water stakeholders are needed for decolonized collaborative water governance approaches. Decolonized efforts also include the deconstruction of the meaning of water. With the inclusion of Indigenous water worldviews into water governance, interconnected, respectful and reciprocal relationships between water and humans then become the foundational guidelines for water arrangements (Arsenault et al., 2018).

### Dialogue as a Knowledge Bridge in Decolonized Collaborative Water Governance

Dialogue is seen as one strategic tool for creating spaces of encounter between different epistemologies and worldviews (Arsenault et al., 2018; Leff, 2003; Martínez-Torres & Rosset, 2014). Dialogue has been defined as the space where different knowledges and ways of knowing are shared and exchanged on a horizontal basis without imposing one knowledge system over the other(s) (Martínez-Torres & Rosset, 2014). Dialogue requires opened spaces where different worldviews, knowledges, experiences, and interests bridge with Western sciences (Leff, 2003). As a result of dialogue, local communities and their local knowledge are empowered and respected (Day et al., 2020), and reciprocal learning processes, where knowledge flows back and forth between learning partners, are promoted (Arsenault et al., 2018).

Bridging Indigenous and Western knowledge is considered a means to promote dialogue in equal conditions (Castleden et al., 2017; Johnson et al., 2016) where social justice, identity, and self-determination of Indigenous Peoples are recognized (Bohensky & Maru, 2011). Bridging knowledge systems highlights mutual benefits, not differences, while collectively working towards resilience, holistic environmental understanding, synergies, and complementarities (Berkes, 2012; Bohensky & Maru, 2011; Hatcher et al., 2009; Plummer et al., 2017; Tengöet al., 2014). All of which could improve collaborative efforts in the governance of water.

## Decolonizing Collaborative Water Governance in Canada: What's currently missing?

### Indigenous Water Ontologies as the Different Ways-Of-Being-With Water

A lack of recognition and understanding of multiple water ontologies is a significant issue in the Canadian water governance system and contributes to water problems and conflicts (Brisbois & de Loë, 2016; von der Porten & De Loë, 2013b, 2013a; von Der Porten & De Loë, 2014b, 2014a; von Der Porten et al., 2015; Yates et al., 2017). These water governance problems have, in part, been attributed to the absence of discussions about what water ontologies mean in the context of water governance. As Harrington (2017) writes "[t]he overall absence [of water ontologies] ( … ) remains a significant oversight, given how important it is in establishing a credible understanding of how water governance is imagined, understood and performed" (p. 262). How people recognize, perceive, relate, live with, and value water may reveal a way in which water governance may be recognized, perceived, and lived (Wilson et al., 2019; Wilson & Inkster, 2018; Yates et al., 2017). Recognizing multiple water ontologies can help to dismantle dominant forms of water governance based on the specific meaning and use of water. As Harrington (2017) states "[c]ollaboration requires a shared ontological understanding of water, to determine what exactly is being negotiated. In other words, a shared language of water must be present for collaborative practices to be envisioned and undertaken" (p. 263).

Water ontologies are understood as multiple water realities or ways of being-with-water (Harrington, 2017; Wilson & Inkster, 2018; Yates et al., 2017). Modern Western water ontologies differ drastically from Indigenous water ontologies. Modernist Western ontologies are rooted in scientific rationalism and water is conceived as a resource owned, used, and manipulated by humans (Harrington, 2017; Wilson & Inkster, 2018; Yates et al., 2017). Indigenous water ontologies, however, are relational (Datta, 2015). In Indigenous water ontology, water is a living spiritual entity that connects (water-as-lifeblood),

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sustains life, and provides healing to people (Baird & Plummer, 2013; Basdeo & Bharadwaj, 2013; McGregor, 2014; von der Porten et al., 2016; Wilson & Inkster, 2018). Indigenous water ontologies should be understood beyond water perceptions or cultural perspectives; Indigenous water ontologies are realities built upon historic, cultural, and material processes (Blaser, 2014; Yates et al., 2017).

Indigenous water ontologies are absent in the Canadian water governance system. The modern water ontology is dominant in the system while Indigenous water ontologies are marginalized in water governance arrangements (McGregor, 2014; Yates et al., 2017). If modernist water ontologies are ruling water governance in Canada, opportunities for collaborative efforts are challenged. Collaborative water governance involves shared understanding and discourses of what water is, and from this understanding how relationships with water are built. It is argued that if this shared understanding is absent then collaborative efforts will be inefficient at addressing the complex water issues known in the context of Canadian water governance (Harrington, 2017).

## Indigenous Knowledges' Importance and Challenges in Collaborative Water Governance

Complex water problems affecting different people demand solutions based on different types of knowledges including Indigenous knowledges (von der Porten et al., 2016). Indigenous knowledges are referred to as holistic ways of knowing that open space for sustainable environmental governance models (including water governance) aware of Indigenous Peoples demands and inherent rights (Tengö et al., 2017; von der Porten et al., 2016). Indigenous knowledges symbolize collective adaptive processes that gather practices, interactions, and interconnections between alive and non-alive beings in equal relationships (Battiste, 2008; Golden et al., 2016; Hart, 2010; Kealiikanakaoleohaililani & Giardina, 2016; Muir et al., 2010). Indigenous knowledges are claimed from ethical arguments that seek respectful and responsive spaces of Indigenous priorities and needs in water governance (Castleden et al., 2017; Wilson et al., 2015).

Challenges, however, are present: "balancing multiple forms of knowledge remains a challenging component of water governance as many water worldviews exist, sometimes in complete opposition to one another" (Simms & de Loë, 2010, p. 12). Water decision-making is based on Western scientific knowledge (Castleden et al., 2017; von der Porten et al., 2016) leaving holistic contributions of Indigenous knowledges overlooked (Maclean, 2015). The lack of acknowledgement of Indigenous knowledges inherent value perpetuates power asymmetries (Mignolo, 2009; Rathwell et al., 2015). Indigenous knowledge has been disregarded and there have not been enough pragmatic bridges to interconnect oral and written forms of knowledge into the discussions around water governance (Castleden et al., 2017; von der Porten et al., 2016), thereby undervaluing Indigenous oral experiences into the conversations and decision-making processes of water governance (Day et al., 2020).

