

WAITING ON THE LAW TO CHANGE?
A CRITICAL GEOGRAPHIC ANALYSIS OF WATER LAW REFORM
IN BRITISH COLUMBIA

by

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Abstract

The overuse and pollution of freshwaters due to under-regulation is a growing concern worldwide, prompting reform of existing water laws and governance institutions. Reforms seek to provide for ecosystem and community needs, empower governance agencies, address environmental injustices, and ensure the sustainable use of freshwater resources in contexts of increased hydrological uncertainty. However, the failure of previous reforms has generated scepticism over the efficacy of law as a mechanism to drive necessary changes in freshwater governance. This dissertation employs a critical geographic lens to examine the potential for water law reform to advance the equitable and sustainable governance of freshwater in British Columbia, Canada. Specifically, it traces how the transformative potential of BC's new Water Sustainability Act (WSA) is configured through processes of legislation development, its settler colonial history, and implementation pathways.

Chapter Two examines how participatory legislation development processes influenced the scope and content of the WSA. Comparison of submissions and legislative outcomes highlights that while consultation processes are intended to promote democratic law reform, they can also serve to fortify elite influence. Chapter Three explores the outcomes of settler colonial water law for BC First Nations, using historical and current water rights data. Past laws and licensing processes are revealed to have contributed to significant water insecurity for First Nations, underscoring the injustice enacted through exclusion of Indigenous water rights from legal reforms. Chapter Four appraises the WSA's structure and proposed implementation, identifying key sources of uncertainty in reform outcomes. Interviews indicate that while BC's flexible, enabling approach creates opportunities to address place-specific issues, outcomes remain dependent on political will and governance resourcing. Together, the chapters demonstrate that while 'modern' law can improve the tools available for water management, transformative change requires a more fundamental overhaul of existing systems of water rights and law.

Lay Summary

Freshwater around the world is subject to growing threats from overuse, pollution, and climate change. Many governments are responding by developing new laws and decision-making arrangements. However, the failure of previous reforms has fostered scepticism over whether new laws can bring about the sustainable, equitable management of freshwater. This dissertation critically examines the history, processes, and outcomes of water law reform in British Columbia, Canada. Analysis of the development and implementation of the province's new Water Sustainability Act 2014 highlights the importance of transparent policy-making processes, Indigenous water rights, strong environmental directives, and governance resourcing for successful water law reforms. While the new Act enables novel management approaches, it does not require their use, leaving water management dependent on political will. The existing distribution of water use rights is identified as a barrier to transformational change, limiting the ability of new laws to provide for improved freshwater management and protection.

Preface

This dissertation is my original, independent work. I identified the research problem, designed the research program, gathered and analysed the data (with some assistance, as specified below), and wrote the chapters. My advisory committee (Professors Leila Harris, Jessica Dempsey, and Doug Harris) provided valuable feedback on my research program design, initial results, and draft chapters.

Chapter Two is adapted from a research article published in the journal *Critical Policy Studies*. A fellow doctoral student, Ashlee Jollymore, and I contributed equally to designing the analytical approach and methods used for this study, gathering the submissions and other policy documents to be analysed, and conducting the data analysis. An undergraduate research assistant, Iesha Yuan, assisted us with data collection and preliminary analysis. Dr Jollymore and I contributed equally to writing the article, assisted by Dr Leila Harris, who provided feedback on our initial results and article drafts. I have adapted the article for inclusion in this dissertation by altering the introduction and conclusion to speak to the larger questions raised by the dissertation, and by integrating insights from my interviews to supplement the results presented in the article. The citation for the article is:

Jollymore, A. McFarlane, K. & Harris, L.M. 2018 Whose input counts? Evaluating the process and outcomes of public consultation through the BC Water Act Modernization, *Critical Policy Studies*, 12:4, 381-405, DOI: 10.1080/19460171.2017.1282377

For Chapter Three, I designed the methodology; collected most of the licensing data; conducted interviews; piloted, oversaw, and reviewed the coding of historical summaries; conducted the analyses; and wrote the chapter. Two undergraduate research assistants helped with data collection: Ariane Oro, who applied my coding framework to ~100 historical summaries, and Margot Kimmel, who helped me search for licence priority data.

For Chapter Four, I designed the methodology, collected and analysed the data, and wrote the chapter.

Ethics approval was obtained from the UBC Behavioural Research Ethics Board in June 2014 and has been renewed each year and amended as necessary (certificate number H14-00845, project title 'Improving local water governance capacity for small and First Nations communities in British Columbia').

