

**Factors Facilitating and Constraining the Inclusion of First Nations
in Watershed Planning in Alberta, Canada**

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Saskatoon

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ABSTRACT

Alberta's *Water for Life* strategy was released by the Government of Alberta in 2003 and has since received international praise for its collaborative approach to water resource management. *Water for Life* supports collaborative activities with shared responsibilities and forms the framework for the management of Alberta's water resources. This research examines the degree to which First Nations in Alberta were included in the development and implementation of *Water for Life* in Alberta.

For the purpose of this thesis not only the *Water for Life* strategy was analyzed but also Alberta's Watershed Planning and Advisory Councils (WPACs) and their watershed planning processes. The WPACs were created under the *Water for Life* strategy with each council representing a major river basin in Alberta. WPACs are diverse and range greatly in land area and number of First Nation reserves within each watershed. Data collection consisted of manifest and latent analysis using a qualitative analysis software as well as follow up telephone interviews with WPAC watershed planners in order to receive a deeper understanding of the plan-making process.

The results indicate factors that facilitate the inclusion of First Nations in watershed planning. Facilitating factors include pre-existing relationships with communities as well as communicating to individuals in the community who are interested in water-related issues. The main findings from this research identified five constraining factors to the inclusion of First Nations in watershed planning in Alberta. These constraining factors include cultural connections; physical parameters; governance; human capacity; and financial limitations.

This research recommends multiple ways in which the current watershed planning framework in Alberta could be adapted to be more inclusive of First Nations while at the same time provide a more collaborative watershed planning model for other jurisdictions in Canada.

Keywords: Watershed planning, First Nation, Alberta, Collaborative planning, Canada

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LIST OF ABBREVIATIONS

AWC	-	Alberta Water Council
AWC	-	Athabasca Watershed Council
BRWA	-	Battle River Watershed Alliance
BRBC	-	Bow River Basin Council
IWMP	-	Integrated Watershed Management Plan
LSWC	-	Lesser Slave Watershed Council
MPWA	-	Mighty Peace Watershed Alliance
MRWCC	-	Milk River Watershed Council Canada
NSWA	-	North Saskatchewan Watershed Alliance
OWC	-	Oldman Watershed Council
QRL	-	Qualitative Research Laboratory
RDRWA	-	Red Deer River Watershed Alliance
SEAWA	-	South East Alberta Watershed Alliance
SWP	-	Source Water Protection
WPAC	-	Watershed Planning and Advisory Council

1. INTRODUCTION

Water for Life: Alberta's Strategy for Sustainability was released in November 2003 containing three goals: 1. Safe, secure drinking water supply; 2. Healthy aquatic ecosystems; and 3. Reliable, quality water supplies for a sustainable economy (Alberta Environment, 2003). As part of this framework the Alberta Water Council (AWC), Watershed Planning & Advisory Councils (WPAC) and Watershed Stewardship Groups (WSG) have been established. While the Government of Alberta still has full authority for all water management decisions, these three partnerships work together to give recommendations to the government through stakeholder consultation (Berzins et al., 2006). The AWC's (2017) latest *Implementation Progress: 2012-2015 Report* states that "The participation of Indigenous Peoples and incorporation of traditional knowledge and practices in water management planning activities also remains a gap." (p. 4). Alberta's *Water for Life* strategy has received international praise for its collaborative approach to water resource management (Berzins et al., 2006). *Water for Life* is a watershed management approach that employs collaborative activities with shared responsibilities and is primarily responsible for the management of Alberta's water resources (Alberta Environment, 2003). The Government of Alberta realized that population growth, climate change and increasing economic activities put immense pressure on water resources. Consequently, this research seeks to identify factors facilitating and constraining the inclusion of First Nations in watershed planning in Alberta.

Watershed management incorporates social, economic, and environmental aspects within watershed boundaries, and thus relies on bringing together decision makers, communities, local interest groups, and other stakeholders (G. Wang et al., 2016). Collaborations and meaningful relationships are key drivers in the creation of watershed management plans (Megdal et al., 2017). However, operating in a multi-stakeholder setting can be challenging because of differing interest between and among stakeholders can hinder effective engagement practices. In addition, relationship building takes time especially when groups with different belief systems and traditions reside within the same watershed management boundaries (Reo et al., 2017).

According to the 2016 Census of Canada, Alberta has the third largest First Nation population in Canada (after Ontario and British Columbia). There are 48¹ First Nation reserves in Alberta among 140 First Nation reserves in total across Treaty 6, 7 and 8 (Ministry of Indigenous Relations, 2019).

The academic literature provides extensive information on watershed management (Lubell, 2004; McGinnis, 1999; Mitchell, 1983; Stewart & Bennett, 2017) and the importance of collaborations with First Nations (Adams et al., 2014; Lane, 2006; Patrick et al., 2017; Prusak et al., 2016). Nevertheless, little attention has been paid to watershed planning processes and the factors which facilitate or constrain the inclusion of First Nations. The *Water for Life* strategy, in particular, has been praised internationally for its collaborative approach to water management.

1.1. Research Purpose and Objectives

The purpose of this research is to identify factors facilitating and constraining the inclusion of First Nations in watershed planning in Alberta. In order to achieve this goal, three objectives were identified:

- i. To assess the degree to which the Government of Alberta's *Water for Life* framework makes space for First Nation inclusion in watershed planning.
- ii. To assess the degree to which individual WPACs in Alberta make space for First Nation inclusion in their respective watershed plans and planning processes.
- iii. To elaborate more generally on the benefits of including First Nation voices in the provincial watershed planning framework in Alberta and beyond.

1.2. Research Rationale

The rationale for this research is to assess how a provincial government in Canada engages with First Nations and how this may lead to more collaborative planning at the watershed scale. Alberta's *Water for Life* strategy was particularly important to investigate because it has received international recognition for its collaborative water management approach.

¹ Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) reports 45 First Nation reserves in Alberta. CIRNAC includes Whitefish (Goodfish) Lake First Nation under Saddle Lake Cree Nation; and Chiniki, Bearspaw and Wesley First Nation communities under Stoney Nakoda Nation

Furthermore, this research was inspired by a study done by McLeod et al. (2015) who looked at Ontario's regulations and policies and how they recognize First Nation rights and treaty rights. This led to the idea of applying a similar approach to Alberta's water management strategy including watershed management plans developed by individual WPACs. Furthermore, my study used follow up interviews to gain a deeper understanding of potential barriers to First Nation inclusion in watershed planning processes in Alberta.

1.3. Watershed Management

Canada is one of the most decentralized water governance countries in the world (K. Bakker & Cook, 2011). Multiple actors and agencies are involved in water resource management in Canada. In addition, federal and provincial water management agencies are highly fragmented resulting in a lack of coordination and confusion over accountability issues. As a result, provincial governments employ a watershed management approach which can be defined as “an adaptive, comprehensive, integrated multi-resource management planning process that seeks to balance healthy ecological, economic, and cultural/social conditions within a watershed” (Red Deer River Watershed Alliance, n.d.). This holistic approach includes a complex assessment of risks and concerns and their possible impacts on different watershed areas and their stakeholders (Cuvelier & Greenfield, 2017). Consequently, a watershed-based approach requires the development of a watershed management plan. This plan includes stakeholder input, technical data, and gives recommendations to improve watershed health and to address overall needs and concerns.

1.3.1. Alberta's *Water for Life* Strategy and WPACs

The Government of Alberta recognized that water quality and quantity will not be sufficiently available for everyone in the future. As a result, the Government of Alberta developed the *Water for Life* strategy and is committed to “the wise management of Alberta's water quantity and quality to the benefit of Albertans now and in the future.”(Alberta Environment, 2003: p. 5). *Water for Life* focuses on creating partnerships and sharing responsibilities. It designated the responsibility of bringing together multi-stakeholders and community engagement to the Watershed Planning and Advisory Councils (WPACs) which are independent and non-profit organizations (Government of Alberta, 2019). *Water for Life* mandates the WPACs to “support multi-stakeholder

collaboration and community engagement within four main program areas: Education and Outreach, Environmental Stewardship, Watershed Evaluation and Reporting, and Watershed Management Planning.” (Alberta Environment, 2003). Eleven WPAC’s have been created under this strategy representing Alberta’s major river basins.

The *Water for Life* strategy underwent several public and expert consultation processes before it was published in 2003. The process consisted of three different stages, beginning with a small group of diverse Albertans who got together in the fall of 2001 to discuss and identify challenges to managing water. The outcomes set the framework for the next step which took place in March/April of 2002. A public outreach campaign was held, and the previous outcomes were presented to the public and key stakeholders in Alberta. The purpose of this stage was to generate more input from local residents and stakeholders on the same issues that were discussed in Stage 1. In June of 2002, 108 Albertans and experts reviewed the input generated from Stages 1 and 2 and discussed future steps. Finally, Alberta Environment used these outcomes of all 3 Stages and developed the framework for the *Water for Life* strategy and published it in 2003 (Alberta Environment, 2003). As part of this framework, the Alberta Water Council (AWC) is responsible for the overall implementation of *Water for Life*. Watershed Planning & Advisory Councils (WPAC) bring communities and stakeholders together to develop watershed management plans. Watershed Stewardship Groups (WSG) are groups of volunteers undertake action on the ground to protect their watersheds. While the Government of Alberta still has full authority over all water management decisions, these three partnerships work together to give recommendations to the government through stakeholder consultation and watershed planning (Berzins et al., 2006).

In 2008, a renewal of the *Water for Life* strategy was completed based on the recommendations given by the AWC. While the main goals and objectives of the strategy remained the same more focus was put on two other subjects: safeguarding water resources and accelerating actions. The AWC and the Alberta government realized that the strategy can only be efficient when “success will depend on focus, innovation, balanced social values and a growing appreciation of the value of water as a scarce resource.” (Alberta Water Council, 2008). In addition, the *Water for Life Action Plan* was released by the AWC in order to track the strategy’s progress.

1.4. Water Resource Planning and First Nations

First Nation water issues adds another challenge to water resources planning in general, and watershed management in particular. *The Indian Act* (1876) gave the federal government full authority of First Nation reserves. In 1930, the *Natural Resources Act* was passed transferring control over crown lands and natural resources within the provinces of Manitoba, Saskatchewan, Alberta, and British Columbia. However, First Nation reserves and traditional lands were excluded and remain under the control of the federal government. As a result, these provinces set their own water regulations which are not applicable to First Nation reserves. This mismatch of water laws paved the way for unique challenges faced by First Nations (McGregor, 2014; White et al., 2012). Boil water advisories, lack of infrastructure and limited staff availability are challenges facing First Nation leadership on a daily basis (Farenhorst et al., 2017; Islam & Yuan, 2018; Morrison et al., 2015). First Nations have lived on their lands for thousands of years and have developed an intimate relationship with their surroundings (Jojola, 2013). First Nations protect water not just for themselves, but more so for everything connected to water. First Nations relationship to water presents an opportunity for watershed managers and non-indigenous organizations to foster relationships with First Nation communities through mutual concerns over watershed health.

1.5. Positionality

Born and raised in Germany, I never really had to be concerned about water. It has not only been available, but it also had the right quality to be consumed as tap water. However, my focus has shifted since I started my graduate program in September 2018. My research focuses on First Nations and watershed planning. I have read many papers and news reports about topics surrounding the uneven access to safe drinking water on reserves. Indigenous Peoples see water as a living entity and not as a commodity. Contrary to Western belief systems, water has a very sacred meaning and is treated as such. Nowadays, in non-Indigenous societies it is mostly valued for its functionality and is seen as a commodity. We have forgotten to appreciate the simple things. I believe that my generation, specifically Western society, was born into a world where everything was readily available. We never had to learn to ration water or to boil water before consuming it. However, our current situation will one day force us to change our behavior. We must accept that everyday necessities, such as clean water, cannot be taken for granted anymore. I also believe that

incorporating traditional knowledge can show us that water is so much more than a liquid running out of our taps. This might give us a more tangible understanding and appreciation for water.

Lastly, for the past year I have been employed as a watershed technician for the South Saskatchewan River Watershed Stewards Inc. (SSRWSI). I have experienced firsthand how diverse, stressful, and frustrating this job can be. Funding applications have to be found and written; this is followed by waiting for funding approval which usually takes place just before the previous fiscal year is over. As watershed planners we live in constant uncertainty whether we will be able to carry out projects or not. In February 2020, I attended a workshop in Regina which focused on building meaningful relationships with First Nations. I listened to many First Nation presenters who told us that relationship building takes time and cannot be achieved with typical Western society meeting agendas. After this workshop I was very inspired to initiate more relationship building activities in our watershed. However, funding is limited, priority decisions have to be made, and in addition, working for a non-profit organization means that only yearly employment contracts are issued. Thus, having the right intentions and motivations to carry out projects are sometimes hindered by bureaucratic processes that are managed by organizations out of local control. Consequently, I am hoping that my work will initiate discussions around funding cycles, planning timelines, and broadening the scope of watershed planning to include First Nation participation.

1.6. Thesis Structure

This thesis is organized into six chapters. The first chapter will introduce the research goal and objectives. The general context for the research will also be introduced. Chapter Two provides an in-depth examination of Canada's water laws and governance structure as well as an explanation of watershed planning and why it requires strong relationships with stakeholders. This chapter highlights limitations to watershed planning. Chapter Two also explores the topic of Indigenous people and water resource planning. Chapter Three examines the research methodology, study area, data collection methods, and data analysis approach. Chapter Four, reports the results gathered throughout the data collection process and provides an analysis of that data. Chapter Five discusses the results and how they align with the academic literature. Finally, Chapter Six provides recommendations from the research, limitations of the research, and guidance for future research.

2. LITERATURE REVIEW

The purpose of this chapter is to review pertinent literature on the subject of watershed planning. The key literature areas to be reviewed will include water governance, watershed planning, and Indigenous planning. The literature review will include a systematic literature survey using an academic search engine followed by a synthesis of critical arguments from the collated literature. Based on this synthesis my position on critical areas related to the topic of this research will be elaborated.

2.1. Water Laws and Governance in Canada

Generally speaking, the federal government of Canada has jurisdiction related to oceans, fisheries, navigation, federal lands, and international relations. Therefore, more than 20 departments are involved in water management at the federal level (Environment and Climate Change Canada, 2007). According to Pearce and Quinn (1996), the federal government was very active in passing water policies and regulations until the end of the 1980s. For example, Canada's Water Act was passed in 1970. As a result, the Federal Government, specifically the Ministry of the Environment, could now form partnerships with one or more provincial governments to establish committees or other forms of partnerships. The government hoped that federal-provincial partnerships will aide in the management of water. In 1987, the Federal Water Policy was introduced carrying the message that water must be protected in order to have a healthy environment (Nowlan, 2004). Five strategies were created to achieve these goals: realistic pricing, science leadership, integrated planning, legislative renewal and public awareness. Nevertheless, this policy did not gain any momentum and was silently neglected (Pearse & Quinn, 1996). All ten provinces in Canada have the responsibility over their respective water resources. Thus, water management responsibilities are further delegated to municipalities. In addition, each province sets their own drinking water policies and regulations. The federal government has not create federal drinking water standards and regulation, but only guidelines.(G. Dunn et al., 2017).

Fragmentation and decentralization are prominent characteristics of Canada's water regulatory jurisdictions (Hill et al., 2008). Research has attempted to evaluate Canada's approach to water governance and to identify strategies to overcome fragmentation and decentralization(K. Bakker

& Cook, 2011; G. Dunn et al., 2017; Saunders & Wenig, 2007). A study conducted by Hill et al. (2008) reviewed provincial and territorial policies and legislations to gain an overview of Canada's water resource management structures. These authors argue that more power and support should be given to local actors and stakeholders involved in drinking water and watershed management. Furthermore, they conclude that there is no simple solution to water governance structures in Canada. Simms and de Loe (2010) state that devolving all power to local levels only is not enough to navigate to complex issue of water management. The government should be involved to give guidance and directions. Bakker and Cook (2011) agree with the notion of employing federal and local authorities in regards to water resource management. Decentralization has many positive aspects, such as local problem solved by local people. However, decentralization also caused many unwanted issues. This may include different regulations for each province and the absence of national water quality standards.

Simms and de Loe (2010) claim that it is impossible for governments to have exclusive control over water because water management is very complex and uncertain. Thus, the concept of governance is gaining more attention worldwide. The term water governance is defined by Nowlan and Bakker (2010) as "... the range of political, organizational, and administrative processes through which communities articulate their interests, their input is absorbed, decisions are made and implemented, and decision-makers are held accountable in the development and management of water resources and delivery of water services." (p. 7). As a result, provincial governments have taken matters into their own hands using a watershed management approach (Hill et al., 2008). In other words, the delegation of water management to the local level and the addition of other actors have been added to decision-making processes, such as industries, non-government organizations, and citizens. Reiser et al. (2015) claim that collaborative planning processes in environmental management, especially water resource management, emerged as a new paradigm in the 80s and 90 and is best exemplified in watershed planning.

2.2. Watershed Planning

A watershed planning approach has been practiced for many years and such plans are usually initiated once a watershed faces threats or concerns. Advantages are numerous and range from protecting ecosystems to engaging various stakeholders in the process (Mitchell, 1983).

Watersheds define specific planning boundaries and the ecosystem as a whole will be considered during the planning process (Montgomery et al., 1995). Moreover, it is crucial to keep watersheds healthy so biodiversity and ecosystems can thrive (Cuvelier & Greenfield, 2017). According to Shrubsole et al. (2017), watershed planning should be a question-driven approach in order to evaluate management activities and environmental impacts.

Each watershed has its own characteristics and therefore no plan will be the same yet the process of creating a plan follows a certain framework (McGinnis, 1999). The first step in a watershed planning process is the establishment of a working committee. This committee is crucial to identifying threats and concerns as they have a good understanding of their environments and what they see as problematic in the future (Cuvelier & Greenfield, 2017). Watershed planning includes a complex assessment of risks and concerns and their possible impacts on different watershed areas and their stakeholders (Young, 2015). Through stakeholder input as well as scientific and technical data, a risk assessment matrix is created. Based on this matrix, different mitigation options will be defined, and responsibilities will be shared. Once a watershed plan has been implemented it has to be reviewed and adapted to changes over time (Government of Prince Edward Island, n.d.).

There are significant capacity needs to support effective watershed planning. For example, Wang and Patrick (2014) evaluate the effectiveness of Source Water Protection Plans developed by watershed groups in Saskatchewan. They discovered that financial, institutional, technical, and social capacity requirements need to be improved in order to support successful plan implementation. In addition, Curran (2015) notes that often watershed plans lack monitoring and enforcement standards. Cohen and Davidson (2011) state that water-centric strategies are not enough to address broad issues concerning water quality and quantity as well as to ensure water security for all players involved. de Loe and Patterson (2017) add that management at a watershed scale is not enough to ensure that all stakeholders are equally included since threats and concerns can extend far beyond a watershed boundary.

There is an increased recognition that collaboration is necessary when it comes to water management. Individual activities can have an impact within and beyond a given watershed. Therefore inclusive watershed planning is a necessary component of water resource planning

(Mitchell, 1983; Stewart & Bennett, 2017; Veale & Cooke, 2017). According to Imperial (2005), collaboration with different stakeholders can expedite plan implementation and help address differences in values and concerns amongst stakeholders.

2.2.1. The Importance of Stakeholder Engagement

Watershed management is too complex an obligation to only be performed by government bodies. Consequently, other non-governmental organizations, industries and people residing within a watershed must come together to create a watershed management plan (Leach & Pelkey, 2001). Public engagement is key to developing a plan that incorporates input from a variety of participants. Furthermore, public engagement provides a platform for different viewpoints to be heard and discussed (Shrubsole et al., 2017).

Stakeholder involvement is a significant part of watershed planning because stakeholders are those who have an impact on the environment and who will be impacted by planning decisions (Imperial, 2005). Moreover, watershed stakeholders can contribute specific knowledge for the development of watershed plan (Stewart & Bennett, 2017). Lubell (2004) argues that stakeholder engagement is an important requirement for successful watershed planning processes. This has also been explored by Reisert et al. (2015) who concluded that meaningful stakeholder participation results in high quality watershed plans and successful plan implementation. Thus, stakeholder engagement is an important aspect of watershed planning. Meaningful stakeholder engagement requires watershed coordinators with specific skills (Leach & Pelkey, 2001). Technical expertise, such as an understanding of hydrologic processes, is just one aspect that a watershed coordinator should possess, but higher importance needs to be paid to social skills. For example, Wolfson et al. (2015) found that the ability to communicate with a broad group of people and to bring them together in a meaningful way is key for successful watershed planning. . Similarly, Bonnell et al. (2019) investigates attributes of effective leadership characteristics in watershed management by interviewing twenty watershed coordinators in Ohio. The main findings show that social qualities are the most critical for stakeholder engagement and plan implementation activities. Consequently, watershed planners have to be able to build and nurture relationships through effective communication.