Given that collaborative water governance requires real efforts of bridging different knowledge systems by valuing and acknowledging Indigenous water ontologies and epistemologies, in partnership with MNFN a collaborative water governance framework was co-developed as an alternative water governance structure to the Canadian system that may more effectively respond to the existing water challenges in MNFN.

# Methods

## Research Setting

Located in Treaty 6 Territory in Saskatchewan, Canada, approximately 77 kilometers Southwest of the city of Prince Albert and 120 kilometers north of Saskatoon, the Cree First Nation Mistawasis Nêhiyawak covers an area of 120 square kilometers with 681inhabitats registered by 2016 (Statistics Canada, 2016). MNFN is within the North Saskatchewan River Watershed NSRW (See Figure 1) (Saskatchewan Watershed Authority, 2007). The NSRW covers an area of 41,000 $km^2$ and includes 51 Rural Municipalities, 29 First Nations lands and 17 reserves. The North Saskatchewan River begins in the Columbia Icefields in the Rocky Mountains of Alberta, flows north-easterly towards Saskatchewan to the South Saskatchewan River, travels across Manitoba, and drains into Hudson's Bay. In Saskatchewan, the NSRW includes the Battle River, Eagle Creek, and the Goose Lake internal drainage basin while the physio-geographic regions identified in the province are the Missouri Coteau Upland, the Saskatchewan Upland, and the Saskatchewan Rivers Plain where MNFN is located (Saskatchewan Watershed Authority, 2007). The 2013 NSRW Environmental Risk Scan and Assessment identified droughts and flooding due to runoff from intense thunderstorms as two main hydrological concerns (Council, 2013).

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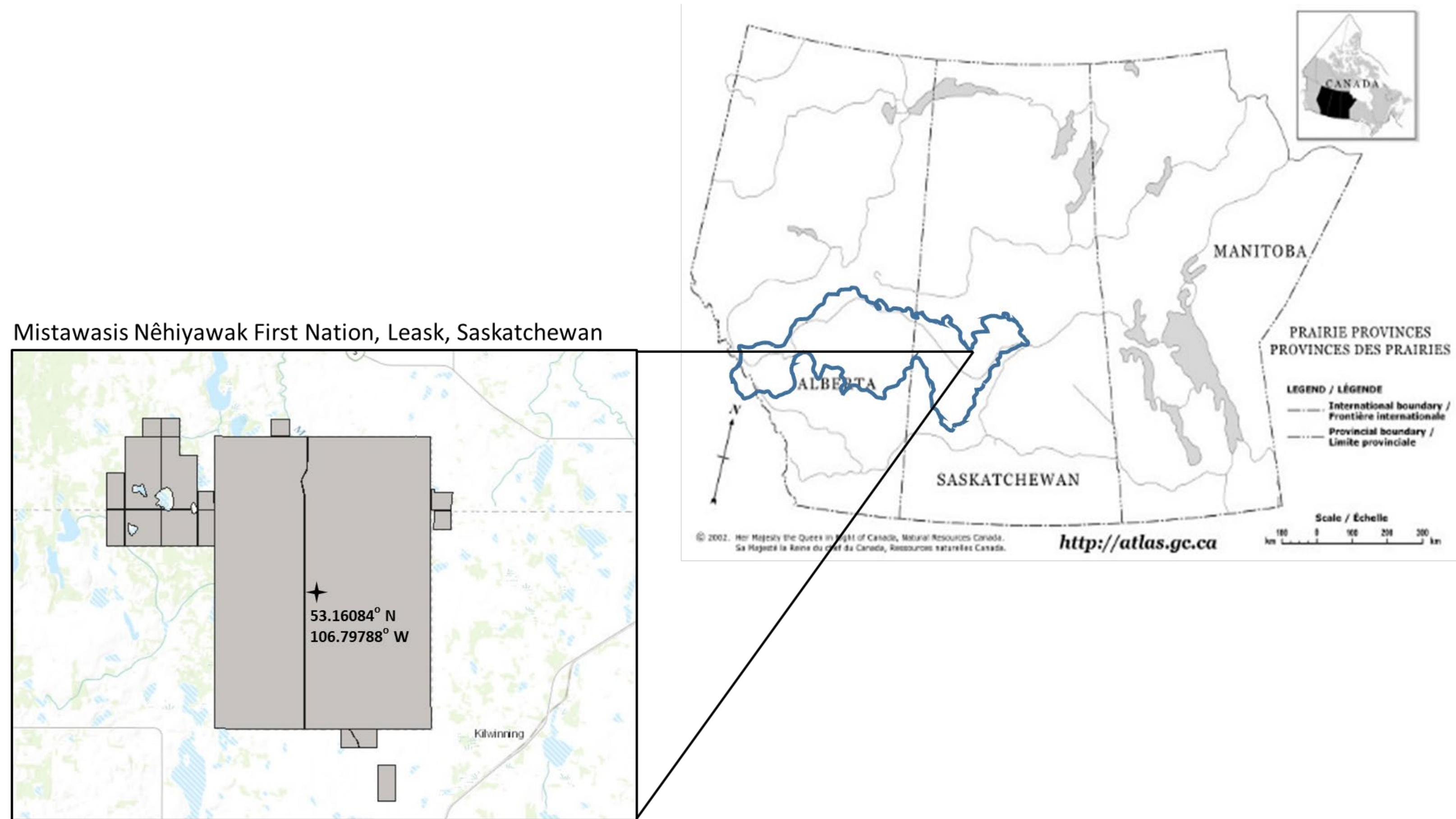
**Figure 1. Mistawasis Nêhiyawak in Saskatchewan – Canada (Treaty 6)**



MNFN experienced extreme flooding in 2011 and 2014 as a result of heavy snowfalls in Winter coupled with early rapid snowmelt and heavy rains in Spring. During this time, the nation experienced elevated water levels which damaged dams and levees used to prevent flooding impacts (Thapa et al., 2019). The well-being of MNFN members have been negatively impacted by contamination of water sources, deterioration of riparian habitat, road infrastructure, and displacement of people from their homes (Dawe, 2016; Thapa et al., 2019).