2.2.2. Limitations to Stakeholder Engagement

Collaborations do have limitations. For example, Stewart and Bennett (2017) argue that the implementation of defined key actions and objectives does not always progress as planned and can at times be difficult for watershed planning groups. Megdal et al. (2017) summarized 20 peer-reviewed papers on stakeholder engagement and concluded that, among other things, conflicts due to different interests among stakeholders can hinder effective engagement practices. Stakeholders who do not see any value in watershed planning are more likely to be less engaged.

Veale and Cooke (2017) also highlight that maintaining established relationships can be challenging in watershed planning. In addition, lack of human and technical capacity can be limiting factors for successful stakeholder engagement (H. Wang & Patrick, 2014). Developing a watershed management plan takes time and thus stakeholders might not be involved from start to finish (Stewart & Bennett, 2017). This is especially unfavorable when stakeholders with substantial expertise and insights decide to end their engagement activities.

Lastly, working with a diverse group of people also requires watershed managers to be aware of certain cultural norms and terms (Patrick et al., 2017). Academics have reported that First Nations want to be considered as their own government and do not want to be grouped together under the general stakeholder terminology (Thill, 2018). Thus, engaging First Nations in a meaningful way can be difficult for watershed managers when they are not equipped with enough background knowledge on certain issues and complexities.

2.3. Water and Indigenous peoples in Canada

Indigenous peoples' water issues pose a challenge for water resource management in Canada. *The Indian Act* (1876) not only forced First Nations onto reserves but also gave the Federal government full authority over reserves. On the other hand, provinces set their own water regulations which do not apply to reserves. This mismatch of water law paved the way for many challenges faced by First Nations (McGregor, 2012; Patrick, 2011). Drinking water management evolved to a tri-departmental federal structure. That means, First Nation Band Councils work in cooperation with Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), Indigenous Services

Canada (ISC), Health Canada, and Environment and Climate Change Canada (ECCC) to provide clean drinking water (Thompson et al., 2017).

First Nation rights to water are poorly defined and have resulted in many disputes over the years stemming from the failure to honor Treaty Rights (Bradford et al., 2017). It is documented that the quality of water systems on reserves is poor and that waterborne diseases are more likely to occur on-reserve than off-reserve (Morrison et al., 2015). Lack of funding and human capacity as well as poor water treatment plants on First Nation reserves are the main reasons why clean drinking water supplies on reserves are not improving (Black & McBean, 2017a; Hanrahan & Jnr, 2017; Morrison et al., 2015; Thompson et al., 2017). Indigenous people who live on reserves rely on federal funding in order to, for example, operate water treatment plants. This structure creates a dependency on federal government bodies and leaves little room for flexibility (White et al., 2012). Federal funding that was invested in updating or building water treatment facilities has in some places resulted in faulty designs and plants that are considered to be of low standard. In addition, the operation of treatment plants requires certified personnel which are often in short supply on reserves (Thompson et al., 2017). As a result, many First Nation communities are put under boil water advisories (BWA) and some of them have been in effect for more than a decade. BWA's are issued when microbial or chemical contamination is confirmed or suspected in the water system (Farenhorst et al., 2017).

The federal government responded to these and other issues by providing more funding and by releasing a template for the creation of First Nation Source Water Protection (SWP) plans (Collins et al., 2017; Morrison et al., 2015). SWP is part of a watershed management program. Rather than considering the watershed as a whole, SWP specifically protects drinking water supplies at the water source from contamination. This approach is more cost effective, because protecting source water from contamination is cheaper than remediating affected drinking water (Marshall et al., 2018). However, Patrick (2011) concluded that water management, especially the provision of clean drinking water, has failed on reserves. Thompson et al. (2017) provide evidence of this and reported that reserves are 90 times more likely to be without a piped water systems and are more likely to be under a drinking water advisory than non-Indigenous communities. The Federal Government has pledged to end all long-term drinking water advisories on reserves by 2021

(Indigenous and Northern Affairs, 2017). However, a complicated funding structure and the fact that previous funding initiatives did not result in significant improvements on reserves highlight the need to rethink Canada's water governance approaches.

2.4. Indigenous Planning

The Indian Act (1876) forced First Nations onto reserve lands and determined that the federal government has the sole authority over such lands. Colonialism aimed at enforcing Western views and approaches onto Indigenous people (Hibbard et al., 2008). However, Indigenous people had their own ways of governing and managing themselves and their resources, including water resources. Settlers imposed European laws rules and governance structures over the land and all occupants of the land (Matunga, 2013). Indigenous communities did not choose their fate they were rather forced into this situation. Patrick (2011) argues that these post-settler regulations resulted in unequal access to water resources. In addition, planning professionals are limiting the extent to which Indigenous peoples are included in planning and decision-making process (Sandercock, 2004).

By involving Indigenous people in planning processes there is opportunity to achieve greater justice for Indigenous people (Lane 2006). Lane (2006) argues that involving Indigenous people in planning practices will contribute to a more just relationship between post-settler nations and Aboriginal people. He states that planning can have several positive impacts. For example, it can empower Indigenous people by yielding greater sovereignty and independence, something that they lost along the way. It is essential to recognize Indigenous people as important decision-making partners (Patrick et al., 2017). In order to have more effective and equitable protection of water, water resource managers must be willing to engage with Indigenous groups.

2.4.1. Indigenous Planning in Theory and Practice

Current planning practices call for collaborative approaches, but in some cases industry interests receive more support than Indigenous concerns or interests (Prusak et al., 2016). Many First Nation communities do not have the necessary resources, such as lack of financial resources, to conduct or to be involved in planning practices (Booth & Muir, 2011). A long-term study with First Nations

in Saskatchewan by Prusak et al. (2016) provides evidence of this condition. A community plan with consultants was created as a pilot project in cooperation with Indigenous and Northern Affairs Canada (INAC), but authority and leadership were taken over by INAC and consultants. Nevertheless, barriers also exist for engaging Indigenous people, such as lack of human capacity and their remote locations (Lane, 2006).

Community-based planning and involvement are becoming more and more relevant (Hibbard et al., 2008). More must be done to involve Indigenous Peoples in planning processes, in order to give them the opportunity to be seen as legitimate planning partners and to establish respectful relationships. However, Black and McBean (2017a) argue that Indigenous engagement will be crucial for improving safe access to drinking water on reserves. An increased recognition of the importance of Indigenous values and knowledge will in turn create stronger communities and improve their well-being.

2.5. Watershed Planning and Indigenous Planning

Indigenous people rely heavily on groundwater sources for their drinking water supply (Thompson et al., 2017). A healthy watershed for Indigenous people is very important and necessary, thus it is essential to include them in watershed planning processes (Patrick et al., 2019). Watershed planning provides an opportunity to watershed authorities and indigenous communities to come together to develop and/or strengthen relationships. Newly created collaborations will therefore not only improve water resources for Indigenous communities, but it will also open up a space for dialogues and information sharing (Shrubsole et al., 2017). Especially, since Canadian history has shown that the arrival of settlers has had a tremendous impact on the lives of Indigenous peoples.

Table 1 summarizes the similarities and differences of watershed planning as well as source water protection planning and Indigenous planning that have been described throughout this literature review. It becomes clear that combining both approaches can create a much stronger and more efficient watershed management plan. Both planning methods contain valid and important aspects for the creation of a sustainable and healthy watershed. It will not only guarantee to satisfy multi-stakeholders views and concerns, but it will also empower First Nations and give them finally the opportunity to be heard and recognized.

Table 2-1: Watershed and Indigenous Planning: Differences and Similarities, Sources: Matunga (2013), McGinnis (1999), Lane (2006), Young (2015)

<p style="text-align: center;">Watershed Planning Source Water Protection Planning</p>	<p style="text-align: center;">Indigenous Planning</p>
<ul style="list-style-type: none"> • Driven by threats and concerns that have been identified • Scientific and technical facts • Holistic • Only facts and numbers are important without intimacy to environment • Tool to bring different stakeholders together • Water is a resource 	<ul style="list-style-type: none"> • Driven by protecting ecosystems to avoid threats and concerns • Traditional knowledge • Holistic • Intimate relationship with their surrounding lands • Tool to strengthen community confidence • Water is a spiritual, living entity

2.6. Research Gap

The watershed planning process is well studied and ranges from the creation of a planning framework to the importance of collaboration (Lubell, 2004; Reisert et al., 2015; Stewart & Bennett, 2017; H. Wang & Patrick, 2014). However, little attention is paid to the area of First Nation inclusion in watershed planning processes. Researchers advocate for the integration of Indigenous knowledge systems in water resource planning for various reasons (McGregor, 2012; Patrick et al., 2017). First Nations consider water as its own living entity (McGregor, 2014). It nourishes plants and animals, it is a habitat for fish, and medicinal plants grow in or around water. These and other traditions are consistent with the modern concept of sustainability.

Collaborations and relationship building in watershed planning is important especially when it comes to the inclusion of Indigenous people (Adams et al., 2014; Arsenault et al., 2018). However, translating this theory into practice can be challenging. Fortunately, social norms are changing in Canada. The Truth and Reconciliation Commission (TRC) Report and its 94 ‘Calls to Action’ are the result of a multi-year process that was initiated in 2009 (National Centre for Truth and Reconciliation, n.d.). For the TRC, reconciliation “is about establishing and maintaining a mutually respectful relationship between Aboriginal and non-Aboriginal peoples in this country.

“(p. 113). Shortly after its release, the Prime Minister of Canada, Justin Trudeau, accepted the report and promised to implement the given recommendations (Justin Trudeau, 2015).

However, building relationships takes time, is complicated and requires adequate resources. Little attention has been paid to exploring the factors affecting First Nation inclusion in watershed planning processes and how these barriers can be overcome. It is necessary to accept Indigenous knowledge as an equal partner to Western knowledge (Castleden et al., 2017). The field of water research and management can provide an opportunity to engage in a more meaningful way.

2.7. Summary

This literature review has explored the complexities of water resources management in Canada. In addition, the literature review has also highlighted how watershed planning can be a tool to manage water in a way that includes citizens who are directly impacted by threats in and around their watersheds. Nevertheless, the inclusion of First Nations in planning processes remains a challenge for water resources managers.

As a result of this literature review it is apparent that, on the one hand, stakeholders, community groups, industries, and local citizens are needed to create successful watershed management plans, but on the other hand, First Nation inclusion appears to remain outside of these watershed planning processes in Canada.

This research will fill this gap in the following ways: Alberta’s *Water for Life* strategy will be analyzed in more detail for evidence of First Nation inclusion in planning processes. This will be achieved by systematically reviewing government documents as well as watershed plans and through telephone interviews with participants who are involved in the plan making processes. Consequently, I hope to contribute more knowledge to watershed managers and to lay the groundwork for more research which could investigate inclusion of First Nations in the watershed planning processes but from a First Nation perspective.

3. RESEARCH DESIGN

This chapter presents a description of the research process. The details of this chapter include the research approach, information about research methods that have been applied in this project in order to better understand watershed plan-making processes and the inclusion of First Nations in those processes, the data collection process and data analysis.

3.1. Research Methodology

The proper research methodology is determined based on the purpose of the research project and is therefore seen as a tool to answer the research question (Creswell, 2013). This thesis does not have the intention to provide an ultimate answer to the problem under investigation, but rather to explore opportunities to understand complex situations. Thus, a qualitative research approach was chosen as the methodology. According to Denzin and Lincoln (2005) qualitative research focuses on understanding a social setting and not necessarily on making predictions about that setting. In addition, qualitative research is exploratory and not explanatory. The researcher is therefore able to construct descriptions of the participant's experiences which in turn can either challenge or sustain current theoretical frameworks around the topic under investigation.

This research aims to identify factors facilitating and constraining First Nation inclusion in watershed planning in Alberta, consequently grounded theory was deemed suitable. Grounded theory was developed by Glaser and Strauss in 1967 as a qualitative research approach that focuses on gathering non-numerical data through observation. Grounded theory allows the researcher to answer questions of “why” and “how” across a wide range of human activities and experiences. Glaser and Strauss (1967) developed this approach as a way to generate ‘grounded’ explanatory theory from data rather than using data to test hypothesis (Brinkmann, 2014). Grounded theory allows the researcher to collect data using a range of methods. This data can then be organized into different themes by applying a coding structure. As a result, researchers can develop frameworks and explanatory theories to answer specific questions that have not been previously addressed.

However, grounded theory faces a few limitations. According to Charmaz and Belgrave (2012), it is difficult to prevent researcher-induced bias and a biased perception of the participants.

Therefore, a technique called thick descriptions and reflexivity was used in order to address these concerns. Denzin and Lincoln (2005) describe thick descriptions as illustrations that capture and record the voices of lived experiences. Consequently, these have been added to the discussion and research results to truthfully represent participant perspectives on watershed planning processes and the inclusion of First Nations. Lastly, to reduce the influence of assumptions and personal perceptions I tried to subdue my own perceptions of the subject, as best as possible, and I attempted to view the issue from the participant's perspective while analyzing my data (Charmaz & Belgrave, 2012).

3.2. Study Area

For the purpose of this study, not only the *Water for Life* strategy was analyzed in general, but also Alberta's WPACs and their watershed planning processes specifically. The WPACs were created under the *Water for Life* strategy with each council representing a major river basin in Alberta (Figure. 1). WPACs are diverse and range greatly in the land area covered and number of First Nation communities which reside within watershed boundaries (Table 2).

Before the WPACs can create a watershed management plan a state of the watershed report needs to be developed. This report contains data such as the health of the watershed and human activities that impact the environment. This report will be used to develop a watershed management plan in collaboration with stakeholders and community representatives (Government of Alberta, 2019). In order to support the WPACs in their planning practices a *Guide to Watershed Management Planning in Alberta* was created by Government of Alberta in 2015.

The *Water for Life* initiative and the development of watershed management plans for each WPAC will be of special interest for several reasons. The *Water for Life Action Plan* includes several long-term key actions. The final year in this report was 2019 and it is required to be reviewed and updated in 2020 (Alberta Environment, 2009). Thus, a better understanding on plan-making processes and the inclusion of First Nations could be helpful for the development of new key actions in the future. Additionally, a policy window might open and create a chance to give more emphasis on the inclusion of First Nations in watershed planning.

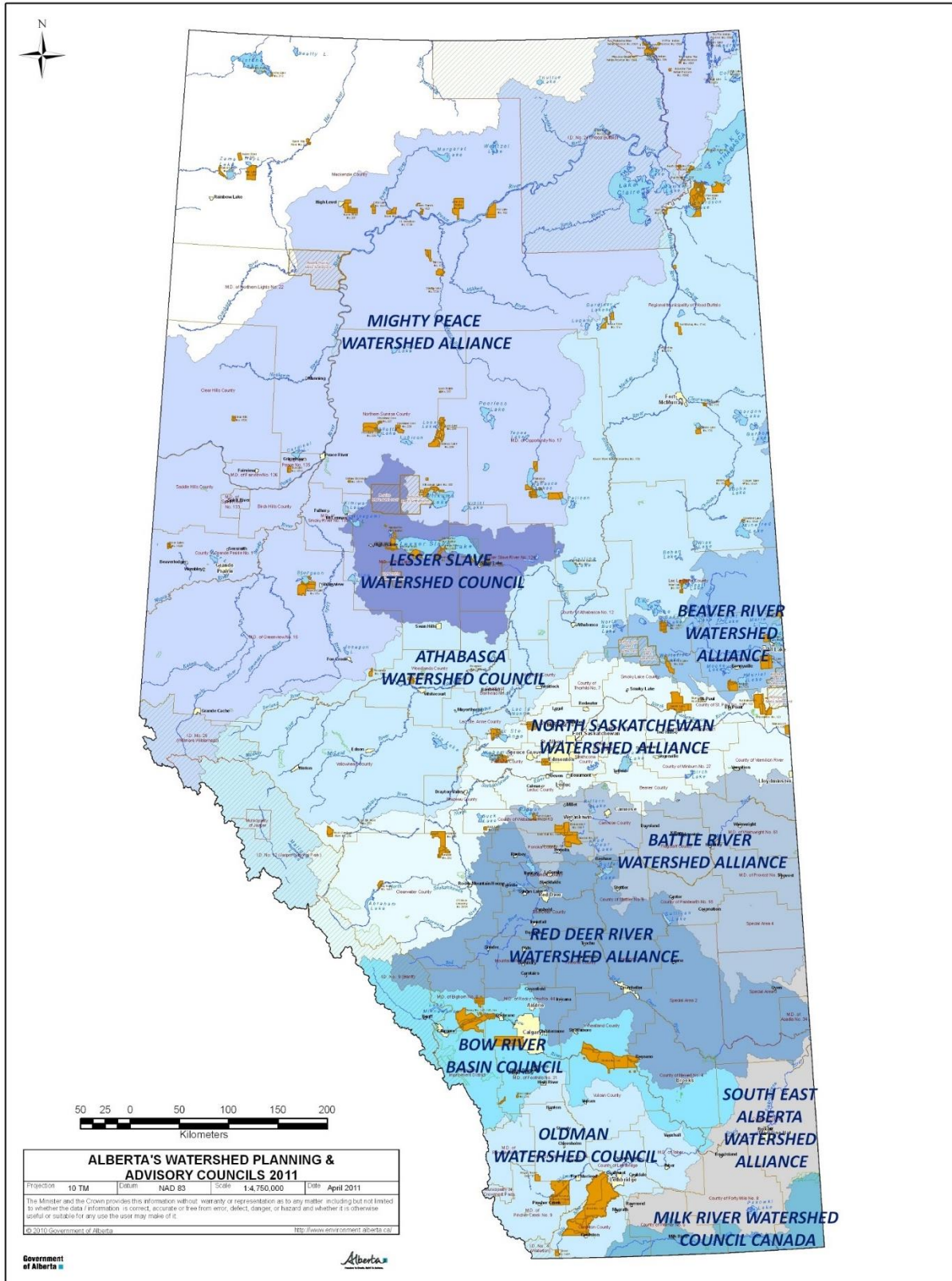


Figure 3-1: Alberta's Watershed Planning and Advisory Councils (WPACs), Source: Oldman Watershed Council (n.d)

Table 3-1: Overview Alberta's WPACs (in alphabetical order), March 2019

WPAC	Year Formed²	Land area covered	# First Nation communities	Year of Plan Approval
Athabasca Watershed Council (AWC)	2009	159,000 km ²	14	n/a
Battle River Watershed Alliance (BRWA)	2006	24,900 km ²	4	n/a
Bow River Basin Council (BRBC)	2004	25,000 km ²	3	2012
Lesser Slave Watershed Council (LSWC)	2007	20,100 km ²	5	2018
LICA – Beaver River Watershed	2007	22,000 km ²	4	n/a
Mighty Peace Watershed Alliance (MPWA)	2011	208,834 km ²	22	2018
Milk River Watershed Council Canada (MRWCC)	2005	6,500 km ²	None	2015
North Saskatchewan Watershed Alliance (NSWA)	2005	57,000 km ²	35	2012
Oldman Watershed Council (OWC)	2004	23,000 km ²	2	n/a
Red Deer River Watershed Alliance (RDRWA)	2005	49,650 km ²	None	n/a
South East Alberta Watershed Alliance (SEAWA)	2010	19,929 km ²	None	n/a

² Date refers to when each organization was recognized by the province of Alberta as a WPAC

3.3. Research Methods

Research methods are the tools used for data collection in order to answer the research question posed in this study (Lavrakas, 2008). The purpose of this research project is to identify factors facilitating and constraining First Nation inclusion in watershed planning in Alberta. In order to examine the level of First Nation inclusion the following research methods were chosen. First, I began with reviewing and analysing IWMPs for evidence of First Nation participation. Second, telephone interviews were employed to get a deeper understanding of the planning processes.

3.3.1. Systematic Document Review and Content Analysis

A systematic document review began with a content analysis using a qualitative analysis software, QSR International's NVivo 12. First, predetermined signal words within each watershed plan were assessed. This was followed by tallying up the number of times those predetermined words appear in plans. Nevertheless, a manifest analysis only provides a better understanding of the surface content and serves as a first indicator for First Nation inclusion. Thus, tabulating signal words will not fully expose the level of inclusion. Signal words might appear several times within a document, but there is no deeper context for how that specific word was used.

For that reason, a second-tier latent analysis was employed. This provided a deeper understanding of the context in which signal terms were used (Cope, 2016). The intention was to determine how many times First Nations were addressed and the level of recognition they have received in each document. Latent and manifest analysis only allowed me to explore the documents in terms of words and the underlying meaning of the text (Bengtsson, 2016). Thus, reviewing and analyzing the content of IWMPs is not sufficient enough to evaluate how First Nations were involved in the planning processes.

The analysis of government documents and IWMPs only served as a tool to investigate if First Nations were addressed in IWMPs but does not reveal how watershed managers included them in the planning process. Therefore, interviews were used as a second data collection method.

3.3.2. Interviews

In this research telephone interviews were also used to collect data. According to Brinkmann (2014), interviews are important knowledge-producing practices. They are guided by the researcher's interest and aim to investigate knowledge gaps. The interview method for this specific research was particularly important in order to understand watershed planning processes in Alberta. The strength of interviewing lies in the fact that it can give access to information about opinions and experiences from different people.

A semi-structured interview process was applied. This type of interviewing allows me to cover important topics but also leaves room for the participant to spontaneously elaborate what they see as meaningful contributions to the discussion (Brinkman 2014). In the present study, interviewing aided me to gain a deeper understanding of the participant's experiences through dialogue and the language they used to express their opinions. Consequently, data analysis is reflective of the participant's views and the appropriate research method as the research aimed to understand First Nation inclusion in watershed planning processes.

The interview data was used in several ways. The first step entailed an identification of emergent themes. Second, the interview results were closely read to retrieve direct quotations about challenges, engagement strategies, and recommendations for the inclusion of First Nations in watershed planning.

3.3.3. Participant Selection

A combination of purposive and snowball sampling was used to identify individuals for telephone interviews. Purposive sampling allowed me to only select participants on the basis of their own experience of a specific topic or situation (Lavrakas, 2008; Patton, 2015).

The criteria for the selection of participants was based on the following: the participant's involvement in the development of the IWMP, if no original person involved in the development of an IWMP is available (due to termination of employment, relocation) then a person who is able to give information about the planning process will be considered. Consequently, emails were sent

to WPAC employees and WPAC board members explaining the research topic and asking for potential interview participants. When no response to emails occurred, these emails were followed up with telephone calls.

Once the primary participants were identified, additional participants were recruited using the snowball sampling technique (K. Dunn, 2016). Initial participants were asked to identify other people who can give more insight into the planning processes. These potential participants were then approached by me and those who were willing to participate were interviewed.

Originally, only WPACs with completed IWMPs were eligible to participate; however, only four plans were finished at the time of data collection resulting in a limited number of participants. Consequently, the research area was extended to WPACs with incomplete IWMPs. Fortunately, this allowed for a broader sample and presented the opportunity to compare past and current planning processes.

Participant selection was completed when data reached a point of saturation. In qualitative research the exact number of participants is not predetermined, but rather defined by the content of interview responses. Once new themes stopped emerging it was concluded that no more interviews needed to be conducted.

3.3.4. Observation

The last data collection method for this research project was observation of presenters at a workshop held for watershed staff. This method was used to gain complementary evidence and to gather additional information after completing document analyses and one-on-one interviews. Through observation more value can be added to previously collected research data. In addition, it provides an opportunity to add additional descriptive information (Kearns, 2016).

3.4. Data Collection and Analysis

Data collection contained manifest and latent analysis using a qualitative analysis software as well as follow up telephone interviews with watershed planners in order to receive a deeper understanding of the plan making process.

3.4.1. Document Content Analysis

Document content analysis took place between May and June 2019. I reviewed documents developed by the Government of Alberta and completed IWMPs. Following McLeod et al. (2015) and Baijius & Patrick (2019b) a manifest content analysis and latent content analysis were employed. It should be mentioned that this research did not aim at retrieving the main results from text-based content analysis only but rather to use documents as a first step to seek evidence for First Nation participation in planning processes. McLeod et al. (2015) focused their study on document analysis and only three follow up interviews. Their main purpose was not to understand how the reviewed documents were developed but rather to understand how provincial texts recognize First Nation rights and their treaty rights. Baijius and Patrick (2019b) explore any difference in First Nation acknowledgement in Saskatchewan's source water protection plans. Their research focused more on finding evidence in each document and not on understanding the process that took place when each plan was developed.

3.4.1.1. Government Documents

Government documents included *Water for Life – Alberta's Strategy for Sustainability (2003)*, *Water for Life – Renewal (2008)*, *Water for Life – Action Plan (2009)*, and *Guide to Watershed Management Planning in Alberta (2015)*. These are integral as well as guiding documents for the WPACs and their operations. Consequently, a manifest and latent content analysis of these documents was important to showcase if there is any evidence of First Nation acknowledgement or involvement. After all, these documents are supposed to set the framework for water management in Alberta. I was able to find and download all documents on <https://open.alberta.ca/>. Next, I uploaded the documents to QSR International's NVivo 12 software and began with a simple signal word search for each document. Signal words included:

“Aboriginal”, “Elder”, “First Nations”, “Indigenous”, “Reserve”, “Rights holders”, “Traditional Ecological Knowledge”, “Treaty” OR “Treaties”

Once these signal terms were identified and flagged in each document, I tallied them up in order to better visualize the results and to demonstrate first indicators of First Nation inclusion in the *Water for Life* framework (see chapter 4).

As previously described, a manifest analysis only results in surface level data and does not give any context to which each signal word was utilized within documents. My next, step entailed reading each flagged section in more detail in order to find out if the detected signal words were used in a meaningful way or not. As a result, I was able to develop thematic codes according to the way in which each signal word was used (see chapter 4).

3.4.1.2. Integrated Watershed Management Plans

At the time of document analysis, four Integrated Watershed Management Plans (IWMPs) were fully completed by the respective WPAC and analyzed for evidence of First Nation inclusion. The purpose of this research is to understand factors affecting First Nation inclusion in watershed planning. Similar to the analysis of government documents, I started with a simple keyword search, manifest content analysis, to identify sections in the watershed plans where specific keywords were found.

Again, I also created a table with tallied numbers of signal word occurrences (see chapter 4). I applied a latent analysis by reading all highlighted sections in the text in more detail in order to find out the context surrounding each signal word. Consequently, I was also able to code signal words into different themes. This was important because certain terms, such as “First Nations”, might appear several times within one document but might have been mentioned in the table of contents or in the appendix (see chapter 4).

3.4.2. Semi-Structured Interviews

An interview guide, containing 19 questions, was designed to identify challenges, barriers, and recommendations for the inclusion of First Nations in watershed planning (see Appendix B).

Telephone interviews were held between the months of July and October 2019. Nine WPACs were contacted and 16 representatives from eight out of those nine were willing to participate in this study. One WPAC was hesitant to participate due to capacity constraints and thus was not included in the data collection process.

3.4.2.1. Ethical Considerations

Ethical considerations were considered before conducting the interviews. The purpose of this research is to gain more knowledge about plan-making processes. Interview questions are therefore not formulated to obtain personal information from participants, but rather to understand processes that take place during the plan development stage. The research questions to be asked are deemed to be non-personal, non-confidential and non-sensitive to any individual or organization. Therefore, the interview questions meet the requirements of Article 2.1 of the TCPS2, and an Ethics Waiver Approval was granted on May 3, 2019 by the University of Saskatchewan's Behavioral Research Ethics Board (see Appendix A).

3.4.2.2. Conducting Interviews

Interviews were held by telephone, except for one participant who requested to send the answers via email. The interview day and time was agreed upon via email with each participant. The interview guide was not sent to participants unless requested. This practice became redundant since a few participants agreed to do the interview when they were first contacted by me. Only one participant asked to receive the interview questions beforehand because their IWMP was created more than ten years ago and thus the participant wanted to review documents from the various planning stages that took place.

On the day of the interview, I explained the study to the participant and read out loud the ethics consent form. Every participant agreed to verbal consent. All interviews were conducted in a one-on-one setting and lasted between 15 and 45 minutes. Interview questions contained closed and open-ended questions (see Appendix B). Closed questions were employed to investigate the level of agreement with predetermined statements. These types of questions allowed to quantify data which in turn can be used to supplement data collected through open-ended questions. With the

help of open-ended questions participants were able to express their opinions on different topics. Each WPAC deals with issues unique to their respective watershed, therefore an open-ended question format allowed insights to be gained into topics that were not relevant to other participants.

All telephone interviews were recorded with the help of a digital voice recorder and notes were taken by me. Both techniques are common to record telephone interviews. Since the interviews were conducted over the telephone it was important to take written notes because they can serve as back-up in case of recorder failure (K. Dunn, 2016).

3.4.2.3. Themes and Coding

In order to analyze the interview data, they need to be converted to text. Hence, the recordings were transcribed verbatim with the help of the Qualitative Research Laboratory (QRL) located within the University of Saskatchewan. This was especially convenient because transcribing interviews can occupy a lot of time with approximately four hours of typing per hour of interview (K. Dunn, 2016). The QRL offers transcription services at a reasonable cost and ensure quality control for each transcribed interview. Interview participants were given the option of reviewing their interview transcript, but nobody requested to do so. As soon as the first interviews were completed, I sent the files to the QRL Manager. Therefore, the first interviews were already in the transcription process while other interviews were still about to take place. This allowed me to already start with the analysis of the interviews during the data collection phase. In addition, I was also able to modify some of the questions for future interviews. I was also able to adjust my probing questions after the completion of the first few interviews. This helped me to dig deeper into my interviewee's responses through follow up questions.

Transcribed interviews were read in its entirety by me to gain a general overview of what each participant said and to become familiar with the interview data. Each transcription was read several times to make sure that themes could be created and adjusted with time. In addition, this process also ensured that I was able to determine that no new themes or trends emerged from successive interviews. The content of interview transcriptions was analyzed using QRS International's NVivo 12, a computer assisted qualitative data analysis software. This type of software is useful for

handling rich interview data. It helped me to manage the collected data in an accurate way. In addition, a coding structure can be applied to better manage topics that have emerged throughout the analysis process (Bazeley & Jackson, 2013).

Data analysis was done utilizing a content analysis method. Content analysis is a research method that evaluates data systematically in order to examine patterns in communication. According to Erlingsson and Brysiewicz (2017), the main objective of content analysis is “to systematically transform a large amount of text into a highly organised and concise summary of key results.” (p.94). Therefore, the transcribed interviews were arranged and categorized to identify common themes. Furthermore, repetitive answers and differing perspectives from interview participants were detected and coded. With the help of QSR International’s NVivo 12 software interview data was organized into different themes. This practice required me to label identified units within each transcript.

3.4.3. Starting Good Relationships Gathering 2020

I am employed as a watershed technician for the South Saskatchewan River Watershed Stewards Inc. (SSRWSI) and was able to attend a workshop organized by the Saskatchewan Association of Watersheds (SAW). The theme of this workshop was “Starting Good Relationships” and was held on February 5 and 6, 2020 at the First Nations University in Regina.

Three speakers were of great importance for my research project: Councilor Richard Aisaican, Chair of Steward of the Land & Water, Cowessess First Nation, Lorna Standingready, Elder & Water Keeper, and Councilor Dustin Ross Fiddler, Waterhen Lake First Nation. All three of them talked about what to take into consideration when approaching a First Nation. Councilor Aisaican and Councilor Dustin Ross Fiddler provided input from a managing perspective and how they operate on a daily basis. Lorna Standingready spoke about her role as a Water Keeper and the importance of water to First Nations. All three of them happily answered our questions and gave important suggestions for meaningful relationship building with First Nations.

I took field notes and requested that the PowerPoint slides will be send to me. Through observing these presentations, I was able to gather complementary information for my research project. As a

result, I can now draw a more balanced coverage by combining perspectives from my interview participants and suggestions given by the workshop presenters.

3.5. Summary

This chapter presented an overview of the employed research methods, data collection process and analysis. A detailed description is important so a reviewer can follow the research process and understand the logic behind it. Therefore, other researchers will be able to replicate the study and it also strengthens the reliability of my research.

Through the data collection and analysis process I was able to gain important information to identify factors facilitating and constraining First Nation inclusion in watershed planning in Alberta. Consequently, the next chapter describes in more detail the results of my document analyses and telephone interviews.

4. RESULTS

This chapter presents results gathered through content analysis of completed Integrated Watershed Management Plans (IWMPs) and one-on-one telephone interviews with WPAC watershed coordinators, consultants, and board members. For the purpose of this research it was important to listen to a wide range of people involved in the watershed planning process. For example, watershed planners talked about their challenges and experiences when developing their IWMPs. Moreover, interviewing planners who are still in the process of developing their plans presented an opportunity to compare experiences with their predecessors.

4.1. Document Review and Content Analysis

Four government documents and four IWMPs were systematically reviewed using the QSR International's NVivo 12 software. First, the documents underwent a simple keyword search, manifest analysis, and this was followed by latent analysis in order to understand the context in which each keyword was used.

4.1.1. Government Documents

Table 3 shows the results for the keyword search analysis. Four key government documents pertaining to watershed planning in Alberta were investigated for evidence of First Nation acknowledgements. The keywords that were searched across all these documents included: "Aboriginal", "Elder", "First Nations", "Indigenous", "Reserve", "Rights holders", "Traditional Ecological Knowledge", "Treaty" OR "Treaties".

Overall, three keywords, Elder, Rights Holders, and Treaty, did not appear in any of the four documents. In addition, the *Water for Life* strategy did not mention any of the research keywords. This is a very significant outcome, because this strategy laid the groundwork for Alberta's water management approach. The strategy was renewed in 2008 and was complimented with an action plan which tracks the process made. Both plans yielded keyword results. The *Water for Life Renewal* mentioned the word "Aboriginal" as well as "First Nations" only once and the *Action Plan* mentions "Aboriginal" once and "First Nations" only twice. Unfortunately, this is not a significant increase compared to the *Water for Life* strategy. These documents are supposed to

guide the Alberta Water Council (AWC), the Watershed Planning and Advisory Councils (WPACs), and the local Watershed Stewardship Groups (WSGs). This is also reflected by the follow up telephone interviews. Participants mentioned that they did not receive a lot of help or guidance from the government when it came to building relationships with First Nations (see section 4.5 for more details).

The *Guide to Watershed Management Planning* showed the highest number of keywords among all four documents. The word “First Nations” appeared 17 times and the keywords “Aboriginal”, “Traditional Knowledge”, “Indigenous” and “Reserve” appeared only once. It should be mentioned that this guide was published in 2015 and two WPACs had already completed their IWMPs by that time. During the telephone interviews it became clear that watershed managers, who were involved in the development of the very first plans, felt that not a lot of attention was paid to the process of watershed planning (see section 4.5).

Based on the keyword occurrences different themes were developed that represent the context in which each word was used. Themes are shown in Tables 4 and 5. Table 4 presents the thematic distribution among the plans and how many keywords appeared for each theme in each plan. Table 5 shows the plan documents and the total keyword occurrences, and number of occurrences within each theme by plan.

4.1.1.1. Theme 1: Plan Outcomes/Actions/Guidance

The first theme, recommendations/guidance/actions, was created to highlight how the reviewed government documents actively acknowledge First Nations. When a keyword appeared to be used as part of strategy outcomes and key actions on how to achieve these outcomes this theme was applied. Furthermore, if keywords were used to give any guidance regarding the inclusion of First Nations in Alberta’s water management strategy it was coded under this theme.

The *Water for Life Renewal and Action Plan* refer to First Nations in their key actions for safe, secure drinking water. It says that ensuring safe drinking water in Aboriginal communities will be important. The *Water for Life Renewal* gives similar suggestions. Furthermore, the renewal strategy talks about safe drinking water in communities and one specific key action that states to

work together with Aboriginal communities and the government to ensure safe drinking water. Other than the reviewed documents did not show any recommendations or guidance for WPACs, such as providing cultural training, or how to establish meaningful relationships with First Nations.

The Guide to Watershed Management Planning gives guidance on First Nations in many ways throughout the document. It begins with a general description of possible planning participants. The document briefly mentions that First Nations have a unique cultural connection to their land and that their traditional knowledge can be of value to watershed plans. Furthermore, one whole section is used to describe that First Nations who are working with WPACs will not trigger a consultation process. However, telephone interviews revealed that this specific topic is a huge barrier for watershed managers because of a letter that was issued by a government official (see chapter 4.5). Even though this guide states important facts it does not seem to be clear enough. It is only a guiding document and it does not withdraw the statement made by the minister.

4.1.1.2. Theme 2: Headings/Appendix/Name

The second theme that emerged during the systematic document review was in form of headings/appendix/name. Therefore, keywords that appeared as part of a heading, in the appendix or were part of a government name were assigned to the theme headings/appendix/name. This theme was important because it shows the importance of latent analysis for this research. Only because a keyword appears several times within a document does not necessarily reflect significance.

The *Guide to Watershed Management Planning* was the only document which used three keywords (First Nations, Indigenous, and Aboriginal) in this category. For example, the word “Aboriginal” is part of a description of watershed planning participants, namely Aboriginal Affairs and Northern Development. The document mentions that this department should be considered as potential planning partners but there is no further elaboration on their roles listed in the document. In addition, keywords appeared in the appendix twice in form of a checklist for plan implementation success. For example, “*Is information from local/indigenous peoples being used in developing actions?*” The second time it only asks if steps were taken to involve First Nations or Métis as participants.

Table 4-1: Key Word Search Results Government Documents

	Aboriginal	Elder	Traditional Knowledge	First Nation	Indigenous	Reserve	Rights Holders	Treaty OR Treaties
Water for Life Strategy (2003)	0	0	0	0	0	0	0	0
Water for Life Renewal (2008)	1	0	0	1	0	0	0	0
Water for Life Action Plan (2008)	1	0	0	2	0	0	0	0
Guide to Watershed Management Planning (2015)	1	0	1	18	1	1	0	0
Total	3	0	1	21	1	1	0	0

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Table 4-2: Thematic codes Government Documents

Thematic codes	# of documents (n = 4)	Occurrences
Recommendations/Guidance/Actions	3	22
Headings/Appendix/Name	1	5
Total		27

Table 4-3: Overview Latent Analysis Government Documents

	Total Keyword Occurrences	Theme 1 Recommendations/ Guidance/Actions	Theme 2 Headings/ Appendix/Name
Water for Life Strategy (2003)	n/a	n/a	n/a
Water for Life Renewal (2008)	2	<ul style="list-style-type: none"> • First Nations (1) • Aboriginal (1) 	
Water for Life Action Plan (2008)	3	<ul style="list-style-type: none"> • First Nations (2) • Aboriginal (1) 	
Guide to Watershed Management Planning (2015)	22	<ul style="list-style-type: none"> • First Nations (15) • Reserve (1) • Traditional Knowledge (1) 	<ul style="list-style-type: none"> • First Nations (3) • Indigenous (1) • Aboriginal (1)
Totals (text coverage in %)	27	22 (81%)	5 (19%)

4.1.2. Integrated Watershed Management Plans

The same keywords were used for the IWMPs and Table 6 shows the keyword search results. The keyword “First Nations” was mentioned the most (85 times in total) and the BRBC used the word more than twice as much as the other WPACs (38 times). Even though, the LSWC and BRBC used a large amount of keywords, telephone interviews revealed that they struggled in the past trying to include First Nations in planning processes.

Every keyword was found in the plans but the words “Elder”, “Traditional OR Indigenous Knowledge” and “Rights Holders” were used the least. MPWA was the only WPAC which made use of almost all keywords, except for rights holders. NSWA has the least amount of keywords and only the word First Nations was used three times in their plan.

Based on the keyword search four different themes were created. Themes are shown in tables 7 and 8. Table 7 presents the thematic distribution among the plans and how many keywords appeared for each theme in each plan. Table 8 shows the plan documents and the total keyword occurrences, and number of occurrences within each theme by plan.

4.1.2.1. Theme 1: Acknowledgement/ Description of Communities

When keywords appeared to be part of an acknowledgement of First Nations or part of a description of First Nation communities Theme 1 was applied. This theme is important because it highlights that WPACs are aware of the First Nation communities within their watershed. Some WPACs were more descriptive in their plans than others: The NSWA is the only WPAC which did not acknowledge or described First Nation communities in their plan. Telephone interviews with the Alliance revealed that they did the best they could but were certainly not able to be very inclusive in the planning process. The LSWC and MPWA mention the communities by name and acknowledge their traditional and constitutional rights. In addition, the LSWC states that working on the IWMP will not diminish the governments’ obligation to go through a formal consultation process with First Nations. The MPWA is the only WPAC which discusses First Nation water issues. The BRBC plan does not have any specific section dedicated to First Nations. However,

they acknowledge that First Nation perspectives should be respected and incorporated in future planning activities.