In the NSRW, water decision-making is shared between the Water Security Agency (provincial government), Local Rural Municipalities, Indigenous communities, and landowners on a microscale (conversation with Katherine Finn, NSRCB Manager, Aug 2019). However, MNFN has water decision-making powers only within the boundaries of their reserve and treaty entitlement lands. Outside the reserve, MNFN influence on water decisions depends on their leadership and capacity to build partnerships with neighbouring municipalities and other water stakeholders in the watershed. As a result of this water governance reality, MNFN water issues require approaches based on collaborations, shared capacity, and resources between them and water stakeholders in the watershed.

Following flooding in 2014, MNFN Chief and Council invited federal and provincial government organizations (Environment Canada, Indigenous Services Canada and Water Security Agency), rural municipalities (Leask and Canwood), a Treasury Board Crown Corporation (Saskatchewan Research Council), a non-profit river basin council (North Saskatchewan River Basin Council) and an academic institution (the School of Environment and Sustainability at the University of Saskatchewan) to MNFN to initiate conversations and to develop partnerships to find, resolve, and apply solutions to their flooding issues. Four meetings were held in the nation over a year. As an outcome of these meetings and with the support of invited partners, MNFN developed a three-year project called "Honor the Water." This project, initiated in 2015, focused on source water protection, drainage studies and the implementation of innovative drainage systems for the prevention of flooding in the nation.

The Honor the Water project grew beyond its initial goals and transformed into a mission to develop holistic water governance and management approaches for the benefit of water and the Nation's people. It opened up opportunities for MNFN to engage and develop long-term partnerships, and long-lasting friendships with non-Indigenous water stakeholders within the NSRWS who were interested in its governance. Partnerships with the NSRBC and the School of Environment and Sustainability led to the co-development of successful proposals addressing climate change, health, and flooding. The co-development of the water governance framework, described herein, was one such project born through partnership development and directly contributed to the mission of honouring water in the Nation.

## Positionality and Building Relations

Driven by shared interests, four authors participated in this research. The first author (Mora) Latin scholar self-identified as 'mestiza' acknowledging the blend of Indigenous and Spanish roots as a result of colonization in South America. Her work experience with Indigenous communities in her home country informs her perspectives and critical reflections about diversity and the recognition of different

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ways of being, thinking, learning, and living. The second author (Johnston) is an Indigenous leader from MN and co-researcher for this research and lead of the Honour the Water project. As a descendant of Chief Mistawasis, who first signed Treaty 6, Johnston believes in and works towards real processes of reconciliation and partnerships with non-Indigenous people as means to heal colonization legacies. The third author (Watson) is a young women leader and member of MN and the second co-researcher for this research. Her interest in the traditional relationship between water and women in her community guided her to learn how to honour water from her knowledge keepers. She was also part of the Honour the Water Project and works as a member of the Land Committee. The fourth author (Bharadwaj) is a non-Indigenous scholar who has developed research relations with various First Nations and Indigenous groups in Saskatchewan in the area of environmental health over the past 20 years. The research was co-developed and was built on trustful relationships with people in MNFN. The first and fourth authors in the research are considered 'outsiders' as they are non-Indigenous people. From an outsider positionality, there could be inherent Western scientific biases that might have influenced the interpretation of the knowledge shared and data collected throughout the research process. Nonetheless, the active participation of the two Indigenous co-researchers contributed to be mindful of the possible bias while developing participative, trustful, and respectful approaches along the research process. The first author, who collected data in MNFN together with the two co-researchers, engaged with people in the nation by sharing common backgrounds and stories of marginalization and struggles in colonized societies. Shared experiences opened spaces for dialogue and empathy that helped to engage, connect, and build solid and lasting friendships.

A strong friendship among the research team was developed before the research activity. Time to evolve and develop friendships opened up many opportunities to learn about MNFN history, culture, protocols, and aspirations for the wellbeing of their people and their land. Participation in cultural events (e.g., Pow Wow, Treaty Day, and Summer Cultural Camps) activities in the schools and various meetings occurred during this pre-research phase. This period provided space for horizontal and respectful dialogue along our research journey.

## Research Design and Ethical Consideration

Delineated within qualitative transformative research (Kovach, 2009), this research was guided by the principles of Community-Based Participatory Research (CBPR) prioritizing the community's issues, interests, and goals as the main objectives in all stages of the research (Adams et al., 2014). The research process, co-developed to meet the needs of MNFN, consisted of six sequential stages: community engagement, literature review, semi-structured interviews, data analysis and presentation to MFN member participants, focus groups, which was followed by another phase of data analysis and presentation to co-researchers (See Figure 2). Iterative processes of learning and reflection were incorporated within the six stages to create spaces for communication and learning opportunities between researchers, co-researchers, and research participants (Ball & Janyst, 2008).