4.1.2.2. Theme 2: Outcomes/Actions/Partnerships

Theme 2 was applied when keywords were used in reference to watershed planning outcomes, actions, and partnerships. Overall, 57% of the searched keywords were coded to this theme. This is a positive outcome because WPACs mentioned First Nations in their watershed planning actions. However, most of those keywords are used in combination with other stakeholders to fulfill key actions. There is little evidence of specific key actions that target relationship building with First Nations or specific projects that would include them. This is also reflected in the telephone interviews. Participants mentioned that it was difficult at times to engage with First Nations during the planning process. Nevertheless, the MPWA created a few action items which clearly state that they want to encourage communities to share their knowledge. In addition, the Alliance recommends First Nations to become stewards for conservation projects. Their plan appears to be most meaningful when it comes to building relationships with First Nations. It should also be mentioned that the Mighty Peace Watershed has the highest number of First Nation communities of all WPACs. Telephone interviews revealed that the Alliance made a huge effort to travel to each community in order to solicit their input.

4.1.2.3. Theme 3: Table of Contents/Glossary/Appendix/Heading/Reference List

Keywords that appeared as part of a table of contents, glossary, appendix, heading, and in a reference list or were part of a government name were assigned to this theme. Thus, approximately 16% of the overall keyword occurrences were used in a rather less meaningful way. Again, this shows the importance of a latent analysis similar to the government document analysis.

Table 4-4: Keyword Search Results IWMPs

	Aboriginal	Elder	First Nations OR FN	Indigenous	Traditional /Indigenous Knowledge	Reserve	Rights Holders	Treaty OR Treaties
Bow River Basin Council (2012)	2	0	38	0	0	0	2	0
Mighty Peace Watershed Alliance (2018)	12	2	24	1	3	1	0	16
North Saskatchewan Watershed Alliance (2012)	0	0	3	0	0	0	0	0
Lesser Slave Watershed Council (2018)	0	0	20	6	0	2	0	1
Totals	14	2	85	7	3	3	2	17

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Table 4-5: Thematic Codes IWMPs

Thematic codes	# of plans (n = 4)	Occurrences
Acknowledgement/Description of FN communities	3	36
Recommendations/Actions	3	76
Table of Contents/Appendix	4	21
Total		133

Table 4-6: Latent Analysis IWMPs

	Keyword Occurrences	Theme 1 Acknowledgement/ Description of Communities	Theme 2 Outcomes/ Actions/ Partnerships	Theme 3 Table of Contents/ Glossary/Appendix/ Heading/ Reference List
Bow River Basin Council (BRBC)	42	<ul style="list-style-type: none"> • Aboriginal (2) 	<ul style="list-style-type: none"> • First Nations (33) • Rights holders (2) 	<ul style="list-style-type: none"> • First Nations (5)
Mighty Peace Watershed Alliance (MPWA)	59	<ul style="list-style-type: none"> • Aboriginal (8) • First Nations (5) • Reserves (1) • Treaty (2) 	<ul style="list-style-type: none"> • Aboriginal (4) • Elders (1) • First Nations (15) • FN (4) • Treaty (14) • IK (1) • Indigenous (1) 	<ul style="list-style-type: none"> • Elders (1) • IK (1) • First Nations (2)
North Saskatchewan Watershed Alliance (NSWA)	3			<ul style="list-style-type: none"> • First Nations (3)
Lesser Slave Watershed Council (LSWC)	29	<ul style="list-style-type: none"> • First Nations (12) • Indigenous (3) • Reserves (2) • Treaties (1) 	<ul style="list-style-type: none"> • First Nations (1) • Indigenous (1) 	<ul style="list-style-type: none"> • First Nations (7) • Indigenous (2)
Totals (text coverage in %)	133	36 (27%)	76 (57%)	21 (16%)

4.2. Telephone Interviews

Telephone interviews took place between the months of July and October 2019. Fifteen participants from various WPACs agreed to do the interview on the phone, one WPAC sent the answers via email, and one WPAC declined to participate (Table 9). The conducted telephone interviews revealed 5 different themes which serve to moderate effective and meaningful collaboration with First Nations in the planning processes (Fig. 2):

1. Cultural Connection,
2. Financial Limitations,
3. Governance,
4. Human Capacity, and
5. Physical Parameters.

Nodes			
Name	Files	References	Count
Cultural Connection		0	0
Cultural Understanding		7	19
Stigma, History, Trust		8	11
Financial Limitations		10	17
Governance		0	0
Advisory only		8	16
Alberta Government		11	19
Duty to Consult		8	10
Government to Government		6	8
W4L Strategy		11	23
WPAC Structure		12	45
Human Capacity		0	0
Limited Staff		8	20
Priorities		5	8
Physical Parameters		0	0
Diverse Communities		6	8
Size of the Watershed		4	7
Watershed Boundaries		4	6

Figure 4-1: Themes and Subthemes created with of QSR International’s NVivo 12 software

Table 4-7: Overview Interview Participants

WPAC	Year of Plan Approval	# of Participants	Type of Participant
Athabasca Watershed Council (AWC)	In progress	0	<ul style="list-style-type: none"> • Did not participate due to limited staff and time constraints
Battle River Watershed Alliance (BRWA)	In progress	2	<ul style="list-style-type: none"> • Executive Director • Watershed Coordinator
Bow River Basin Council (BRBC)	2012	2	<ul style="list-style-type: none"> • Executive Director • Steering Committee Member
Lesser Slave Watershed Council (LSWC)	2018	4	<ul style="list-style-type: none"> • Executive Director • Board Member • Watershed Coordinator • Chairperson
LICA – Beaver River Watershed	In progress	1	<ul style="list-style-type: none"> • Manager Environmental Programs sent responses via email
Mighty Peace Watershed Alliance (MPWA)	2018	3	<ul style="list-style-type: none"> • Watershed Planner • Consultant • Committee Member
North Saskatchewan Watershed Alliance (NSWA)	2012	2	<ul style="list-style-type: none"> • Former Executive Director • Current Executive Director
Oldman Watershed Council (OWC)	In progress	1	<ul style="list-style-type: none"> • Executive Director
Red Deer River Watershed Alliance (RDRWA)	In progress	1	<ul style="list-style-type: none"> • Watershed Planning Manager

4.3. Cultural Understanding

The theme “Cultural Understanding” reflects opinions of the participants in regard to internal and external issues. For the purpose of this thesis, internal issues encompass challenges that WPAC employees are facing, such as insufficient cultural training or lack of cultural knowledge when dealing with First Nations. External issues are factors that WPAC employees have little to no control over due to Canada’s history with First Nations. Internal issues are classified under the sub-category Cultural Connection and external issues are elaborated under Stigma, History, and Trust.

4.3.1. Cultural Connection

One of the main challenges for watershed planners interviewed in this study is a lack of knowledge when it comes to following the right protocols when meeting or approaching First Nations. One participant said: *“The main challenge was how do we do that effectively and appropriately, following the right respect protocols.”* Watershed managers in this study said that it is also sometimes unclear to them how to approach First Nations. In addition, First Nation communities are very diverse. Techniques that worked for one community might not work for others. When talking to managers who were involved in the development of the very first IWMPs it became clear that they did not receive any direction from the Alberta Government on how to engage with First Nation communities. Therefore, participants who completed their IWMPs the majority said that First Nations were given the same opportunities to participate in the planning process as every other stakeholder within the watershed. This was done by sending out email invitations, cold calls, and face-to-face meetings to solicit input from First Nations. However, one participant noted: *“... we made them do the work to get in touch with us, but really, it should be us doing the work to get in touch with them, if that makes sense?”* This sentiment is validated by a participant, who is a board member advocating for First Nation representation, with reference to a specific WPAC: *“I think they really need to do a deep dive into some cultural education and anti-racism work. I think they need to learn some protocols.”* However, this same participant also acknowledged that watershed managers might not be aware of how to properly approach First Nations. Or in the words of the participant: *“you know, even though Watershed Manager X may not be culturally appropriate, Watershed Manager X is persistent [laughs]!”*

Unfortunately, watershed managers are tasked with complex issues and operate with limited financial and human capacity. There is a general agreement among the participants that cultural training is necessary in order to meaningfully engage First Nations. None of the interview participants mentioned that the Government of Alberta proactively offered training sessions or workshops around this topic. In addition, when the first IWMPs were developed direction from the Government was lacking and planners had to operate to the best of their knowledge. One participant said: *“We had a very large number of people involved. But we simply did not have the capacity to spend regular time dealing with First Nations involvement or how to go about it.”*

Watershed planning can be very technical at times and follows specific protocols. The Government of Alberta published a framework for watershed planning which outlines important steps for the planning processes. However, as previously mentioned, cultural awareness and knowing how to collaborate with First Nations in appropriate ways is not part of this framework. As a result, one participant raised an important point; it can trigger fear among watershed planners and might prevent them from approaching communities at all. In the words of the participant: *“Another barrier would be fear. Fear of engaging in the wrong way can sometimes lead to a type of paralysis and I, certainly, felt that at times and I was lucky that a colleague called me out on it.”*

Nevertheless, watershed managers know that collaborating with First Nations is an important piece of their work. A few participants also said that in hindsight they realized that it would have been beneficial to start building relationships before the formal planning process begins. One participant said: *“So obviously that build-up and experience and relationship that you get before engaging or starting down some sort of planning process is very beneficial.”* One watershed coordinator acknowledged that they are going to employ a different approach now. Instead of asking to set up a meeting, *“We want to come onto your reserve and spend the day with you and talk to you about how you relate to your land and the water that’s around it to get a better idea of your point of view and what interests you.”* This approach is about getting to know each other first and talking watershed management planning second.

Even though the watershed planners might not be aware of following the right protocols or how to get in touch with communities properly there is a general sense that effort was put into trying to

engage First Nations in the planning processes. Furthermore, it was also said that First Nations are willing to educate planners about their protocols and processes. As one participant stated: *“But that being said, my general perception is that First Nations have an excellent sense of humour. They’re very willing to share.”*

Therefore, participants mentioned that help and guidance are very important to bridge the gap between them and First Nation communities. Some WPACs were lucky enough to be able to hire a consultant or to have build relationships prior to developing their IWMP. Others are fortunate enough to have employees who possess Indigenous knowledge. One participant said: *“I know things about working with Elders and how to approach those kind of questions and come from cultural knowledge, so that, I think, has been really, really helpful to have that on the back end.”*

All in all, participants are aware that they are lacking the proper education around First Nation collaboration. However, the general sense from the participants is that they did the best they could when they developed their IWMPs. WPACs which are still in the process of developing IWMPs are employing different approaches to build relationships with First Nation communities. In addition, a great number of participants noted that cultural training provided by government would be very helpful in moving forward. Within the WPACs the necessity to include First Nations in a respectful way is acknowledged; however, external factors in government influence implementation.

4.3.2. Stigma, History, Trust

Participants mentioned that racism and stigma are still a big problem. WPACs operate under a multi-stakeholder setting which is mostly made up of non-Indigenous members. This can have several implications. One, members still have preconceptions around First Nation culture and knowledge: One participant said: *“Well personally I think there’s still stigma. I have no idea why but I’m guessing that there is still stigma, that these are quote ‘natives’ that live on reserves and what do they know?”*. Another participant also noted that previously built relationships can be influenced by negative opinions that are voiced in a multi-stakeholder setting: *“When you’re working in multi-stakeholder environments, as much as you do to try and build safe and inclusive*

spaces, all it takes is one bad egg, right? One off the cuff comment from whomever to send a really strong signal and that's a challenge that I think we need to address."

Canada's history with First Nation communities has always been challenging. Furthermore, there are a lot of water issues that should have been resolved years ago but are still a battle for many First Nations. Therefore, First Nation communities may be reluctant to get involved with a Provincial Watershed Council that claims to work to ensure water quality and quantity when they have not seen water quality and service improvements. One participant elaborated on this topic and said: *"That, you know, the settler nations or settler people have done nothing really to – well have done very little. I shouldn't say nothing – but have done very little to gain the trust of First Nations. Everything has been subtractive and not addition. We have First Nation communities across Canada that have water issues for years that should have been corrected years ago. So yeah, trust is a huge issue."* Another participant also said that a lot of people are not aware of the multi-faceted issues First Nations are dealing with. Safe and reliable access to drinking water is taken for granted by a lot of people. Without any educational work it might be very hard for others to understand the urgency to include First Nations in the process of watershed planning.

Lastly, building a trustworthy relationship with First Nations requires a lot of time and patience. However, is this relationship going to be meaningful or is it just tokenistic? One participant mentioned that: *"You have to build up the trust and still, there's also will it be meaningful? There would be a fear that First Nations are sitting on these boards, they're just a seat. Their voices may or may not be heard."* Furthermore, the same participant also said that communities want to know how their participation will be helpful for them. It is one aspect to contribute knowledge to a plan and be part of the development process, but it is also very important to them to see the value in it. Just participating to fill a seat on the board is not the right way to gain trust. It has to be ensured that their opinions are taken seriously.

Stigma, History, and Trust are issues that have been around for many years. It will be a long process to overcome these challenges. Watershed managers have to be able to work with different stakeholders and also ensure that every opinion is valued and accepted. One participant mentioned

that WPACs employ a consensus driven decision-making process. However, one participant mentioned that the consensus does not always fully coincide with First Nation opinions.

4.4. Financial Limitations

Financial limitations are a challenge for both, Watershed Councils and First Nation communities. The latter one receives money only from the Federal Government to participate in, for example, watershed planning. Therefore, attending meetings and providing input can be very difficult for communities due to lack of monetary resources. WPACs are non-for-profit organizations and rely on funding and in-kind contributions. WPACs are funded through a combination of annual provincial government grants, project-based grants, and individual membership fees. This funding is not permanent as it is allocated annually and could be discontinued or changed at any time.

Numerous participants stated that operating under a limited budget makes it very difficult to meaningfully engage with First Nations. In addition to budget constraints, watershed managers have to use most of their money for core operations, making it more challenging to set any portion aside for First Nation Engagement projects. One participant said: *“One final barrier, sorry I have a lot for you is our budget. It sounds like an excuse, but you have to remember that WPACs are run as not-for-profit organizations. We do have some budget, but often that’s going directly into what (is) be viewed as the core operations. We do really need to set money aside to appropriately engage Indigenous peoples or hire someone to do that.”*

In order to carry out different projects, watershed managers can apply for different grants to receive additional money. However, this whole process takes a lot of time and it is not always guaranteed that funding is approved for every project. One watershed manager clearly said that it would be way more efficient if WPACs would receive the same amount of money every year for First Nation inclusion projects. In the words of the participant: *“Instead of me spending half my life searching for grants and doing financials and scrutinizing over money, we can be doing more project work because we know that we have timely and effective support coming. That’s ongoing, every WPAC, every year.”*

Even if funding or monetary support is granted for First Nation Engagement it does not always mean that watershed managers will be able to carry out the planned project. Funding has been revoked prior to starting a project even though it had been granted previously. Therefore, watershed managers are actively trying to establish better and more meaningful relationships with communities, but uncertainty over finances makes it very difficult to plan and carry out projects. One participant elaborated more and said, *“But basically the money was gonna be salary for a position that would work with us, but selected by First Nations. And at the eleventh hour for reasons that I don’t know that funding was withdrawn by the provincial government. So we weren’t able to go ahead with that hire.”*

Participants also mentioned that they have the feeling that First Nations do not always have enough money to afford to participate in watershed planning meetings. Depending on the watershed, many First Nation communities are located in remote areas and thus traveling to meetings might not be possible. A participant, who is a First Nation representative, said that, *“With regard to the [First Nation community X] and the [First Nation community Y] and the [First Nation community Z], the cost of travel and distance makes it very, very difficult to have an active engagement with them.”* A different participant also highlighted that most of their board members represent a specific industry or business and come through the terms of their employment. Therefore, all expenses are covered by their respective employers. First Nations, on the other hand, have to pay for everything out of their own pocket.

All in all, effective and meaningful engagement with First Nation communities requires a lot of time and money. WPACs and First Nations alike have to operate under limited budgets and need to prioritize where the money goes first. Even though finances can be secured via different sources it is not always guaranteed that projects can be carried out as planned. In the words of one participant: *“If we had more funding, we could do more. If they had more funding, they could do more.”*

4.5. Governance

The theme Governance encompasses many different sub-categories that have emerged throughout the telephone interviews. WPACs are mandated by the Alberta Government and act as an advisory

committee that brings different stakeholders within the watershed boundaries together. This scenario created several challenges for watershed managers to include First Nations throughout the planning processes.

4.5.1. Advisory Only

The WPACs are designed to have a voluntary model of participation for stakeholders. This means on the one hand, that stakeholders within a watershed are free to decide if they want to participate in watershed planning. And on the other hand, recommendations given in the IWMP can be adopted as each stakeholder sees fit. The participants in this study believed this model has, both, positive and negative aspects.

A voluntary model with an advisory-only capacity as viewed as a big challenge for a few watershed managers. One participant said: *“That’s probably the main challenge we continue to face. This is a voluntary model of participation.”* WPACs and their IWMPs serve as a decision-making tool for the Government and Policy Makers. Therefore, any recommendations given in the plan can be implemented by farmers, industries, municipalities, and First Nations alike. However, there is no regulation that requires citizens of a watershed to participate in the planning process. In addition, the Government does not have to implement any of the recommendations given in a watershed plan. Therefore, motivating people to participate can be a long process.

One participant also mentioned that the Alberta Government could have done more and sooner in terms of creating watershed councils. The same participant also said that, for example, the conservation areas in Ontario have been around since the 1940s and they operate under a regulatory statute. The participant stated that, *“... and there’s conservation authorities that were created in 1948 by statute and they are the authorities that manage watersheds there. So it’s a regulatory function. And here it was very late coming and they made it a voluntary thing.”*

Furthermore, participation from First Nations might be lacking because they do not see it as a process that could add value to their lands and communities. In addition, a voluntary model without any regulatory statute does not rank high under their priorities especially when First Nations are asked to participate in many different things (see Human Capacity). One participant mentioned

that more regulatory power behind the IWMP and the process of developing a plan would be beneficial to WPACs. This participant said that, *“I’ll also go back to the provincial government. I would say incomplete policy direction from the government that you will do this or you must do this. Likewise, no [laughs] no direction from the provincial or federal governments to First Nations saying that you will participate!”* However, this sentiment faced opposition from a different participant. If the government were to mandate First Nations that they have to participate in watershed planning, it would go right back to the early days when the Canadian Government controlled the everyday life of First Nations. This could be very counterproductive in the process of working with First Nations. This participant said that, *“I totally disagree with that because you’re gonna be bumping up right against treaty rights. And I mean, what you’re describing is a settler’s perspective on treaty is not acceptable. So you’re coming up with new current [...] guidelines and whatever. That’s like saying [laughs] – I just think that’s bad! [Laughs].”*

Nevertheless, operating as an advisory council was also viewed as a positive aspect. Watershed managers feel that providing input for decision-makers is an excellent concept to bring stakeholders within a watershed together. However, this leads to another challenge. Stakeholders and First Nations alike are sometimes unclear about the role of the WPACs. As a result, many of them think that WPACs are part of the government and do not realize that they just give advice as well as recommendations to decision makers.

An advisory-only model is certainly an excellent idea to bring different stakeholders within a watershed together. Many interview participants said that operating under a voluntary model of participation adds value to their operation. Especially when it comes to including First Nations in the planning process. However, lack of clarity around the roles of the WPACs creates certain challenges. WPACs operate under the Alberta Government, but they are not a governmental organization.

4.5.2. Alberta Government

Watershed managers mentioned that there is a lot of hesitancy from First Nation communities to work with a government associated group. The history and relationship between First Nations and the Alberta Government has not always been positive. Several participants mentioned one very

detrimental letter that was written by the Assistant Deputy Minister of the Environment in 2010. As one participant noted, “... *having the Government of Alberta write a letter that implies—I think you can read the letter in different ways, but implies that Indigenous participation at WPAC tables could be regarded as consultation, that sends out huge red flags and we lost participation as a direct result of that letter. To this day, it hasn’t really been clarified, so (it is) a big challenge.*”. Many interview participants viewed this letter as very impactful on their work particularly when it comes to building relationships with First Nation communities. So WPACs try to distance themselves from the government and have to always make clear their role to stakeholders. One participant said: “*And it’s a complex issue. The relationship between First Nations and the provincial government, it has a bearing on our work. And we tried to put some distance between ourselves and that relationship.*” As previously described, there is a lot of confusion around the roles and responsibilities of the watershed advisory councils. It was also criticized that the Alberta Government does not clearly define what role First Nations should play in watershed planning and how they should be involved.

In addition, some participants mentioned that they felt like they did not get enough guidance from the government on how to properly engage with First Nations during the planning process. Watershed managers who were involved in the development of the very first IWMPs stated that their workload was tremendous and that they had hoped for more guidance from the government on how to include First Nations. In the words of one participant: “*And again, at the time there was no clear direction or policy from the Government of Alberta about how to engage First Nations.*” Nevertheless, this sentiment is also shared with managers who are either still developing their plans or have just finished their plans: “*We have asked for training from the province, previously, but they’re still struggling internally in developing their own Indigenous engagement. The biggest advice we’ve got from them is that you don’t do engagement.*” So over the years it does not seem like that much has changed. WPACs have not received any meaningful help then and are not receiving help or training now.

Last but not least, it was also shared that after completion of the plan the government acted like it was just another item on the list that can be checked off. So basically, the WPAC has done their job; they tried to include First Nations; and now they can just move on to the implementation

phase. One participant elaborated further and said: *“And we released it, we mailed it to every sector and community that could think of and including the Government of Alberta and the Government of Canada and looking for some direction and support. And what we get back from the Government of Alberta was, “Wow. Good job. Just carry on. You carry on and implement it.” They didn’t provide any direction or support. So it was a very bureaucratic and political response which was very disappointing.”*

4.5.3. Duty to Consult

WPACs do not only have to clarify that they are not a government organization, they also have to make sure that First Nations understand that their work is not considered as consultation under the Duty to Consult.

However, this is complicated by the aforementioned letter from the government that was sent out in 2010 and the fact that WPACs are not sure under which circumstances a Duty to Consult process would be triggered. Therefore, First Nations are hesitant to participate or provide input to any planning initiatives. One participant said: *“... so the conception is that if a nation participates in a WPAC planning work and it’s reflected that they were part of the process, the conception is that the Government of Alberta might see that as “well we don’t need their consult because they were a part of their plan and they were okay with it”, but the only time formal consultation would be triggered is if Province of Alberta is going to implement one of our recommendations like say setting a water conservation objective or making a legislative water management plan on one of our tributaries, that’s gonna trigger consultation because they’re taking a recommendation and turning it into something that is a policy or legislative, so there’s not a lot of clarity around that for us or First Nations.”*

Nevertheless, there are ways around this dilemma. One watershed manager mentioned that they are very careful about how much detailed information they are going to reveal in the plan. For example, no specific quotes from First Nations were released as well as meeting notes. But, how can planners ensure that an IWMP meaningfully reflects First Nation voices when their work is constrained by legal ramifications?

Several participants mentioned that it would help them tremendously if the Government were to revoke the letter and clearly state that their work will not have any implications for First Nations and that Duty to Consult will not be triggered. One watershed manager said: *“But we would like them to openly and somewhat publicly acknowledge that the WPACs are free to communicate and work with First Nations if that is the will of First Nations and it won’t have any [...] acknowledged impact on the provincial government’s duty to consult with First Nations on matters of great importance.”*

4.5.4. Government to Government

Another challenge faced by watershed managers is the fact that many First Nations would like to discuss their water issues and concerns on a government to government basis and not necessarily with a not-for-profit organization. This scenario also ties back to lack of clarity around the roles of the WPACs. How much weight do the recommendations of IWMPs have to the government and how much attention are they going to give to it? First Nations might not see watershed planning as a legitimate process to make their voices heard. Nevertheless, one participant said that some communities are still willing to be informed about the planning process, but do not want to be involved in any planning activities.

Another interesting point that emerged is the fact that First Nations might be afraid to sit at the board table. They might think that their input will be sufficient enough for the government to see it as a government-to-government process. So being part of an IWMP might limit their chances of properly discussing their problems with the government directly. In the words of one participant: *“Yeah, like I mentioned, two of the nations feel that if they sit at our table, then the government’s just going to lump them in with Watershed Council, then there’s not going to be the need to work to talk government to government, that’s not the case. I’ve never been led to believe that’s the case and that’s not the intent, right?”*

4.5.5. Water for Life Strategy

The Water for Life strategy laid the groundwork for the establishment of the WPACs in 2003. Watershed managers who were involved in the development of the first WPACs and their IWMPs

stated that they had to learn the process while creating their plans. There was no real guidance on how to properly include First Nations in the planning process. One participant said: *“Again, this was the first watershed plan developed in Alberta. So the Government of Alberta had no particular prescribed process for going forward with First Nations or with anybody else as a matter of fact. So we had to try and invent the process, the development of the plan, the review of the plan, the circulation of plan.”*

Some participants also felt like the *Water for Life* strategy made important promises and was an excellent idea on paper, but the actual planning process was a huge undertaking with limited resources and guidance. However, since the *Water for Life* strategy was a new concept to Alberta as well it was also made clear that the government was still trying to figure out themselves how this whole process should unfold. Unfortunately, this sentiment still holds up to WPACs who are in the development process of their IWMPs.

Interview participants criticized the prescribed timelines to finish projects. These timelines simply do not align with the time needed to build strong relationships with First Nation communities. A funding cycle is one fiscal year long. By the end of the cycle WPACs have to show their deliverables and the progress they have made. In addition, watershed managers do not know how much funding they will receive for the next fiscal year. Thus, it is very difficult to establish meaningful relationships when there is a lot of uncertainty around monetary resources; in the words of one participant: *“Sometimes we have to get this plan done in six months and our funding runs out. That’s just not conducive to building a positive relationship with a complex group like a local First Nation. It’s just not there.”* Another participant further noted that due to short timelines, for creating an IWMP, First Nation voices could not be effectively included in the IWMP. This circumstance also resulted in disappointed communities because they wanted to be involved but, watershed managers are required to finish the project within a specific timeframe. This challenge goes hand-in-hand with another issue that emerged throughout the interviews. Watershed planning is a very formal process and First Nations do not operate under the same processes. Traditional Ecological Knowledge and their deep connection to animals and nature result in different ways of interacting with the environment. There is a divide between the two world views on how to plan and manage aspects that affect the environment. The *Water for Life* strategy published a framework

for developing IWMPs, but does this framework consider effective inclusion of First Nations? Some participants viewed the *Water for Life* strategy as just a way for the Government to mandate Watershed Councils to include First Nations in watershed planning. But there were no actual thoughts put into the process on how to do it properly. In the words of one participant, “... *again, a bit of a government check-box to say they referred these things to the First Nations just as a way to get their own mandates or agendas pushed through.*”

4.5.6. WPAC Structure

WPACs have board membership seats for stakeholders to be actively involved in their watershed planning and management. Many participants highlighted that the board seat structure does not provide a genuine space for First Nations. Usually, there is just one board seat under the category of First Nation. However, one member only cannot represent and speak on behalf of all the communities that reside within their respective watershed boundaries. One participant said: “*At best, that model is limited in terms of providing a meaningful space to include Indigenous voices at the board table. At worst, that model is tokenistic, right?*” Another participant also highlighted that not giving First Nations a proper chance to be involved in the early development stages creates a very difficult situation to build relationships in the future. WPACs started out with only one board seat for First Nations. Many of them realized that this was a mistake and made by-law changes to open up more seats. One participant said: “*We’ve had by-law changes a couple times over the years to try and make a better fit for participation for First Nations people, ...*”. Due to the detrimental exclusion in the beginning First Nations are now hesitant to fill board seats. In theory, watershed planning is supposed to bring together different stakeholders within a watershed to address issues and concerns. However, First Nations do not want to be called stakeholders. They want to be considered as their own government. Furthermore, this multi-stakeholder setting does not necessarily align with First Nation culture. One participant said: “*And I think the way that our – you know, again, these multi-stakeholder advisory tables maybe aren’t the best structure to try and get that Indigenous culture.*” Also, the setting under which board meetings are held reflects a typical settler perspective as well. One participant mentioned that: “*I think probably the consensus was the way one of our stakeholders put it is they don’t want to come to the white man’s circle which we go to a boardroom with tables and chairs, right? It’s just not their thing.*”

Another challenge for effectively including First Nations in watershed planning is the fact that there is no room for their processes and protocols. Western cultures operate under a very formal and technical way, whereas First Nations rely a lot on their stories and their lands. Moreover, traditional watershed planning does not give any priority to have meaningful conversations with First Nations. Conversations around spirituality, Traditional Ecological Knowledge and their culture is just not part of the day-to-day business. For example, one participant said: *“But you made this space, but we didn’t necessarily establish the norm or the processes that would help Indigenous people feel meaningfully included or that their voices were valued at those tables.”*

Furthermore, not only discussions about spiritual aspects are absent in formal watershed planning processes, there is no actual time to have difficult conversations with other stakeholders. Watershed planning is supposed to bring different people together to work towards the same goals. But how can a watershed council provide an inclusive space for First Nations when there is no time to respectfully discuss deep-rooted problems and misconceptions? One participant stated that, *“The whole idea of you can’t get to reconciliation without first going through truth. Many of us didn’t really go through the truth part, so there’s some uncomfortable conversations to be had, so that basic awareness and capacity for people to engage on these issues which sometimes seem outside of the day-to-day of watershed management, right?”* In order to ensure respectful ways of inclusion a lot of time is needed to have meaningful conversations and to build trustworthy relationships. But, with tight timelines watershed managers are sometimes forced to move on to different tasks, because they cannot always be certain that First Nations are going to participate in the planning processes. As a result, they have to work with stakeholders who are willing to give input instead of waiting for First Nations to be part of this process. Watershed managers are certainly willing to include First Nation communities in their plans, but due to time constraints it is sometimes not possible to do so.

Interview participants also referred to the issue of language and how the plans are written. It was said that IWMPs are very technical and scientific. This also goes back to Western culture being the dominant force behind the plan. One participant made clear that it can be very difficult for a WPAC to incorporate Indigenous knowledge into the plan because there is, first, no framework on how to do it, and, second, resistance to incorporate knowledge that may be seen as less important

because it is not “science”. One participant mentioned that, *“It’s kinda challenging even once you’ve spoken with Elders and they tell you a lot of things, but how do you incorporate it in an appropriate way that’s respectful and there’s a lot of people doing work in Alberta on just that, how can we better integrate traditional science with Western science and developing indicators that are measurable that we can use for sorta traditional things versus—everybody’s so hard science, nowadays.”*

Even though the first WPACs have been around since the early 2000s, there are still a lot of misconceptions around their roles and responsibilities. Watershed managers are constantly tasked to explain their work and then to get people interested in participating. This effort takes even more time when talking to First Nations, simply because many of them still associate watershed councils as governmental organizations. Some communities are more interested to see how WPACs can be of value to them. It is more appealing to work on projects and to do actual on the groundwork. So, watershed planning certainly has the opportunity to bring people together to work on aspects they care about and value.

Watershed managers also expressed that just asking members of a First Nation community for input to their plans is the wrong way to approach them. Communities would like to hear how an IWMP can be of value to them and do not want to be presented with a finished plan and then give feedback on it. One participant recounted the sentiment of a First Nation women who said: *“Please don’t approach me when it’s time to comment on your latest plan.”*

4.6. Human Capacity

4.6.1. Limited Staff

Limited human capacity was stated as a challenge for both, WPACs and First Nations. WPACs operate with few staff members which forces them to engage with First Nations on a limited basis. In addition to watershed managers have to figure out how to properly engage with First Nation communities because there is no real guidance from the government. This takes away a lot of time from the day-to-day business. Watershed planning is a very complex undertaking that requires a lot of time and management in itself. However, so is meaningfully engaging with First Nations.

Limited time and limited staff make it very difficult for WPACs to build proper relationships with a First Nation.

Participants also acknowledged that First Nations operate with a limited amount of staff members. It was said that they sometimes do not have the time or personnel to review reports, or watershed planning is simply not part of their duties. Hence, sporadic participation is not an uncommon scenario to watershed managers. It was also highlighted that staff turnover is high and that Chief in Council elections, which are held every two years, can influence relationship building. Consequently, they might establish a connection with band council members but then, they either leave, or a new person is elected. One participant stated that: *“so one thing I found challenging is there’s election for Chief and Council every two years, so there wasn’t continuity, we didn’t have the same people from start to finish, so it’s challenging because it takes a while to get up to speed on all this watershed stuff and planning and just when you think someone’s there and light bulbs gone off it’s like, “Oh, well there’s been elections and I’m not here anymore.” I kinda notice that there’s a lot of staff turnover as well.”*

Limited staff is affecting WPACs and First Nations alike. On the one hand, WPACs have to juggle many different tasks with a limited amount of people. In addition, working with First Nations is also a complex task that requires a lot of time. Trying to set up meetings, figuring out the right person to contact or to simply just spend a few days on reserve can be challenging. When talking to interview participants it certainly became clear that all of them are willing to improve their relationships, but the capacity is not always there. On the other hand, First Nations have similar issues. Limited staff in combination with a wide variety of issues that need attention make it very difficult for First Nations to participate in watershed planning. Interview participants noted that they have the feeling that First Nations need to prioritize their commitments and watershed planning is not always a top priority for them.

4.6.2. Priorities

Throughout the telephone interviews it became clear that First Nations have to prioritize the projects they take on. One participant clearly mentioned that: *“Limited capacity – there’s so much*

on their plate that just the demands on their time, it's more of a priority stuff. I'm not sure that I could say limited capacity but they just have tons on their plate that they need to deal with."

Another participant said that communication can be a challenge too. Information was sent to First Nation communities but the person who receives it might not see it as a priority and does not pass it on to the rest of the community. And later on, someone else feels like this was important but the time for providing input has passed. In the words of the participant: *"They were given the information, we had surveys, we had a review period and nobody gave us anything and at the end, they're saying that they weren't included, so I think that's kind of a communication challenge and maybe they didn't think it was important at the time or maybe the person that got our invites wasn't passing it on, it's hard to know exactly."*

4.7. Physical Parameters

4.7.1. Diverse Communities

It was acknowledged that every First Nation community is different. What might have worked for one community might not work for others. There are differences between watersheds, but also within each watershed boundary. One participant noted, *"Each one has their own capacity and their own interests, so techniques that might have worked in Southern Alberta, might not have worked at all up in Northern Alberta."* This participant further elaborated: *"It was kinda challenging even just to set meetings and get a half hour window with Chief and Council or finding the right people, maybe they want their consultation staff to work with us, maybe they want Chief and Council, it's different for each nation."*

A different participant mentioned that some WPACs, such as MPWA and NSWA (see Table 1.), have more First Nation communities within their watershed than others. Therefore, First Nations are a very big part of their watershed which means that they have to work really hard to engage with them. Whereas others only have a few communities and if one of them has no interest in participating it will not have such a big impact. The participant further explained that, *"We need to make an effort, that's a big piece of our watershed, whereas in some parts of the province, there's a First Nation and they're adamant that they do or don't want to work with the WPAC, it's*

one, not eight, right? I feel like we're putting in a lot more effort than others just because First Nations culture in our region is so prominent."

4.7.2. Size of the Watershed

The size of the watershed can have implications for engaging with First Nations. Table 1 shows an overview of each WPAC and their size as well as how many communities reside within each watershed. It becomes clear that the MPWA covers the largest portion in Alberta. The bigger the basin the more difficult it can get to have face-to-face meetings with each community. The size of the basin makes it also difficult for First Nation members to attend meetings due to financial or time constraints. Other stakeholders attend those meetings as part of their job duties and their expenses will be reimbursed. First Nations pay everything out of their own pocket unless WPACs are able to pay for First Nation travel expenses. However, this is only possible if enough core funding is provided by the government.

Larger basins also deal with a lot of different stakeholders. Issues and concerns are very complex and watershed managers have to deal with many different people with different ideas and views. This occupies a lot of their time and on top of everything they also have to figure out how to include First Nations. One participant mentioned that, *"There just was no [inaudible, 00:28:14] capacity to – in a river basin the size of the to undertake – the technical water issues were so complex that that more than occupied our lives."* A total of 35 First Nation communities reside within the NSWA (see Table 1.) In addition, this basin is relatively large with a bigger population size than other WPACs. My document review showed that the NSWA barely mentioned First Nations in their IWMP. But, considering the size of the watershed, the number of First Nation communities and the fact that their plan was one of the first ones created in Alberta it becomes clear that this basin struggled to be more inclusive. Thus, the inclusion of First Nations can be influenced by temporal and spatial differences.

It was noted that project expenses are higher in northern Alberta and that there is also less data available than in the south. Moreover, it makes a significant difference when bigger cities or universities are present within a watershed. Cities, such as Calgary or Edmonton, can be of value in terms of partnerships for WPACs in providing data and in collaborating on different projects.

4.7.3. Watershed Boundaries

Another interesting point that emerged was the issue of watershed boundaries and what that means in terms of engaging First Nations. Currently, reserves within watershed boundaries are the only requirement to include First Nations in planning processes. What about Treaty areas and Traditional territories? Do they also require participation from First Nations in the planning process? One participant said: *“so this goes back to that whole what’s a difference between a reserve, between a treaty, between title, right? Whose land is it really, anyways?”* Thus, watershed managers just proceed with obvious factors and focus on working with First Nations that have reserves within a watershed.

4.8. Likert Scale Questions

Likert scale questions were used to measure attitudes of the participants towards certain topics. Participants were asked six questions and were given a 1 to 5 scale, with 1 = strongly disagree, 2=disagree, 3 = neutral, 4 = agree, and 5 = strongly agree.

Q1: Your organization adequately engaged First Nations in your IWMP planning process?

Q2: Your IWMP adequately contains First Nation water issues and concerns in the watershed?

Q3. First Nations should be more involved in the development of IWMPs in Alberta?

Q4: Your organization maintains good communication and shares a healthy relationship with First Nations in your watershed?

Q5: Information and data access related to First Nation water issues were easily attained by your watershed organization?

Q6: Watershed planning by WPACs in Alberta, and other watershed groups across Canada, can be a tool for the reconciliation process in Canada?

Once the data collection process was completed I added two more options, because a few participants are still developing their IWMPs and a few questions were not applicable (n/a) to them and others were hesitant to give a definite answer (undecided), because of the complex and diverse relationship building process. An overview is presented in figure 3 using a diverging stacked bar chart.