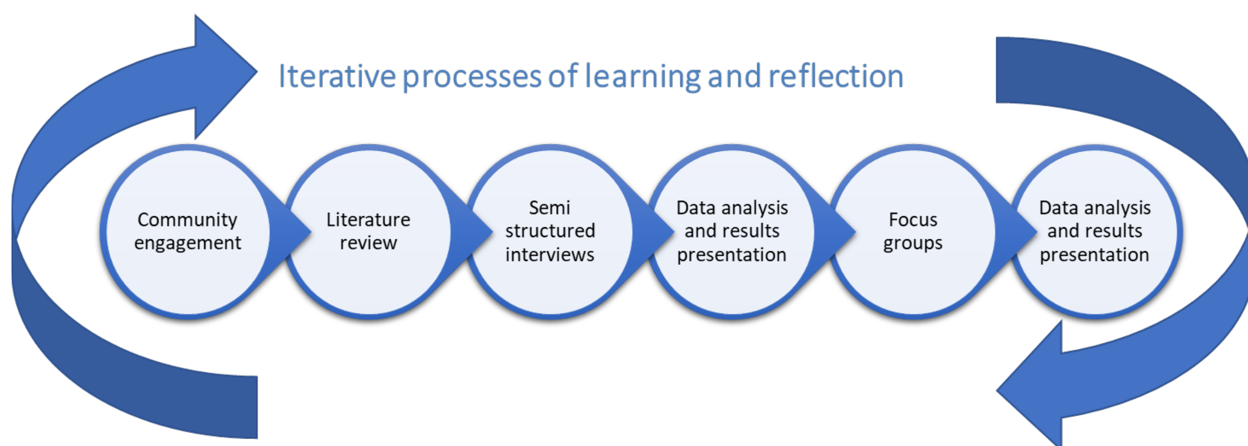


**Figure 2. Research Design – Six Sequential Stages**

The research goals, objectives and process were presented to Chief and Council and MNFN members before community member engagement and initiation of research activity. This research was approved by the Behavioral Research Ethics Board of the University of Saskatchewan (certificate number REB-BEH-17-237).

## Data Gathering Methods

Data was gathered by semi-systematic literature reviews, semi-structured interviews, and focus groups. Data gathering was conducted by the first author (Mora) and supported by the second and third authors (Johnston and Watson).

**Literature review.** A semi-systematic literature review was conducted to examine published literature on collaborative water governance. Semi-systematic reviews do not intend to find all empirical evidence of any specific topic, but rather "look at how research within a selected field has progressed over time or how a topic has developed across research traditions" (Snyder, 2019, p. 335). The main question guiding the review was: What does collaborative water governance entail in Canadian Indigenous contexts? The review objectives were to understand the meaning of collaborative water governance and to identify key aspects or elements of collaborative water governance. This information was shared with MNFN participants to initiate conversations around collaborative water governance and as a starting point to co-build a water governance framework.

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The review was conducted from May to August 2018 using four Academic Data Bases (Web of Science, Sci Verse Scopus, Academic Search Complete, and Google Scholar) and key terms used included "water governance" and "collaborative." Duplicates were removed and the review involved a two-step screening process. Firstly, records with two or more keyword combinations in the title and/or abstract were selected. Secondly, articles were limited to peer-reviewed, English language, Canadian context and published between 2000 and 2018. Records were exported to Microsoft Excel (Microsoft Corporation 2013) for full text-review. Questions used to select the final sample were: i) Is collaboration an approach used to discuss water governance? ii) Is participation and/or partnerships described as part of collaborative water governance? iii) Is collaborative water governance linked to bridging knowledge systems? iv) Does the article refer to self-determination? v) Does the article mention reconciliation in the discussion? Main themes were subsequently identified.

**Semi-structured interviews.** Semi-structured interviews were conducted between September 2018 to January 2019 to gather information on the meaning of water and water governance, water issues and challenges experienced, participation in water decision-making, and water responsibility. Thirteen community members were purposefully selected by the co-researchers (eight males and five females). Among the participants were local leaders, elders, and community department, project, and water managers. Tobacco was offered to each participant as a symbol of gratitude for their time and knowledge shared. Interviews took place at places where participants felt most comfortable such as the Health Centre, the Band Office, and the Buffalo Iron Centre. Interviews were audio-recorded, transcribed, and provided back to participants for review and validation.

**Focus groups.** Two focus groups were conducted in March and May 2019. An Elder was invited with a tobacco offering to provide an opening and closing prayer at both focus groups. The first was held in March 2019 at the Buffalo Center in MNFN. Eight adults participated (from 20-70 years old, four males and four females) and were purposefully selected by the co-researchers. Participants included local leaders including women and elders and members who participated in interviews. Some new participants were also invited. The first focus group was initiated with a presentation of the key elements of collaborative water governance that were identified through the literature review. A conceptual model of these key elements was presented (see Figure 3) to initiate conversations around collaborative water governance. Interview results about the meaning of water governance, dialogue, partnerships, water responsibilities, and participation were also shared. Following these presentations participants engaged to co-build the MNFN water governance framework. The process for co-creating a water governance framework required finding symbolic representation of concepts that were abstract to participants. The initial question guiding this focus group activity was 'if there is a symbolic representation of water governance, what should it look like?' Participants identified key water governance elements and corresponding symbolic representation for those key elements.

**Figure 3. Collaborative Water Governance Conceptual Model**

The second focus group was conducted in May 2019 in the Mistawasis Nêhiyawak High School with eight students from Grade 12 (six girls and two boys). Participants were purposefully selected by the co-researchers and the high school principal. The main purpose of this focus group was to bring younger voices into the framework. The framework co-built with participants in the first focus group was presented to the youth for discussion. The questions guiding youth discussions were: i) What does water mean to you? ii) What should water decision-making look like for you? iii) What elements are important in the framework? iv) What elements are missing in the framework? Their responses were used to complement the framework. All focus group participants contributed to the co-creation of the water governance framework for MNFN. Focus groups were audio-recorded, and notes were taken by the first author (Mora) using flipcharts. Focus group data was transcribed and provided back to participants for review and validation.

## Data Analysis

Two stages of data analysis were performed. Literature was analysed and followed by the analysis of information gathered through interviews and focus groups. Initial analysis was performed by the first author (Mora) and results were subsequently shared with co-researchers and research participants for validation.