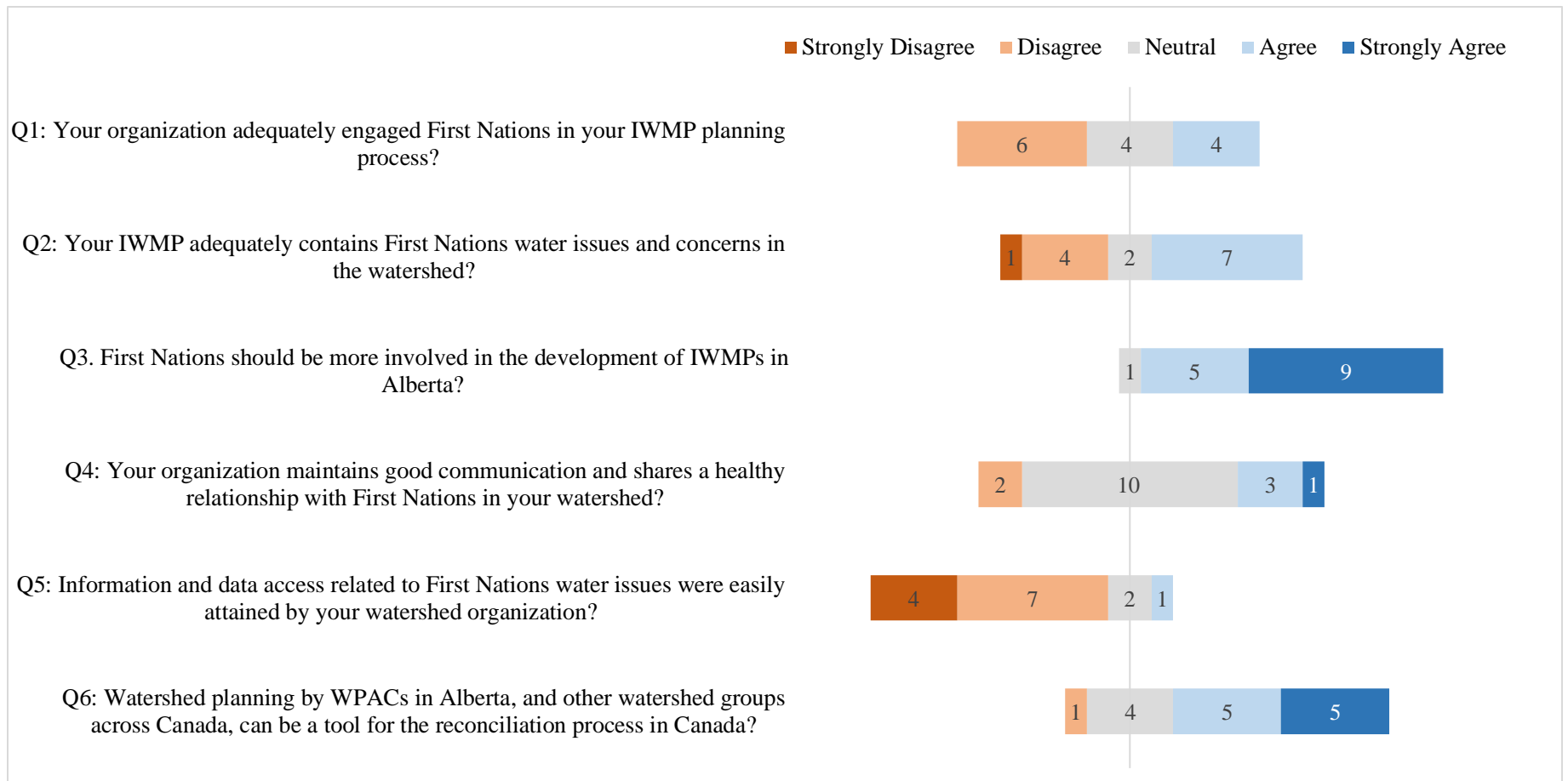


Figure 4-2: Overview Likert Scale Question Results³

³ Please note, for simplicity undecided and not applicable (n/a) answers are not illustrated in the charts:

Q1: 1 undecided, 1 n/a;

Q2: 1 undecided, 1 n/a;

Q3: 1 undecided;

Q4: 1 undecided;

Q5: 1 undecided, 1 n/a;

Q6: 1 undecided

4.8.1. Engagement in the IWMP Planning Process

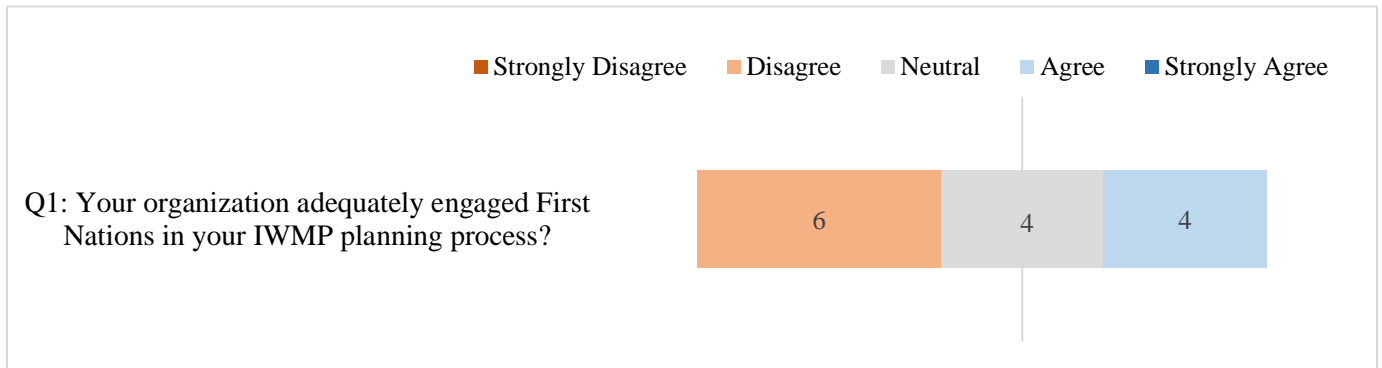


Figure 4-3: Interview participant’s responses to Q1⁴

The overall notion for the engagement of First Nations in watershed planning processes is that many WPCAs tried but were not always successful and thus 6 out of 16 participants disagreed with the given statement. For example, one of them said: *“That’s tough. We tried, but it didn’t go as well as we’d hoped. I guess disagree because it wasn’t really successful, it wasn’t really adequate even though we wanted it to be, so probably a two.”*

However, four participants felt that they adequately engaged with First Nations during their planning processes and another four participants remained neutral. One participant also mentioned that during their first iteration of the plan it was difficult to engage with them properly, but they are trying to rectify that when they will update the plan in the near future.

One participant was not able to make any comments, because they are still in the process of developing their IWMP and another participant was not able to give a definite answer because their engagement practices were successful with some communities but unsuccessful with others.

⁴ Q1: 1 undecided, 1 n/a

4.8.2. First Nation Water Issues and Concerns

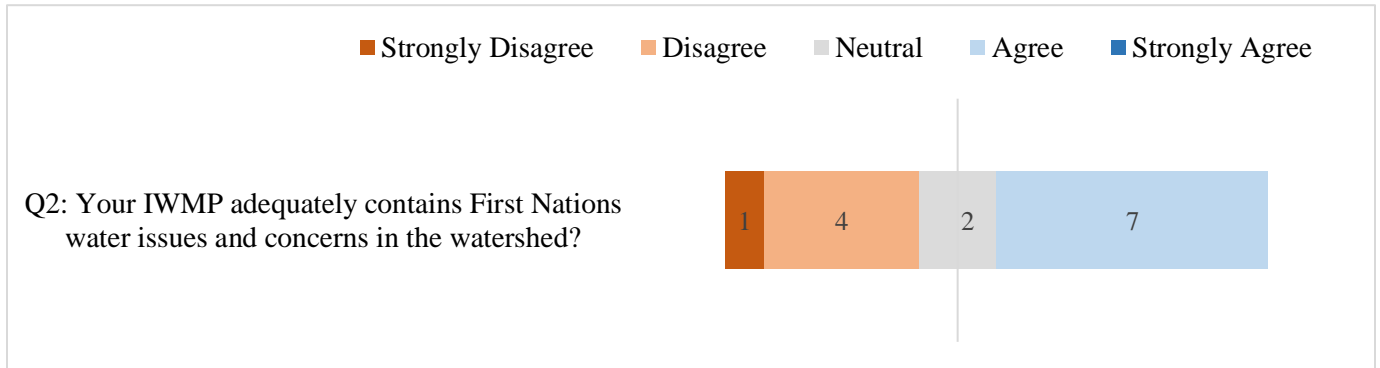


Figure 4-4: Interview participant’s responses to Q2⁵

The next questions asked participants if their IWMP adequately contains First Nation water issues and concerns. This question received mixed answers. Almost half of them agreed with this statement (7 out of 16 participants), but one strongly disagreed and four disagreed. One participant elaborated more and said: *I believe fundamentally that our approach in the watershed plan was to strongly protect water quality and water supply which would obviously address and support First Nations’ practical interests. But maybe not on a spiritual or TEK foundation, the way they would do it.*”

One of the participants also found it difficult to make a decision on this question because during the planning process certain communities were heavily involved whereas others did not contribute anything to the plan. *“That’s tricky. Yeah, and I don’t know if you want this, but if we’re talking lower watershed First Nations, I would say it’s a 5. If it’s upper watershed First Nations, we didn’t receive much input and it’s probably more like a 2 or something. I don’t know, 1, 2.”*

⁵ Q2: 1 undecided, 1 n/a

4.8.3. First Nation Involvement in IWMPs in Alberta

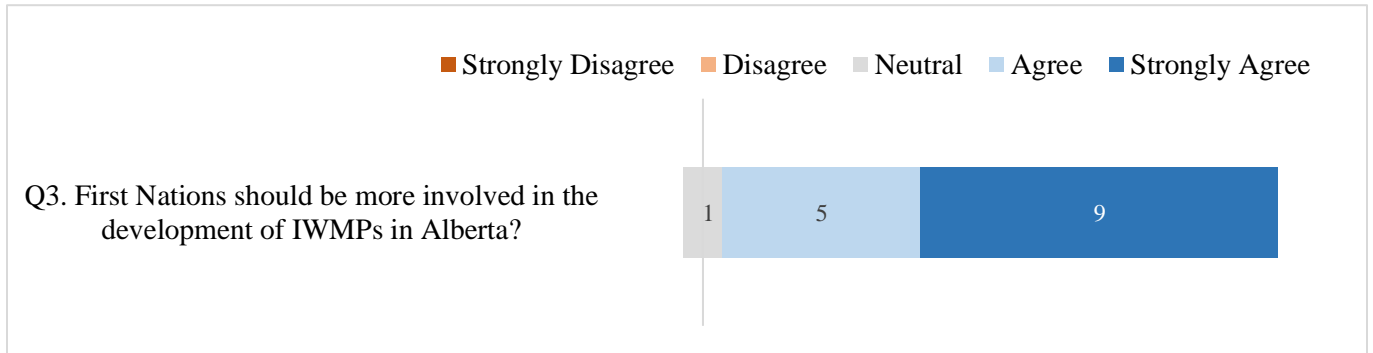


Figure 4-5: Interview participant's responses to Q3⁶

When asked about involving First Nations more in the development of IWMPs in Alberta the answers were very clear. Nine participants strongly agree and five agree that First Nations should be more involved. This also is reflective of the interviews in general. Participants are aware that they have to include First Nations in a more meaningful way.

One participant remained neutral on this question. One participant was hesitant to answer because watershed planners cannot tell First Nations to be more involved. It is ultimately their own decision if they want to be included in watershed management planning or not. Watershed managers can certainly try to build relationships with communities, but it cannot be forced onto them. The participant further noted that: *That's a difficult question to answer because, you know, I may have an opinion or a feeling on the matter but I'm not in a position to dictate whether they should or shouldn't have a greater degree of participation.*"

⁶ Q3: 1 undecided

4.8.4. Communication and Relationships with First Nations

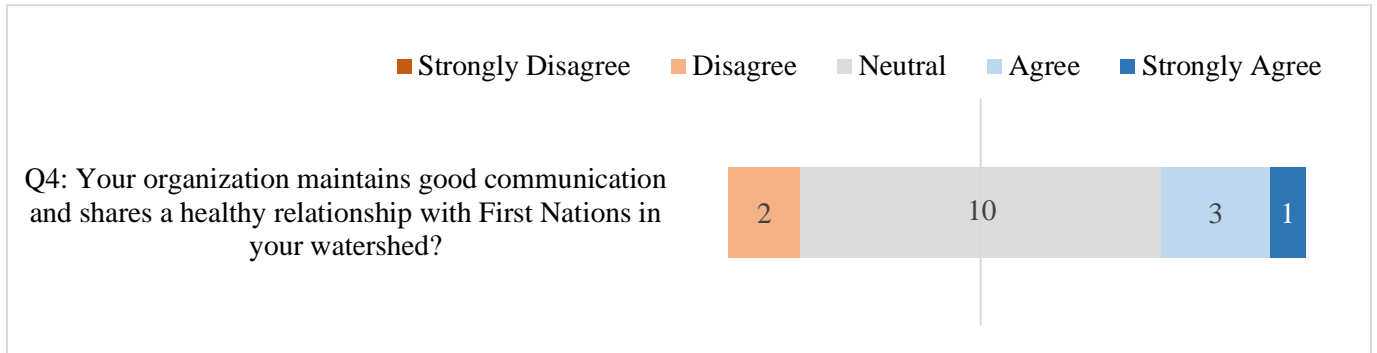


Figure 4-6: Interview participant’s responses to Q4⁷

When asked about communication and relationships with First Nations more than half of the respondents felt that they were not able to either agree or disagree with this statement (neutral = 10 participants). For example, one of them said: *“That’s tricky ‘cause there’s so many and there’s such a range. I would maybe go 3. As previously noted there’s some with a very good relationship and a lot with very little relationships.”* This sentiment also aligns with the theme of “Diverse communities” (see chapter 4.7.1). Some watershed managers are successful with certain communities, but not with all of them. Therefore, it is difficult to make an assumption that would illustrate the overall situation.

A few participants agreed with this statement and felt like they have communication and relationships with First Nations in their watershed (strongly agree = 1 participant, agree = 3 participants). However, two out of 16 participants disagreed with this statement.

⁷ Q4: 1 undecided

4.8.5. Information and Data Access



Figure 4-7: Interview participant’s responses to Q5⁸

Information and data access related to First Nation water issues were not easily attained according to 69% interview participants (disagree = 7 participants, strongly disagree 4 participants). One participant further elaborated on the difficulties in combining Western Science and TEK as well as the challenges to obtain such information. The participant said: *“Strongly disagree. They don’t—at least the experience I have is that they don’t have data like we do. More of what they have is stories and verbal history and things like that, and then even then, just trying to get to the right people to be able to talk to, it’s very difficult.”*. Only one of the participants had the opinion that it was easy to obtain information on First Nation water issues.

Two of interview participants remained neutral and one was undecided, because this is again a case by case situation. One participant elaborated that: *“Information held by First Nations or Métis settlements was more challenging. And again, we have everything from them providing a lot to them not providing anything. So I’d say maybe a 2 or a 3 for that one. 2, 3? Yeah.”*

⁸ Q5: 1 undecided, 1 n/a

5.8.6. Watershed Planning by WPACs in Alberta as a Tool for Reconciliation

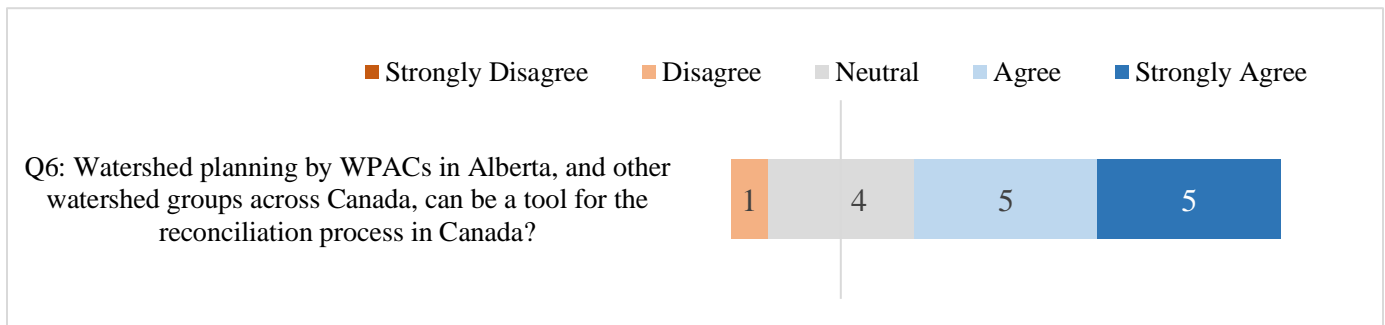


Figure 4-8: Interview participant’s responses to Q6⁹

Among the participants, more than 60% agreed that watershed planning by WPACs in Alberta, and other watershed groups across Canada, can be a tool for the reconciliation process in Canada (agree = 5 participants, strongly agree = 5 participants). One participant noted that: *“I would agree. Given the opportunity, I think the planning could serve admirably in that way.”*

Four out of 16 participants opted to remain neutral when asked this question. One of them explained that *“It should be, but it hasn’t been. The principal problem is first, watershed planning advisory processes are just that, they are advisory, so they can be ignored by government. Secondly, government, Government of Alberta asserts total ownership rights over all water in the province, so they do not leave any organizational room for First Nations assertions in relation to water that could drive reconciliation process.”* Furthermore, it was also said that reconciliation is a very complex topic and that working together on water related issues might not be the best tool to achieve much overall.

⁹ Q6: 1 undecided

4.9. Constraining Factors to First Nation Inclusion in Watershed Planning

In summary, the results revealed that WPACs struggle with five main issues when it comes to the inclusion of First Nations in the watershed planning processes (see Figure. 10).

First, a lack of cultural understanding on how to properly contact, include and build relationships makes it very difficult for planners to approach communities. In addition, this lack of knowledge might also hinder watershed managers to engage with First Nations at all because they are too afraid to employ the wrong methods for engagement. Furthermore, racism can still be an issue. Misconceptions about First Nation culture and traditional knowledge prevent the inclusion of their input in IWMPs.

Second, many interview participants also highlighted that watershed planning is a very complex process, but financial limitations sometimes make it very difficult to set money aside for projects that could build better relationships with First Nation communities. Not only projects are lacking, but also the time and money to properly include First Nations is not always there. It was also mentioned that First Nations do not have the monetary resources either to be part of planning processes.

Third, the Governance structure around watershed planning in Alberta has probably the most impact on First Nation inclusion. WPACs are advisory only organizations. So, participation is voluntary and First Nation communities might not see the value in a watershed plan. Moreover, in 2010 an Assistant Deputy Minister wrote a letter, which meant for many, that First Nations who participate in Watershed Planning would trigger the process of Consultation. This letter had an enormous impact on building relationships with First Nation communities, because many refrained from taking part in the planning process. The WPAC structure poses limitations as well. Board membership seats, timelines, and day-to-day operations do not fit into First Nation structures.

Fourth, human capacity issues on both sides, WPAC and First Nation, limit the amount of engagement and the opportunity to build meaningful relationships. Moreover, First Nations have to prioritize their workload because they are tasked with many different issues and cannot tackle them all at once.

Lastly, physical parameters can be more of an issue for some. For example, bigger watershed basins are tasked with longer travel times and expenses. This makes it very difficult to engage with every community that resides within a respective watershed. Also, every First Nation community is different. There is no one size fits all approach that can be applied. Different techniques must be learnt when building relationships with various communities. Finally, watershed boundaries pose additional questions for watershed planners. Should only be reserves included, or do Treaty areas trigger involvement, or Traditional lands or a combination of all three? These questions have not been considered when establishing the WPACs but are important discussions to have in the future.

The inclusion of First Nations in the planning processes in Alberta has been a difficult task for watershed planners. All of them are aware that more inclusion is important, and they acknowledge that it is something that should be improved upon in the watershed planning framework. However, lack of guidance from the Alberta Government, limited money, staff and timelines combine to problematize such a desired outcome.

Constraining Factors to First Nation Inclusion in Watershed Planning

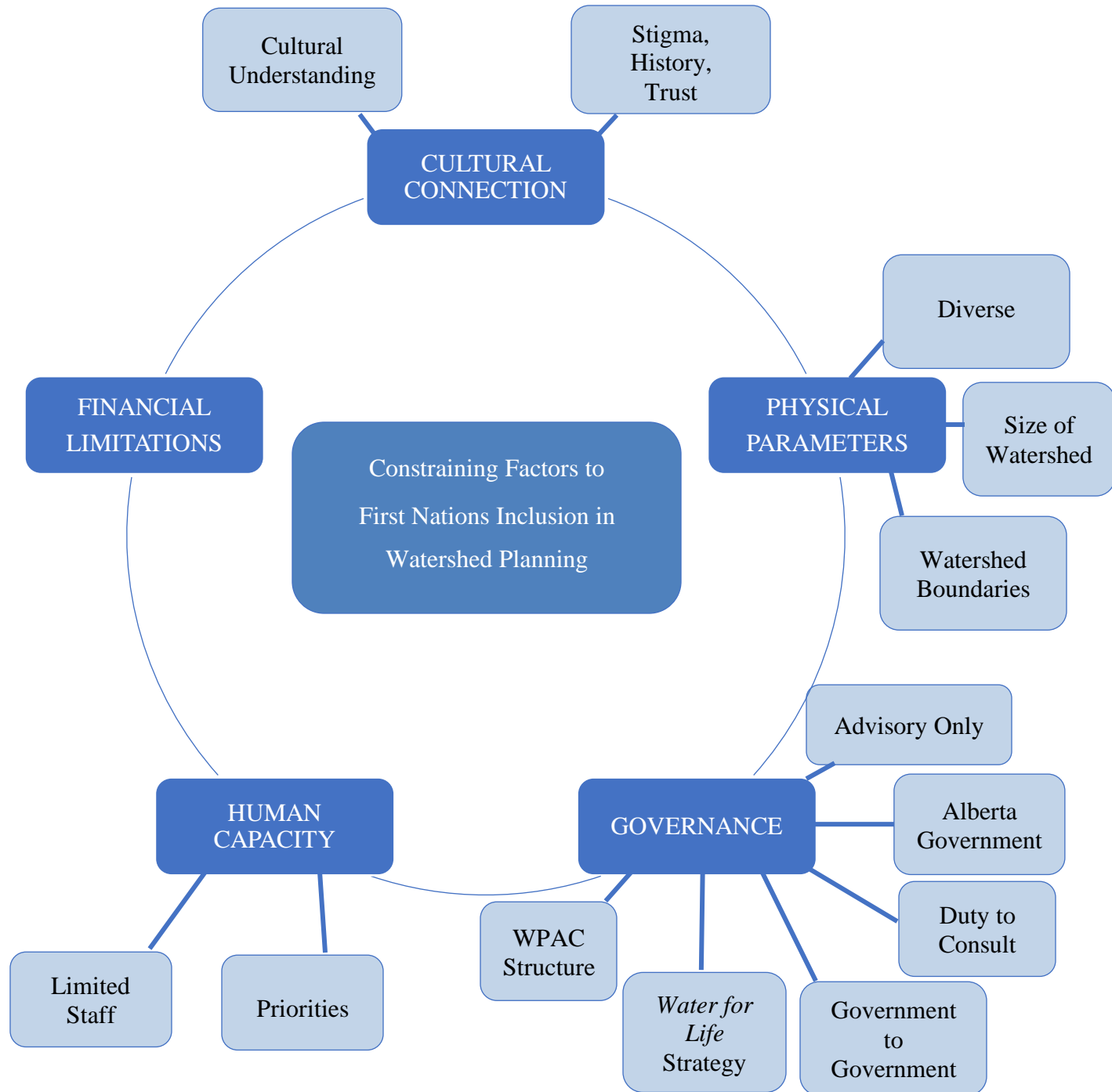


Figure 4-9: Constraining Factors to First Nation Inclusion in Watershed Planning

5. DISCUSSION

This chapter will provide a discussion of the research data along with linkages, where possible, to the current academic literature. The discussion of my results is structured into the following sections: I begin with elaborating traditional watershed planning processes and how current funding cycles do not align with the time it takes to build relationships with First Nations. In addition, this subsection also highlights that current watershed planning practices leave little room for non-conventional planning practices and that watershed managers have to think outside the box when it comes to relationship building. The next two sub-sections discuss the importance of collaborations and how watershed managers are limited in building meaningful relationships. Lastly, I elaborate more on water governance structures and their impact on the inclusion of First Nations in watershed planning processes.