**Literature review.** Qualitative analysis followed inductive approaches to identify the meaning and theoretical components of collaborative water governance in Canada. A final sample of 208 records was reviewed, imported to NVivo software and main theoretical themes (e.g., collaboration, self-determination, Indigenous ontologies and epistemologies, participation, relationships, partnerships, colonization legacies, etc.) were identified providing the theoretical basis needed to inform interviews

and focus groups activities. Four elements were found to be key to collaborative arrangements for the achievement and practice of decolonized efforts in collaborative water governance, the recognition of self-determination of First Nations, the incorporation of different ontologies and knowledge systems, collective formal arrangements for shared decision-making, and efforts towards co-building long-term and trustful relationships. A conceptual model was developed, and its elements were not considered prescriptive and other elements could be suggested by water stakeholders and right holders at specific times or geographic locations.

**Interviews and focus groups.** Inductive qualitative approaches were applied to data gathered through interviews and focus groups. Transcription data collected from the interviews and focus groups were imported to NVivo qualitative research software package, version 8.0. (July - August 2019). Analysis followed inductive approaches by labelling main units and grouping them into themes (e.g., the meaning of water, water decision-making, local leaders, government roles, community participation, Nêhiyawak culture, flooding, drinking water, lakes, TK, among others). Additional themes obtained through the literature review were added (e.g., colonization legacies, power asymmetries, blending knowledge systems, collaborative water governance, water ontologies and Indigenous knowledge). Themes were reviewed by the second and third author (Johnston and Watson).

## Results

### The Mistawasis Nêhiyawak Honour the Water Governance Framework

The framework was named 'The Mistawasis Nêhiyawak Honour the Water Governance Framework' by research participants. For participants, water deserved honour in the sense of respect and protection because water represented a sacred entity and life: "[water] it's the spirit that brings life to the community" (Focus Group, March 2019). All participants referred to the strong connection between water and life. Expressions such as 'water is life', 'water is the essence of life', or that 'water is the basis of existence' were commonly mentioned. The connection between water and life helped participants to identify how water governance should look like in MNFN.

Water governance for participants was represented as a tree: "a tree is the image to represent what we're talking about here, a big strong birch, the tree of life, it's a strong foundation" (Focus Group, March 2019). According to participants, the image of the tree (therefore the image of water governance) should look tall, strong, and healthy evidencing the wellness or the wellbeing of the tree. For participants, the wellbeing of the tree (water governance) assured the wellbeing of water and the people living in the nation. Participants also stated that the tree (water governance) should be rooted in Mother Earth, the nurturer that will provide the nutrients needed for the tree to grow healthy.

Participants also indicated that it was important to have a vision for the water governance framework. Participants referred to this vision as a promise that they would make as a nation. They stated: "Mistawasis Nêhiyawak recognizes the shared responsibility to protect, conserve, and maintain water for present and future generations." For participants, water governance implied a sense of shared responsibility between people in MNFN and outside of the nation. Water governance represented a collective work to protect and care for water for the wellbeing of water, people, and life. Participants also mentioned the Mistawasis Nêhiyawak Honour the Water Governance Framework should be seen as a

dynamic system, constantly changing, and adapting to the present and future generations' needs. The framework also presented represents a holistic acknowledgement that water governance should be inclusive in MNFN

> it [the framework] means that it's holistic, comprehensive, all the opinions and views have to be included whether or not you believe in the traditional, you have to be respectful of everybody's views and opinions (Focus Group, May 2019).

Participants also identified the different parts of the tree (roots, trunk, and branches) with elements they thought important in the governance of water according to the MN worldviews (see Figure 4). These elements are discussed in the subsections below.

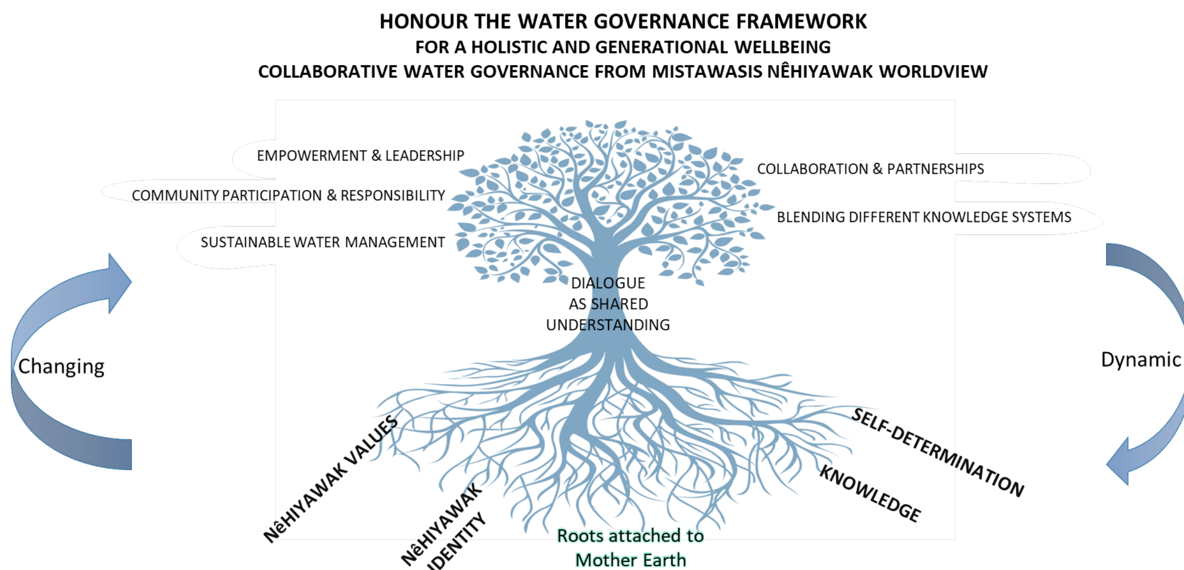


**Figure 4. Mistawasis Nêhiyawak Water Governance Framework – The Tree of Life**

### The Nêhiyawak Sacredness in Water Governance: The Roots of the Framework

The Nêhiyawak sacredness is represented in the roots of the tree. Like roots of a tree, underground branches, connected to Mother Earth, so is the Nêhiyawak sacredness. This sacredness provides the 'nutrients' or the foundation of who the Nêhiyawak people are their values, identity, knowledge, and self-determination. For the governance of water, participants associated four main elements as the underground roots connected to Mother Earth. These four elements were the Nêhiyawak values, the Nêhiyawak identity, the Nêhiyawak TK, and self-determination.

Participants identified the Nêhiyawak values as the guiding principles or standards of behaviour guiding people, actions, and decisions within water governance. One of the participants referred to the importance of these values:

> Mistawasis have been really working towards getting back to our traditional values and beliefs, our cultural way. We got the Seven Sacred Teachings. I think those are the important ones to understand them. Not only to guide us in making the best decisions for the community and water but to understand the impacts and how it [water] relates not only to us but to everything (interview 12S, October 2018).

For participants, the Nêhiyawak values of love, respect, courage, honesty, wisdom, humility, and truth provide space for developing an appreciation for water as the life provider. The values also provided the ethical guidelines for the arrangements needed in the governance of water.

Along with the values, reflections about the Nêhiyawak identity were referred to. Participants recognized themselves as Nêhiyawak people with their own culture, language, worldview, and TK. According to participants, the Nêhiyawak identity has been lost over time as part of the legacies of the colonization process. The loss of their identity implied the loss of their relationship with water as the water stewards. By bringing back the Nêhiyawak identity the connection and relationship with water would also come back:

> we're supposed to be protecting Mother Earth, which includes the water. We've lost our role. We've lost that identity. We need to bring back our culture and strengthening people's understanding of our culture, like the water ceremony we did. I think that really opened a lot of people's eyes that were there, about just how important water is (Focus Group, March 2019).

As part of water governance, participants also discussed TK with particular attention. They referred to the importance of TK for understanding water:

> I think [TK] it's a big part of who we are and where we came from, and understanding the land, the water, and the environment. It's what we observe, it's about sharing with others and making good decisions about water (Focus Group, May 2019).

By referring to TK, participants also talked about the important role that Elders play in water decision-making. Elders have the experience, the historical perspective, and the understanding of what water is and means:

> they [Elders] should be present whenever decisions should be made because they're our history. They have to bring the knowledge back to us that we don't know, the ones that don't know and haven't been taught. It's for them to bring our identity, our roles in protecting water (interview 10C, October 2018)

Finally, the reflections about TK and water governance opened space for discussion on self-determination. Self-determination was proposed as the process for relationship-building between First Nations and the Canadian government from a nation-to-nation standpoint. For participants, the

recognition of their self-determination includes the recognition of their principles, rules, practices, and knowledge exercised and adapted in time:

> we want our self-determination, the governance of our own waterways, the funding beyond that to go ahead with certain things, to take care of things for the future for our children (Focus group, March 2019).

Once the foundational elements were identified and formed the roots, participants referred to elements that formed the trunk and branches of the tree.

## Shared Dialogue as The Trunk in the Framework

Participants identified the need for pathways and spaces for shared dialogue between what they called "water responsible holders," including Indigenous and non-Indigenous people. Everyone has a responsibility for the well-being of water. The trunk represents shared dialogue and understanding among people's different perspectives, approaches, and worldviews. Participants remembered how shared dialogue was crucial for dealing with the past flooding crisis in the community:

> when we looked at the water, we dialogued and talked with other key government agencies, as well as technical people, institutions of higher learning, to come collectively to our community to help us resolve the issues of water, issues in the community, we were open to hearing and sharing strategies (…) You've got to have that dialogue. If you don't have that dialogue, how are they [non-Indigenous people) going to know what the needs of first nations are (…) Dialogue makes us a stronger community when we align ourselves and work with other people, other communities at the same table (Focus group, March 2019).

By opening spaces for shared dialogue people in Mistawasis reached out to different water stakeholders interested in working together with and contributing learning opportunities for the community. For participants, dialogue implied coming "all to the common table," the table of water decision-making. At this table, everybody has a say, has knowledge and experience to share, and has power of decision-making. The trunk represents the means for communication between different worldviews, knowledges, and perspectives. Shared dialogue represented for participants the strategy for achieving common goals by recognizing the responsibility that every actor (e.g., government, local communities, industries, and non-governmental organizations) has in the governance of water.

## Elements Needed to Honour Water: The Growing Branches and Leaves

Honouring water is an action needed for the water governance system to grow and keep strong. The MFN participants identified five main elements to honour water, these include empowerment and leadership, community participation and responsibility, sustainable water management, collaboration and partnerships, and blending different knowledge systems. According to the research participants, the branches and leaves in the framework are related to specific tasks the community needs to work on for the Tree (governance system) to keep growing. As the branches and leaves in the tree are responsible for

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converting sunlight into chemical energy for the growth and health of the tree, the actions to honour water provided the energy required for the water governance system to keep growing strong.

**Empowerment and leadership.** According to participants, water governance in MNFN requires local strong and empowered leaders to guide water decision-making. For participants, leadership in the nation should be given to elders and youth. Elders or knowledge holders represent the wisdom, the knowledge, the experience, the learning, and the history while youth were seen as the future of their community:

> elders should play a big role in water decision-making. Elders have that knowledge from the past and that understanding of water that a lot of us take for granted and don't have anymore. They know what it's like to have to haul water or to have to work hard to get to your water. Nowadays, people just turn on a tap and they have water right there. They take it for granted so much. Those elders have that respect for water, and they know what it took to get that water before. If they can bring that perspective to the table and help people understand just how important it is, then I think that they should be (interview 02D, October 2018).

> They've [the youth] gotta be part of the decision making because they are our future. You've gotta let them have that participation. That's important for the leadership to bring this younger generation in and teach them that. They should be included in everything that they do with water so that they'll know and they'll understand what it is that we need to do. When it comes time for them to lead us now, they'll only be that much stronger because they'll have that background, and that information, and that understanding of water that they need to make proper decisions (Focus group, March 2019).