5.1. Financial and Human Capacity

Insufficient financial and human capacity was one main barrier to First Nation inclusion in watershed planning processes and was mentioned by several interview participants. This has also been highlighted by many researchers. Simms et al. (2016) state that First Nation employees often deal with many different issues and sometimes fulfill more than just one responsibility within their communities. Even if they have the intention to participate in certain initiatives it might not always be possible because they have to prioritize their workloads. Interview participants frequently made note of this fact: As one participant noted: *“And they often only have one or two of those people. And they’re asked to sit on so many things. So they have to prioritize.”*

Alberta’ WPACs struggle with similar issues. They operate with limited staff and budgets. Interview participants said that they simply do not have the time or financial resources to build relationships. Limited staff without proper knowledge is also a barrier to relationship building with First Nations within their watershed area.

5.2. Traditional Watershed Planning

Water resource planning at the watershed scale is an accepted approach both in the literature and by practitioners (Mitchell, 1983; Stewart & Bennett, 2017; G. Wang et al., 2016). The general

notion is that using a watershed planning approach is an effective way to address water management issues on a local level. This approach seeks to engage watershed users by taking a “bottom-up approach” with those most affected by watershed management decisions. This approach would suggest that First Nations should be active participants in any watershed planning activity. However, when it comes to the inclusion of First Nations in such planning processes certain barriers were revealed throughout the course of my data collection process.

5.2.1. Planning Timelines and Funding cycles

According to Wang & Patrick (2011) consistent and stable funding represents one of the main capacity constraints. Watershed managers deal with a high level of uncertainty and funding is tied to timelines and deliverables. One interview participant noted that “... *we have a timeline and a budget and are expected to have deliverables out, it [including First Nations content in the plan] just didn't happen in that timeline.*” In addition, Shrubsole et al. (2017) state that watershed authorities must be prepared to respond to shifting priorities in senior government levels and thus cannot rely on a consistent funding budget each year. Nevertheless, Shrubsole et al. (2017) also argue that funding challenges show that watershed managers are willing to do more and therefore need more money. Hence, lack of money does not necessarily mean that watershed authorities are not successful it means that they could do more if they had more financial capacity. This also aligns with statements made by many interview participants who said that they could have done more but it was not possible with the financial resources they were given. One interview participant said: “*Sometimes we have to get this plan done in six months and our funding runs out. That's just not conducive to building a positive relationship with a complex group like a local First Nation. It's just not there.*”

Limited timelines and uncertainty over funding forces watershed managers to proceed with projects that are more secure and produce deliverables in a timely manner. In turn, long-term planning projects are more difficult to accomplish especially when it comes to relationship building. Furthermore, relationship building with First Nations requires watershed managers to be creative and to think beyond their traditional planning processes.

5.2.2. A Need for Non-Conventional Watershed Planning

Watershed planning does not only include data on natural systems but also addresses complex socio-ecological issues. The document analysis of *Alberta's Guide to Watershed Management Planning* revealed that it does not explain how to build relationships with First Nations. The guide merely addresses that First Nations should be included but there is no helpful information on how to go about it. Interview participants mentioned that traditional watershed planning does not leave any room for meaningful relationship building practices. For example, one participant said: “*But you made this space, but we didn't necessarily establish the norm or the processes that would help Indigenous people feel meaningfully included or that their voices were valued at those tables.*”

The Watershed Planning Framework was published in 2015. The same year the Truth and Reconciliation Commission (TRC) published its findings and shed light on Canada's residential school system. It is reported that many Canadians were not fully aware of these practices and the impacts it has on Indigenous communities (EnviroNics 2016). It is fair to say that building relationships with First Nations is an aspect that has not been considered in the past and thus can be a reason why it does not appear in Alberta's *Water for Life* strategy or the *Framework for Watershed Planning*.

Bharadwaj (2020) reported on the needs and benefits of meaningful research collaborations with First Nations and how to do establish relationships in a respectful way. This First Nation centered research framework is built on key elements of discussion, consultation, engagement, co-learning, collaboration, and communication. Academia is aware of changing their practices when conducting research with Indigenous communities (Adams et al., 2014). However, my research shows that the Alberta government was not able to provide enough direction to the WPACs when it comes to relationship building. Interview participants mentioned that they did not receive proper training or any directions on how to include First Nation communities in the development of their IWMPs. Thus, WPACs who have completed their plans “... *went by traditional methods like trying to engage them as we were our other stakeholders, so whether that was by letters or phone calls or going to their council or band meetings to present about what we were doing and our desire to have their input, so that would have been similar to say us going to a municipality or a non-profit, that sort of thing.*”

Nevertheless, interview participants also noted that they have realized that trying to engage with First Nation communities requires them to step outside their usual planning practices and to implement different strategies for a relationship building process. Without any direction from the provincial governments WPACs have to come up with their own strategies to build relationships and this takes time and patience. Interview participants elaborated on what strategies have worked for them and they wish to do in the future. There is certainly momentum among watershed managers to shift from traditional watershed planning practices to a more inclusive approach which would include First Nation voice in a more meaningful way. For example, one effective way is to spend a day with a First Nation community. Or in the words of a participant: *“We were able to partner to do a little bit of an afternoon canoe trip as part of that, too. Getting involved in initiatives that they’re leading has been a really strong way to connect.”*

The academic literature has explored water governance issues in recent years and detected that policies and governance structures left out the voices of Indigenous people (Arsenault et al., 2018; Black & McBean, 2017b; Patrick, 2011; Patrick et al., 2019). This is reflected in the stages of watershed management planning. For instance, there is no stage that shows the need to build relationships with First Nations. The traditional watershed planning process begins with identifying key stakeholders and inviting them to participate in the development of a watershed management plan (Government of Prince Edward Island, n.d.; Young 2015). My research data showed that it is important to establish relationships with First Nations before the actual planning process is set to begin. Interview participants who completed their IWMPs mentioned that they wished to have built relationships prior to the development of their plans. A few WPACs had established relationships with a few communities in the past and said that those communities were more willing to play an active role in the planning process. First Nation communities without any connection to WPACs seemed to be more cautious about involvement.

There are numerous papers detailing challenges and barriers to watershed planning (Stewart & Bennett, 2017; Veale & Cook, 2017; Wang et al., 2016;) but to date there is no academic literature on creative ways to build relationships in watershed planning. Interview participants mentioned that work on the ground is an efficient way to build relationships with First Nations. Their

engagement strategies went beyond the development of an IWMP. Thus, Alberta's WPACs have the opportunity to set an example for other watershed planning organizations across Canada.

5.2.3. Engagement beyond IWMPs

Interview participants mentioned that they have greater success of engagement when it comes to projects and groundwork, such as education and school presentations. Watershed managers realized that First Nations want to see how WPACs can be of value to their communities and how their work can initiate positive changes for the community. This aligns with a study done by Bartlett et al. (2012). They argue that research should be done 'by' and 'with' rather than 'on' or 'in' Indigenous communities. Furthermore, they also state that the importance of Indigenous knowledge as a legitimate and valued way of knowing needs to be accepted amongst the Western science community. Thus, watershed managers have to be mindful when it comes to soliciting input for their IWMPs.

Building strong relationships that go beyond the development of watershed management plans will be crucial for an inclusive watershed planning approach. One interview participant mentioned that one way to connect with First Nation communities is through watershed education programming within and outside of schools. Outreach coordinators teach students about watersheds and different aspects of water. A different interview participant also mentioned that their relationship has been the strongest when getting in touch with individual people from various communities who are interested in water and watershed management topics. Once relationships are established communities might be more inclined to participate in watershed planning. Interview participants mentioned that building relationships first made it easier for future planning processes. As a result, IWMPs do not necessarily showcase relationships between WPACs and First Nation communities.

5.3. Importance of Collaborations

Collaborations and public engagement are crucial for watershed management planning. Studies done by various researchers all agree that without the input of local stakeholders, community groups, industries and governments a watershed management plan cannot be created (Megdal et al., 2017; Perkins, 2011; Reisert et al., 2015). Nevertheless, how does a watershed group know

which perspectives are missing in the absence of input from those perspectives? Cutts et al. (2018) argue that the absence of certain perspectives creates blind spots for watershed managers because the voices of underrepresented groups are missing. My research results showed that interview participants are aware that First Nation voices are missing in their IWMPs and that First Nations should be more involved in watershed planning. This is a crucial outcome because IWMPs created by WPACs act as a decision-making tool for the provincial government. Simms et al. (2016) highlight that water governance can only be effective and equitable when it includes affected populations, specifically First Nations, in shared decision-making processes by employing a more collaborative approach.

5.3.1. Meaningful Relationship Building

Public engagement in watershed planning is important, however it is also challenging. According to Perkins (2011) public participation can be limited when it comes to engaging with a wide range of people. This depends on who has the time and money to participate and is thus influenced by structural factors, such as date and time of the meeting or the coverage of travel costs. As a result, these limitations can lead to the exclusion of less dominant cultures. Interview participants mentioned that certain WPACs were very accommodating and, for example, paid for travel costs so that First Nations can attend meetings. Furthermore, an effort was made to visit communities to talk about the development of a watershed management plan.

Nevertheless, the general notion among interview participants was that it is challenging to build relationships with First Nations. One interview participant said: *“In my personal experience if you have no standing relationship with a First Nation community it is difficult to get “your foot in the door” to develop a relationship with the community.”* The academic literature acknowledges that First Nation engagement is important and that research practices need to change. Bharadwaj (2020) established a framework for building research partnerships with First Nation communities arguing that researchers should not apply a so-called “helicopter approach” when conducting research with First Nations. A meaningful relationship can only be built when researchers respect the values and knowledge held by First Nations. It is also important to give back to the community.

Similar viewpoints were mentioned during a panel discussion at the *Starting Good Relationships* workshop at the First Nations University in Regina. Katherine Finn, general manager of the North Saskatchewan River Basin Council, mentioned that through her many years of working with First Nations she learned that language is very important as well. She said we have to speak with them and not to them. In addition, it is important to know that we should not say “you people” or “our First Nations”. It is more respectful to say that “we share the watershed” and to acknowledge that First Nations are their own Nation and should not be lumped together with other stakeholders.

Reo et al. (2017) gathered information on factors that support indigenous involvement in multi-actor environmental stewardship. One important outcome of their study was that embracing Indigenous procedural norms and cultural protocols led to better Indigenous engagement. However, interview participants stated that applying cultural protocols, without appropriate training and guidance, was a challenge for them.

5.3.2. Cultural Protocols

Interview participants stated that they do not know what the right protocols are or were not even aware of any protocols when they started their planning processes. The first WPACs started their planning initiatives in the early 2000s when the importance and awareness of the inclusion of First Nations had not gained significant momentum. One interview participant mentioned that not knowing how to approach First Nations in the right way can lead to fear of doing something wrong which in turn can create some kind of paralysis. The fear of doing something wrong is greater than actually doing the job and learning from mistakes. This was also echoed by participants of the *Starting Good Relationships* workshop. Questions were asked about how to approach First Nations in a respectful way and that not knowing how to approach them leads to fear of being rejected.

Similar results were also found by Chief et al. (2016). They concluded that the success of engagement may depend on prior knowledge of context before approaching communities. Their results were based on the successes of five case studies in engaging with Native American Tribes of the southwestern USA by considering the four simple rules of tribal research: 1. ask about ethics; 2. do more listening; 3. follow tribal research protocols; and 4. give back to the community. Interview participants noted that cultural awareness is a significant challenge for most WPACs.

Without any help or training provided by the Alberta government, watershed managers are not well equipped to approach communities with the right knowledge and context. One interview participant specifically mentioned that if their organization had more money it could have been spent on providing cultural awareness training to their employees. Kirby et al. (2019) noted that data on cultural training approaches for researchers is limited and that there is a need to investigate this further. However, their study showed that cultural awareness training can significantly improve trust between Indigenous people and researchers. In addition, cultural awareness training can ease the challenge of establishing partnerships by putting an emphasis on Indigenous needs and values.

It should be mentioned that interview participants acknowledged that First Nations are willing to share their protocols and to explain how to properly engage with them. One question that was asked during the *Starting Good Relationships* workshop was if there is a general guideline on how to properly use cultural protocols when approaching First Nation communities. This was faced with opposition by First Nation presenters. Every community has different protocols and different traditions. Therefore, it would be very difficult to create a general document which would describe cultural protocols. Lorna Standingready, Elder and Water Keeper, said that it is always best to approach Chief in Council and Band Members with respect and sincere questions. She also said that it is okay to ask Band Members what their cultural protocols are and what the right way is to set up a meeting with them. Reo et al. (2017) reported that involving Indigenous practices, such as pipe ceremonies, is a way to show respect and to start a dialogue about the meaning and purpose of such practices in formal partnership meetings.

5.3.3. Capacity, Knowledge, Attitude

One important finding of my data collection was made during the *Starting Good Relationships* workshop in Regina. Richard Aisaican, Counselor for Cowessess First Nation, said that First Nation engagement is guided by three factors:

- (1) Capacity;
- (2) Knowledge; and
- (3) Attitude.

Capacity issues were discussed in section 5.1 and is one of the main barriers when it comes to successful inclusion of First Nations. Councilor Aisaican also referred to limited capacity as a main challenge for First Nations. Band members have many responsibilities within their community and have to deal with many different issues on a daily basis.

It is widely known that there is a widening gap in academic achievements between Indigenous and non-Indigenous learners (AFN, 2018). Therefore, talking in scientific terms or topic related jargon can be a barrier. Similar results were reported by Black & Bean (2017b). Their study found that lower levels of education prohibit First Nations from engagement around water and wastewater management.

Lastly, Councilor Aisaican stated that attitudes of individual community members can influence the establishment of partnerships. He said that due to the impacts of the difficult history between First Nations and the Government of Canada, community members might be angry and are stuck in their social discourse. Intergenerational trauma has led to many negative outcomes, such as drug abuse, depression, high suicide rates, and poor health conditions (Bombay et al., 2009). As a result, it can be difficult to persuade someone who is dealing with complex personal issues to work collaboratively on water related issues. Councilor Aisaican said that persistence is key and that watershed managers have to find different community members to talk to under those circumstances. One interview participant mentioned that their WPAC is trying to stay in contact with First Nation communities even though they do not always receive a response immediately. The same interview participant also said that they view this as a necessary step to keep their foot in the door for relationship building.

5.4. Governance

One main theme that emerged throughout the data collection process was the governance structure and how it can have implications for the inclusion of First Nations in watershed planning processes in Alberta. Past water management structures and confusion around roles and responsibilities of water resource management in governments created a complicated working environment for WPACs.

5.4.1. Roles and Responsibilities

According to Bakker and Cook (2011) Canada is faced with a complicated water governance structure. This resulted in confusion around responsibilities and accountabilities over water management approaches. This cannot only be found at the federal level but also at provincial and local water resource management levels. For instance, interview participants mentioned that First Nations are not always aware of the role of the WPACs and associate them with the Alberta government. In addition, Simms et al. (2016) argue that fragmentation results in confusion over which authority has responsibility over certain aspects. This can also be found within the work of WPACs. Interview participants said that they are sometimes asked questions about certain water-related issues, but they do not know how to direct people and whom to ask for clarification. This scenario becomes even more complicated when it comes to First Nations. There seems to always be confusion around certain issues and how to address them. Lack of clarity leaves WPACs without any direction on who to contact for more information.

First Nations do not want to be considered as stakeholders because they are their own government and want to discuss issues directly with the federal or provincial government. Interview participants mentioned First Nations rather discuss their water-related issues with the government and not with an advisory group. Some communities do not see the value in participating in watershed planning and in addition there is confusion around consultation processes. One participant said: *“... you want to include them, and they might be interested but there is not enough trust and awareness. This scenario was not created by the WPACs it stems from years of exclusion and Canada’s complicated history”*.

Another challenge posed by a utilizing watershed planning approach is that watershed boundaries do not necessarily cover social dimensions in an effective way (Cohen & Davidson 2011; deLøe & Patterson, 2017). This is an outcome which conforms with the findings of this study. Interview participants mentioned that some First Nation communities do not have reserve lands within a specific watershed, but their traditional lands might be part of more than one watershed. This raises the question of who should be engaged in watershed planning and what is the proper way to meaningfully include communities? In addition, there are three Treaty areas (Treaty 6, 7, and 8) in the province of Alberta. My systematic review of government documents revealed that there is

no proper acknowledgement of First Nations and consequently no clear direction on what Treaty areas constitute for WPACs and the inclusion of Treaty members. One interview participant said “*Certainly, many people you’d ask them that question “Are there many First Nations communities?”, they would look at the actual reserve footprint and say no, but in our case I would say our watershed is located on Treaty 6 and Treaty 7 territory and that we have to act accordingly.*” Nevertheless, as previously described (5.1) WPACs and First Nations might not have the necessary resources and capacities to meaningfully build relationships.

Lastly, according to Shrubsole et al. (2017) uncertain legal implications hinder First Nation participation and can make it difficult to engage with them. Interview participants mentioned similar issues. In particular, a letter issued by an Assistant Deputy Minister in the provincial government in 2010. It implicated that First Nation participation at WPAC tables could be regarded as consultation and thus had a direct negative effect on the level of participation WPACs received from First Nations. A lot of communities were hesitant to engage further with WPACs simply because the issued letter can be interpreted in many different ways.

5.4.2. Colonialist Watershed Management Structures

According to McGregor (2018) “racism and colonialism are firmly embedded structurally, systemically and institutionally in Canada.” (p. 821). This can also be found in the model of Alberta’s WPACs and *Water for Life* strategy. Interview participants mentioned that, for example, board seat structures are not inclusive enough for First Nation participation. Many WPACs have only one board seat for First Nations. This has been faced with criticism by First Nations because one member can simply not represent all communities. Every Nation has its own unique characteristics and should therefore have their own seat at the board table. This outcome aligns with findings by Collins et al. (2017) who analyzed source water protection planning for First Nation communities in Ontario. First Nations who decided to participate in regional source water protection committees were faced with the fact that these committees did not allocate enough seats equal to the number of different First Nation communities. However, some interview participants stated that they recognized the problem and since have made bylaw changes in order to accommodate all First Nation communities within their watershed. Furthermore, board meetings are not necessarily how First Nations approach discussions. Their agendas are more based around

ceremonies and taking the time to talk about their values and issues. One interview participant said that “... *they don't want to come to the white man's circle which we go to a boardroom with tables and chairs, right? It's just not their thing.*” Thus, these traditional board meeting structures can be counterproductive to engage with First Nations.