For participants, knowledge holders and youth should be more involved as leaders in water decision-making. Elders are the source of knowledge needed for decisions and the youth is the future, the human resource the nation has for their survival as Nêhiyawak people. Although elders have been included in water decision making at some points, leadership roles are missing, and the same situation happens for the youth.

**Community participation and responsibility**. Another element identified was the promotion of community participation and responsibility. Community members in MNFN require to be actively involved in water decision-making as responsible holders in the water governance system. For research participants, participation issues are present in the nation because not all members are aware of their role as active decision-makers:

> I think there's an incorrect community view that individuals or families or households aren't involved in water decision making, I think that's wrong. All community members should be involved, should take responsibility, and ask to be part of that process, rather than just say "Oh, it's somebody else's responsibility." I think maybe for the community as a whole, we have to take that same view, that it's not the responsibility of the federal government or the province, it's not somebody else's responsibility, it has to be the responsibility of Mistawasis as a whole (Focus group, March 2019).

Participants reflected on the community's awareness about the responsibility each person has over water, the decisions taken and how those decisions affect water and people's lives. Participants agreed that when people lose their responsibility to water, they also lose their connection and relationship with water, and this loss is what is preventing the community from honouring water. Solutions or strategies to increase participation included (re)learning processes about the sacred relationship between people and water.

**Sustainable water management.** For participants, sustainable water management was referred to as the actions the nation needs to do to maintain a holistic and sustainable approach to water management. For the sustainable management of water, participants identified two first tasks: updating the community's source water protection plan and working on environmental education to community members about water protection. Participants identified these two activities require technicians or staff trained in environmental skills, education skills, and the availability of financial resources for covering expenses required. Nonetheless, technical and financial resources are scarce in the nation representing constant obstacles in the management of water. One of the participants referred to the issues the nation faced regarding water monitoring:

> there's monitoring that needs to go on there to ensure that the garbage there isn't leaking into our aquifers, our groundwater source. There's no set schedule for that, there is no set guideline for that. But is there enough resources? In the community, no, there isn't. We don't have the finances in place to actually do that type of work. So in order for us to have these things in place, that does take money and time, people (Focus group, March 2019).

Participants agreed the lack of technical and financial resources represent important barriers in the governance of water for this nation. Nonetheless, these obstacles have been partially addressed through collaborative efforts with external partners.

**Collaboration and partnerships.** Due to the lack of technical and financial resources explained before, participants and leaders in MNFN considered the importance of collaborative work by building trustful partnerships with Indigenous and non-Indigenous water responsible holders. The water problems MNFN faced, have been addressed mostly through trustful relationships built in the past. Participants considered collaboration and partnerships as strategic resources for water governance:

> I think we've made many good connections with others. Our partners, our NGOs, the university, and from time to time, different levels of government. So we have those connections. But what we don't have yet is sort of a commonly understood way of working together. So it's fairly informal, but I think we're looking at ways to (Focus group, March 2019).
>
> At times, we don't really realize how, perhaps, organized we are, but I think outside observers see that we're doing something together. But we don't have anything on paper, it's not defined. It's sort of an informal relationship right now, but I think there's a need to give it a definition because something is working good here (01A interview, October 2018)

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The good partnerships experienced in the community represented opportunities for finding spaces of collaborative understanding between people in Mistawasis and outsiders.

**Blending different knowledge systems.** The last element identified in the branches was blending different knowledge systems as the opportunity for bringing together Indigenous knowledges and Western Science as complementary for solving water issues in MNFN. By partnering with different organizations, spaces for inclusion of Indigenous and Western knowledges from a complementary perspective have been experienced in Mistawasis. Participants saw blending knowledge systems as the strategy for making better decisions:

> bringing both aspects of what traditionally all those keepers have and mix that into more contemporary aspects of how water quality should be monitored and engaged by blending both traditional philosophies in Nêhiyawak but also the more modern-day aspects of what water regulatory standards mean to everybody ( … ) I think as we start to reconnect to land and water and have this other [western] knowledge and data, then we'll make better decisions (Focus group, March 2019).

The combination of the elements placed in the roots, trunk, branches, and leaves represented the meaning of water governance from a collaborative perspective in MN. Finally, participants stated their mission for water governance as a Nêhiyawak community. The mission entailed notions of shared responsibility for protecting water in the present and the future. The last goal is the achievement of a beautiful or good life for water and people.

## Discussion

### Confronting Hegemonic Water Governance Ontologies and Epistemologies in Canada

The Mistawasis Nêhiyawak Honour the Water Governance Framework is based on and composed of elements that represent the MNFN worldviews, culture, and values, (roots); the importance of shared dialogue in water governance (trunk); and specific tasks or actions the community is aiming to strengthen in the governance of water (branches and leaves). The elements in the framework confront current hegemonic water governance structures and systems in Canada. The framework defies water governance to recognize and understand Indigenous water ontologies and epistemologies historically relegated and underrepresented in Canada (Basdeo & Bharadwaj, 2013; Day et al., 2020; von der Porten & De Loë, 2013a). From the Nêhiyawak worldviews and TK, water is life, it owns spirituality and sacredness. From this conceptualization, people in MNFN aim to develop a sociocultural relationship with water based on respect and honour. According to Wilson (2014), the sociocultural relationships or "Indigenous hydrosocial relations" are determined by the principles, beliefs, and knowledge Indigenous people have, and from these hydrosocial relationships actions taken in water governance are delineated. The values, knowledge, and beliefs people in MNFN have are represented in the framework proposed, and from this knowledge system, the actions that will help the nation to honour water and honour water governance are delineated. The framework co-built with MNFN differs from dominant approaches that focused on the materiality of water as a resource to be used and having an economic value as the most important quality. The radical difference between Indigenous ontologies and dominant Western