According to Perkins (2011) race barriers are still a prominent issue in watershed management. Marginalized groups might participate in planning processes, but this does not mean that their voices are actively heard. Thus, stigma and racism can be a barrier for meaningful inclusion. This has been echoed by interview participants as well. Working in a multi-stakeholder setting can be challenging because it only takes one negative comment to create an uncomfortable and hostile atmosphere. Another participant said that it is time that we rethink how we address First Nations. Insensitive language can be a barrier to meaningful inclusion. The example of the term reserve was used by the participant who said: “*It's not really that difficult because if you think of it as nations – because they are, they're individual nations that have a nation-to-nation relationship with the federal government. So if you think of them as nations rather than reserves because just the connotation of those words is huge.*”

5.4.3. Governmental Silos

Collaborations with First Nations remain difficult because water governance systems are still designed without a lot of emphasis on the inclusion of First Nations. The *Indian Act* (1876) was designed to assimilate Indigenous people to Western culture. There has never been a need to include their practices and protocols into typical Western approaches and procedures (Baijius & Patrick, 2019a). In addition, responsibility to provide safe drinking water to First Nation communities is shared by a complex tri-departmental federal structure of Indigenous Services Canada (ISC), Health Canada, and Environment Canada. Simms et al. (2016) argue that their regulations and policies are not considered on a case by case basis. They are nation-wide regulations which leave little room for community or even province specific cases. Furthermore, their study found that colonial water governance structures dismiss Indigenous worldviews and there is no space for Indigenous' diverse spiritual and cultural relationships.

Federal departments, provincial governments and First Nations mostly work in isolation rather than in cooperation. Thus, there are no clear directions, guidance, and meaningful considerations from the top. Water-related policies and regulations do not adequately address Indigenous values and concerns resulting in challenges for local watershed authorities when it comes to their meaningful inclusion. This is echoed in the document review of this research. None of the government documents showed any meaningful space for First Nation voices. Certainly, the *Framework for Watershed Planning in Alberta* gives some direction on how to include First Nations in the development of watershed management plans, but it does not mention anything about their perspectives and values.

5.5. Summary

In order to achieve a more inclusive watershed planning approach, current practices need to be rethought. Science and data are very important and necessary and to have certain frameworks and administrative tasks in place. However, spiritual aspects and traditional knowledge have to be included in these frameworks as well. Relationships with First Nations have to be built in a different way. Simple cold calls or generic emails from government and watershed groups to First Nations will not generate meaningful engagement from First Nation communities.

It will be important to acknowledge what is working well and what requires improvements. WPACs showed that they are continuously learning and are trying to adjust their operations when it comes to relationship building. Or in the words of one interview participant: *“I think recognizing that our process is different than their process. I think that’s one of the things we as settlers have to recognize is that they operate on a different mandate than we do and from a different perspective. And if we are patient and more accepting, we’ll have better inclusion.”*. My research data showed that now is the time to rethink current practices and to use the momentum to make change. WPACs are motivated to improve their relationship building practices, but without the support of the Alberta government this will remain a future challenge. Limited funding and training will require watershed planners to learn on the job. The *Water for Life* strategy was praised before for its innovative approach to water management and adding a more inclusive approach will truly bring innovation at this time of reconciliation in Canada.

It should also be considered that there is no one size fits all approach to watershed planning engagement with First Nations. Interview participants mentioned that every community is different and that one strategy that worked well in one community might not be applicable in a different community. Thus, the willingness to adapt to different scenarios will be an important skill moving forward.

6. CONCLUSION

The purpose of this research was to identify factors facilitating and constraining First Nation inclusion in watershed planning in Alberta. According to the the Alberta Water Council's latest *Implementation Progress: 2012-2015 Report* "The participation of Indigenous Peoples and incorporation of traditional knowledge and practices in water management planning activities also remains a gap." (p. 4). Furthermore, momentum has been gained among many different sectors when it comes to collaborating with First Nations in a more meaningful way. For this study it was particularly important to study how provincial governments engage with First Nations and how this may lead to more collaborative planning at the watershed scale.

Through a systematic document review and telephone interviews I was able to present a framework for barriers to First Nation inclusion in watershed planning processes in Alberta. This chapter presents a reflection on my findings and the research significance of this study. This is followed by a list of recommendations for the provincial government of Alberta, WPACs and other local watershed planning organization in Canada. This chapter ends with a description of the research limitations from this study as well as suggestions for future research in the area of First Nation inclusion in watershed planning and management in Canada

6.1. Summary of Findings

My studies concluded that there are factors that facilitate the inclusion of First Nations in watershed planning. It became clear that watershed managers found it easier to include First Nation communities in watershed planning processes when previous relationships already existed.

Furthermore, it became evident that talking to individuals in the community who are interested in water related issues can also be very helpful. Interview participants said that they have more success in building relationships with community members rather than Chief in Council. As a result, these individuals could eventually introduce watershed managers to Chief in Council and facilitate relationship building on a more official basis.

Nevertheless, the main findings from this research identified five significant barriers to the inclusion of First Nations in watershed planning in Alberta:

- 1) Cultural connection;
- 2) Physical parameters;
- 3) Governance;
- 4) Human capacity; and
- 5) Financial limitations

This research indicates opportunity to include greater participation from First Nations in the development of watershed plans in Alberta. Recommendations are provided from this research on how to fulfil this opportunity and thus create a more inclusive space for First Nation voices in Alberta's watershed planning process.

6.1.1. Cultural Connection

Improved cultural awareness on the part of the WPACs and Alberta's *Water for Life* strategy regarding First Nation traditions and ceremonies should be acted upon to promote greater inclusivity. Many WPACs are aware that relationship building takes time and that First Nation protocols regarding relationship building, trust and reciprocity have not been a priority in the daily watershed planning operations of the WPACs. In addition, every WPAC and every First Nation community is unique and thus a generalized, template approach to relationship building cannot necessarily be developed. At the same time, WPACs are extremely busy organizations, operating on limited and uncertain funding arrangements while carrying a huge responsibility for responsible watershed management.

Existing colonial water governance structures have to be reviewed and revised in order to make space for First Nation voices. Alberta's *Water for Life* strategy paved the way for a collaborative approach in water resource management. However, this research has illustrated that there is a lack of space for the inclusion of First Nation voices. Thus, WPACs should begin the process of relationship building with their watershed First Nations in a respectful and open way.

6.1.2. Physical Parameters

This study has shown that building partnerships with First Nation communities is also impacted by physical parameters. Several interview participants mentioned that there is no ‘one size fits all’ approach. Watershed managers recognize that First Nations are diverse and that different strategies have to be applied for different communities.

In addition, the location and size of a WPAC is also important to consider when it comes to relationships building. WPACs who cover a larger area tend to find it more difficult to include all First Nation communities due to their widespread locations. Furthermore, WPACs who are located further away from bigger urban centres do not necessarily enjoy the benefits of partnering or receiving input from universities on First Nation projects.

6.1.3. Governance

Outdated water governance structures are influencing the work of WPACs in Alberta. According to many interview participants it is still not clear enough to many First Nations and Alberta residents what role WPACs play. Many associate them with the provincial government which can have a negative impact when it comes to building relationships with First Nations. The longstanding difficult history between the government and First Nations results in hesitation to collaborate with WPACs because of the notion that they are a government organization. This sentiment has also been strengthened by a letter from an Assistant Deputy Minister which implied that any work done by First Nations and WPACs can be seen as a first step to trigger a formal consultation process.

Furthermore, this research has shown that the *Water for Life* strategy and the structure of WPACs are, in part, a reason for the challenging process to include First Nations in watershed planning. First, Alberta’s water management framework does not give enough guidance on relationship building with First Nations leaving WPACs to come up with their own strategies.

Second, WPACs started out with only one board seat for all First Nation communities within their watershed. This has been criticized by some communities because it is not possible to represent

every First Nation community with just one seat at the table. Since then, some WPACs made by-law changes in order to provide a board seat for each First Nation community residing within their watershed.

6.1.4. Human Capacity

Due to limited human capacity on both sides, WPACs and First Nations, relationship building can be challenging. Limited staff and limited time to get involved in watershed planning appeared to be the main issue. The work of WPACs can be very complex and time consuming. Watershed managers have to be able to coordinate, plan, and execute a variety of different projects with limited staff. This is further complicated when it comes to relationship building with First Nations because it requires time and patience.

My study has shown that First Nations are also struggling with limited staff and too many responsibilities. Thus, communities have to set priorities on the type of projects they are going to engage in. First Nation communities deal with many different issues and participating in an advisory only role may be seen as tokenism. There are many historical issues where First Nations have been excluded on watershed management decisions in Alberta. Merely participating in a watershed planning process as another stakeholder may not be appropriate at this time.

6.1.5. Financial Limitations

Financial limitations further complicate meaningful relationship building. WPACs core funding is mostly used to cover operational costs. Watershed managers need to actively set money aside for the purpose of building partnerships with First Nations. My research suggests that it is best to travel to First Nation communities instead of just cold calling. However, certain WPACs are larger in size and have a higher number of communities within their watershed boundaries.

In addition, it can be time consuming for watershed managers to look for project funds and grants every year. Combined with uncertainty over differing funding amounts each year make it difficult for WPACs to develop, plan, and execute meaningful relationship building processes.

6.2. Research Significance

Knowledge gained from this research will contribute to the academic literature in several ways. First, the results of this research add more knowledge to the watershed planning literature in terms of re-evaluating current planning approaches which are often too bureaucratic and leave little flexibility for incorporating cultural knowledge.

The outcomes of this research can expand the realm of watershed management from a practical approach to a conventional one which synthesises technical knowledge and traditional knowledge. In turn, a more comprehensive watershed management plan can be developed which showcases the diverse knowledge systems that lie within a watershed. In addition, this research can serve as a discussion baseline between watershed planners, the Alberta government, and First Nations on how to improve relationship building processes.

The *Water for Life* strategy may have been innovative when it was implemented in 2003, but it has become clear that including First Nation voices in planning activities is not only necessary but also beneficial for strong, sustainable, and resilient watershed management plans. An honest commitment to this will require government leadership, senior management direction and financial resources from the provincial government to the WPACs.

6.3. Recommendations

The purpose of this research was to identify factors facilitating and constraining First Nation inclusion in watershed planning in Alberta. This research has resulted in the following recommendations which will be shared with the research participants, government and in future conferences and academic journal publications.

6.3.1. Revision of the *Water for Life* framework

It is recommended that the *Water for Life* strategy be reviewed with an eye to greater participation from First Nations. This can be done in a number of different ways. For instance, dedicate a whole section in the *Water for Life* strategy to the diversity of First Nation communities in Alberta. This would be an opportunity to describe the ways in which First Nations value water as a living entity.

First Nations would need to be consulted to assess the degree to which they want to share Indigenous knowledge. This will in turn educate the general public and create a more comprehensive strategy that strives to combine science with traditional ecological knowledge. A review of the *Water for Life* strategy must include the opinions of First Nations and this could be done through a Water Roundtable from Treaty areas 6,7,8. Thus, this review must be created with First Nations and not just for First Nations.

The *Water for Life Action Plan* should be extended to include not only safe and secure access to drinking water for Aboriginal communities but also to incorporate Indigenous knowledge in planning practices as well as collaborations whenever possible. Again, the *Water for Life Action Plan* needs the input of First Nation voices.

There is opportunity to revise the *Guide to Watershed Management Planning in Alberta* to be a guidance document for WPACs when it comes to collaboration and partnership with First Nation communities. As of right now there is no guidance for Alberta's watershed managers. Therefore, a few key items and basic instructions might already be enough for future planning processes. Considering and documenting certain aspects can also be beneficial when it comes to staff turnover.

An amended *Guide to Watershed Management in Alberta* that incorporates a guidance document can ensure that important information and steps are kept up to date and therefore no time will be lost to catch up on items that have already been accomplished. This could include, and is not limited to, the following items:

Ten Relationship Building Key Items for WPAC Consideration

1. Has there been any contact with First Nation communities?
2. Did you visit any communities?
3. Did you spend time in the community to learn more about their culture?
4. Chief in Council, Name, when are elections, has there been any contact since elections?
5. Did you inquire information about their cultural protocols?

6. Did you contact any schools for educational presentations on water and watersheds?
7. Which community was involved in the development of your IWMP? which community is currently involved in the development?
8. Did you /are you planning to contact First Nation communities to discuss possible water-related projects that can be done in partnership?
9. Do you know what kind of funding opportunities are available to partner with First Nation communities?
10. Do not forget that First Nation engagement is guided by capacity, knowledge and attitude!

These key items can be used as a general guideline and can be extended where possible. Every watershed organization and every First Nation community is unique and deals with different issues and concerns. However, starting good relationships should not be guided by fear but with the willingness to learn and share.

6.3.2. An Inclusive Approach to Watershed Planning

The meaningful inclusion of First Nation voices in watershed planning processes will be a necessary step in order to overcome the obstacles that were created in the past. Partnerships between First Nation communities and local watershed organizations can have numerous benefits. First of all, collaborations will enable First Nations and WPACs to learn from each other. First Nation values and traditions do not always receive a lot of attention, but by combining their knowledge with watershed planning strategies a more inclusive space can be created.

Furthermore, it is time to rethink watershed planning practices and to be open to a more unconventional approach that goes beyond the daily watershed management operations. For instance, going out to communities and spend some time with community members and rethinking how meetings are held when First Nations are present (e.g. pipe ceremonies). It is also important to build relationships prior to the development of an IWMP.

First Nations value water as more than just a resource. Watershed managers can use this view to add a more social as well as spiritual dimension to their IWMPs. Thus, stronger relationships can be beneficial for a more resilient IWMP that incorporates diverse, Western science and Indigenous

knowledge, strategies. Watershed planning in Alberta and beyond can be one of many ways to give a voice to the voiceless.

IWMPs are only one way of engaging with First Nation communities and do not necessarily highlight how involved each community is watershed planning processes. However, whenever possible IWMPs should acknowledge Indigenous knowledge and could dedicate a few sections specifically to their traditions and practices. This again, can educate local citizens on the communities who reside within a watershed.

WPACs have to be sincere, patient and persistent when it comes to meaningful relationship building. Traditional methods, such as cold calling to set up a meeting, will not be enough to initiate collaborations with First Nation communities. Moreover, meeting practices have to change when First Nations are present. Thus, more cultural awareness is needed in order to create an inclusive atmosphere for First Nations.

6.3.3. Clear Direction about the Roles and Responsibilities of WPACs

First Nations have been systematically excluded for many years, but they are an integral part of Canada and have to be included in planning processes. Furthermore, current watershed planning procedures are not reflective enough of First Nation values and traditions. Therefore, it will be imperative that the letter written by a Deputy Minister in 2010 is revoked. Many interview participants mentioned that this had a significant impact on their progress with First Nation communities. In addition, it should be made clear that WPACs are not a government organization and have no affiliation with any government.

6.4. Limitations and Future Research

This research is affected by several limitations or constraints. First of all, this project is limited to Alberta's watershed management plans. Other provinces, such as British Columbia, might face different challenges or might be more advanced in their planning processes. Each province is run by a different government and thus different legislations regarding water resource management impact their way of governing.

First Nation communities in Canada are of great variety ranging from different traditions and teachings to different Band leadership styles. Level of trust towards government bodies also greatly varies among communities which can have an impact on their level of participation in watershed planning processes.

Furthermore, my research only takes into consideration the opinion and views of Alberta's watershed authorities. First Nations might have a different view on watershed planning and might perceive their involvement in the plan-making process differently. Consequently, I recommend that future research has to investigate how First Nations would like to be included in watershed planning and what limitations they face to successfully participate in the planning process. This will give a more nuanced perspective and will help to establish watershed plans that are portraying Western views and Indigenous ways of knowing in one document.

Lastly, there is limited data on cultural awareness training and on its success for relationship building through the involvement in local initiatives. Therefore, future research could identify how cultural awareness training can be beneficial for watershed planners and other water resource management organizations.

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APPENDIX A



Supervisor: Robert Patrick, Department of Geography and Planning

Student: Juliane Schultz, Department of Geography and Planning

Date: May 3, 2019

Re: Request for Research Ethics Exemption

Thank you for submitting the application for the Master of Arts thesis project for Juliane Schultz which seeks to “assess the degree to which the Alberta Water for Life (W4L) watershed plans have, or have not, included First Nation communities in the planning process, policies and implementation stages of plan development.” The application meets the requirements for exemption status as per **Article 2.1 of the Tri-Council Policy Statement (TCPS): Ethical Conduct for Research Involving Humans, December 2014**, which states “*research may involve interaction with individuals who are not themselves the focus of the research in order to obtain information. For example, one may collect information from authorized personnel to release information or data in the ordinary course of their employment about organizations, policies, procedures, professional practices or statistical reports. Such individuals are **not considered participants** for the purposes of this Policy. This is distinct from situations where individuals are considered participants because they are themselves the focus of the research.*”

It should be noted that though your project is exempt of ethics review, your project should be conducted in an ethical manner (i.e. in accordance with the information that you submitted). It should also be noted that any deviation from the original methodology and/or research question should be brought to the attention of the Behavioural Research Ethics Board for further review.

Digitally Approved by Vivian
Ramsden, Vice-Chair Behavioural
Research Ethics Board
University of Saskatchewan

APPENDIX B

Hello, my name is Juli, I am a Masters Student in the Dept. of Geography and Planning at the University of Saskatchewan. My advisor is Dr. Bob Patrick. My research focuses on First Nation inclusion in the planning processes.

(State the required ethics information to each interviewee) E.g. Length of interview; they may ask to stop at any time; the information from all my interviews will form part of my final thesis; there will be anonymity applied to interview information; information from individuals will not be shared; interview information will be stored in a locked cabinet and password protected on a hard drive. Interview information will be shared with interviewees to ensure accuracy soon after interviews.

Introduction Questions:

1. Tell me a little bit about your role for the watershed alliance and for how long you have been involved with them.

Main Questions:

2. Are there many First Nation communities within your watershed?
3. Generally speaking, how would you describe the working relationship between your organization and First Nation communities in your watershed?
4. Did your organization engage with First Nations in the development of your IWMP?
5. How did your organization engage with First Nations in the development of your IWMP?
6. Were there any challenges involving First Nations in development of your IWMP?
7. Which group was most involved in the development of your IWMP? Industry; community groups; farmers; local government; provincial government; First Nations; other??
8. Which group was least involved in the development of your IWMP? Industry; community groups; farmers; local government; provincial government; First Nations; other??

9. Were you able to exchange experiences with other WPACs about inclusion of First Nations?
10. What might be some of the barriers to WPACs and other watershed organizations when it comes to inclusion of First Nations in watershed planning?
11. On a scale of 1 to 5 (with 1= Strongly Disagree; 2=Disagree; 3= Neutral; 4= Agree; and 5 = Strongly Agree): Your organization adequately engaged First Nations in your IWMP planning process?
12. On a scale of 1 to 5 (with 1= Strongly Disagree; 2=Disagree; 3= Neutral; 4= Agree; and 5 = Strongly Agree): Your IWMP adequately contains First Nations water issues and concerns in the watershed?
13. On a scale of 1 to 5 (with 1= Strongly Disagree; 2=Disagree; 3= Neutral; 4= Agree; and 5 = Strongly Agree): First Nations should be more involved in the development of IWMPs in Alberta?
14. On a scale of 1 to 5 (with 1= Strongly Disagree; 2=Disagree; 3= Neutral; 4= Agree; and 5 = Strongly Agree): Your organization maintains good communication and shares a healthy relationship with First Nations in your watershed.
15. On a scale of 1 to 5 (with 1 = Strongly Disagree; 2=Disagree; 3= Neutral; 4= Agree; and 5 = Strongly Agree): Information and data access related to First Nation water issues were easily attained by your watershed organization.
16. On a scale of 1 to 5 (with 1 = Strongly Disagree; 2=Disagree; 3= Neutral; 4= Agree; and 5 = Strongly Agree): Watershed planning by WPACs in Alberta, and other watershed groups across Canada, can be a tool for the reconciliation process in Canada.

Exit Questions:

17. If you were starting over with your IWMP would you do anything differently regarding First Nation inclusion? Describe.
18. What recommendations would you give the Government of Alberta for their next action plan? Should the *Water for Life* strategy be renewed?
19. And finally, is there anything else you would like to discuss that we haven't talked about? Any final thoughts?