ontologies is crucial for the practice and actions in water governance. For example, the incorporation of integrated approaches in water governance that will conceive "water-as-a-lifeblood" rather than "water-as-a-resource" in British Columbia, Canada is discussed (Yates et al., 2017). Hegemonic approaches divide water by its uses (e.g., drinking water, water for irrigation, etc.) and these approaches are the rulers of water governance and policies. The authors stated that alternative ontologies might develop different policies and actions that will conceive water as an interconnected system where humans and non-humans are constituent to the system, and they are connected. Water governance requires the incorporation of Indigenous ontologies and epistemologies beyond cultural constructions or beliefs. Indigenous ontologies and epistemologies are official proclamations towards self-determination: "Indigenous epistemologies and ontologies represent legal orders, legal orders through which Indigenous Peoples throughout the world are fighting for self-determination" (Todd, 2016, p. 18). Water ontologies represent a site of 'political contest' because in this space intersects multiple and diverse water worlds while challenging Western ontologies dominant in the governance of water (Yates et al., 2017). In Canada, efforts towards the inclusion of Indigenous ontologies and epistemologies in the governance of water are found. For example, Arsenault et al. (2018) presented the influence of Indigenous knowledge in the negotiations and policy agreements on Great Lakes water quality. After years of advocacy, the Chiefs of Ontario working with Elders and Knowledge Keepers representing 133 First Nations in Ontario influenced and changed water policy and governance. By incorporating Indigenous knowledge innovative water policy frameworks were developed such as the Great Lakes Water Quality Agreement between Canada and United States in 2012, the Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health (COA) in 2014, or the Great Lakes Protection Act in 2015.

### Decolonized Water Governance through Equal Dialogue and Meaningful Cooperation

Based on the sacredness of water, the Mistawasis Nêhiyawak Honour the Water Governance Framework suggests dialogue as the central axis in the governance of water. The framework calls for shared dialogue in equal conditions where dialogical approaches of complementarity between Indigenous and Western knowledges are the strategy for reaching more sustainable and holistic outcomes in the governance of water. From a complementary perspective, dialogue as the main axis (the trunk) connects internally the community (the roots), with actions and interactions among water responsible holders inside and outside the community (the branches and leaves). From MNFN worldviews and thinking, dialogue should open equal spaces for different ways-of-being-with-water, representation, participation, and learning opportunities in the governance of water. MNFN is calling for new and meaningful forms of collaboration in water governance as other Indigenous nations are doing in Canada. For example, Yates et al. (2017) refer to experiences in the Okanagan region of British Columbia, where Indigenous Peoples use the philosophy of En'owkin, the process of consensus-making dialogue "that nurtures voluntary cooperation and which recognizes that existing life forms have status, rights and privileges that are equal to humans, and which must be protected" (p. 808). For MNFN, their framework is advocating for a collaborative dialogue that recognises multiple ontologies aware of the sacred value of water. The sacredness of water demands a relationship between humans and water based on the honour and respect water deserves. By incorporating MNFN water ontologies, the framework advocates for the affirmation of their Indigenous laws, worldviews, and knowledge to govern, to relate, to be-with water.

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From this research, we have also found that the Mistawasis Nêhiyawak Honour the Water Governance Framework represents a bottom-up governance approach that differs drastically from the top-down centralized water governance model usually exercised in Canada. The structure of water governance grows from Mistawasis identified as a Nêhiyawak community in the right to assert their self-governance, legitimize their TK, and recognize their identity as Nêhiyawak people. Crucial aspects for collaborative efforts in the governance of water. The vision The Mistawasis Nêhiyawak Honour the Water Governance Framework evidences the call Mistawasis is doing for de-construction of hegemonic colonial water governance systems towards the co-construction of shared processes of participation, decision-making and responsibility while acknowledging Mistawasis Nêhiyawak knowledge, culture, self-determination, and their ways of being-with-water. The process for building the Honour the Water framework represented a decolonized effort in research in Saskatchewan and Canada. Nonetheless, it will be naïve to say that the framework represents the perspective of every single nation member in Mistawasis Nêhiyawak, and that could be considered as one limitation of this study. This study represents the experience, knowledge, and aspirations that some members of MNFN have about water governance, the importance of collaboration and partnerships through inclusive and respectful dialogue.

## Conclusions

For Indigenous Peoples in Canada, water issues and crises represent historical political conflicts of power. The solutions proposed so far demand the inclusion of collaborative approaches that will force the water governance system to structural changes aware of the recognition of water ontological disjuncture. The Mistawasis Nêhiyawak Honour the Water Governance Framework proposes a collaborative approach for the de-construction of hegemonic colonial water governance systems towards the co-construction of shared processes of water participation, decision-making, and responsibility by acknowledging different ways of being-with-water. The framework challenges water governance from overcoming cultural barriers to opening spaces for dialogue among multiple ontologies. The framework also represents a bottom-up approach to understand how to relate to water. By understanding water as life and sacred, the ethical guidelines in the water governance system change placing stewardship, relationships, partnerships as the key elements components in this system. The relevance of these components could potentially force decision-makers to change perspectives that tend to divide water by its use. Ontological disjunctures are real and present in water governance; nonetheless, these disjunctures should be used for reformulating water governance from a complementary perspective and towards meaningful and inclusive water governance approaches respectful of Indigenous authority over their wellbeing.

This study contributes to the increasing debate regarding the importance of de-colonizing water governance in Canada. New forms of governance are emerging in Canada, and the MNFN framework is one of them. The Mistawasis Nêhiyawak Honour the Water Governance Framework provides important insights about perspectives and understandings that are omitted but needed when dealing with current water governance issues. The incorporation of this framework however requires that water governance systems are aware of legal pluralism that will affirm Indigenous ontologies, knowledge, and laws. As Rathwell et al. (2015) argue "[e]ffective governance responses to multi-scale challenges must align action with values of social justice and democracy, and must validate the legitimacy of diverse

knowledge systems" (p. 853). Only when Indigenous knowledges are validated and legitimized will the complementarity between Indigenous and Western knowledge be possible. The validation of Indigenous ontologies by legitimizing Indigenous knowledges could represent the first step for meaningful and effective collaborative water governance systems able to navigate the water complexity and uncertainty for Indigenous People in MNFN and Canada in general.

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