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List of Abbreviations

BC	British Columbia
BCAFN	British Columbia Assembly of First Nations
CVRD	Cowichan Valley Regional District
CWB	Cowichan Watershed Board
DIA	Department of Indian Affairs
FITFIR	First In Time, First In Right
IRC	Indian Reserve Commission
MFLNRORD	Ministry of Forests, Lands, Natural Resource Operations & Rural Development
NGO	Non-Governmental Organisation
SES	Social-Ecological System
WAM	Water Act Modernisation
WSA	Water Sustainability Act

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For Shirley

Chapter 1. Introduction

1 Prologue

In July 2014 the Cowichan Valley Region, British Columbia (BC), was entering its third month of a five-month long summer drought that would once again see salmon trucked up the Cowichan River, where water levels were too low to allow them to migrate to their spawning grounds. Local news reported that the Cowichan River “is experiencing its worst drought ever”¹. On July 7th, the region’s government (the Cowichan Valley Regional District, CVRD) convened its second workshop to examine ground and surface water management and governance challenges in the region. Speaking to representatives of local, regional, provincial, and First Nation governments, as well as industry, community groups, and academia, a CVRD director opened the workshop by stating that he did not know who to call if the reservoirs dried up that year. He explained that despite the development of a water management plan and formation of a local water board, there was still significant uncertainty over who had the regulatory power and emergency funding to assist the region if it reached the increasingly likely scenario of zero lake storage.

Just over a month earlier, on May 29th 2014, BC’s new Water Sustainability Act (WSA) had received royal assent, following more than five years of policy development and extensive public engagement. This new act promised to revitalise water management and governance in the province by integrating ground and surface water governance, securing water for ecosystems, and enabling the devolution of governance and planning to communities. There was a lot of excitement at the CVRD workshop about the potential that the WSA held to address long-standing water management and governance in the region. In addition to seasonal water shortages, the region had struggled for years to provide safe drinking water to all communities², manage land use impacts on water resources, and secure regional governance capacity. As one

¹ <https://globalnews.ca/news/1493390/salmon-dying-due-to-severe-drought-of-vancouver-island-river/> Environment Canada’s hydrometric station at the Cowichan River near Duncan reported the second lowest minimum daily discharge on record in August 2014 (2.55 cumecs). However, the 2014 drought now competes with the summers of 2015 and 2016 for the title of ‘worst drought’ – see <https://www.cbc.ca/natureofthings/features/on-vancouver-island-summer-droughts-are-the-new-normal>

² For example, a Cowichan Tribes reserve had been subject to a drinking water advisory since June 2011

CVRD staffer said at the meeting, without community and provincial support for regional governance functions, watershed health remained a voluntary or (at best) ‘side of the desk’ activity. While Cowichan was lauded across the province for its co-governance relationship between Indigenous and regional governments, it was noted that neither partner had the authority to implement its water management plan. Workshop attendees hoped the WSA would reform the centralised yet fragmented nature of water governance in BC³, creating opportunities for local leaders to take charge on locally important issues. There was wide support for a CVRD proposal to recommend Cowichan as a ‘pilot’ of devolved water governance under the WSA, enabling it to take on new governance powers and responsibilities.

As a participant observer, I left the two-day workshop with high expectations for the Cowichan region. The workshop had showcased the passion, capability, and innovation of local water leadership, as well as a surprising sense of common purpose among local government, Indigenous, business, environmental, and community interests. Further, the WSA seemed ripe with potential, offering a myriad of tools to tackle growing water issues in Cowichan and across the province. A time of opportunity and change had at long last arrived, and the Cowichan for one was going to make the most of it.

2 Introduction

Experiences of more frequent and severe droughts, declining water quality, and inadequate governance capacity are by no means unique to the Cowichan region. Changes in the availability and quality of freshwater resources have contributed to recurrent crises across the globe, becoming one of the defining features of the Anthropocene (Vorosmarty et al., 2010; Reid et al., 2019). In 2018 alone there were record-breaking floods in Kerala (India) and Europe, droughts in Australia and South Africa, wildfires in California, and protests in Iran and Iraq over the lack of clean drinking water. Such crises are partly attributable to changing precipitation and temperature patterns associated with climate change, but also to the over-

³ The provincial government has primary authority for water governance in BC. However its governance functions are divided between a handful of ministries and other agencies (e.g. the BC Oil and Gas Commission), which operate under a wide range of legislation (e.g. the Forest and Range Practices Act, 2004)

allocation of freshwater resources and pollution of waterbodies linked to under-regulated development and mismanagement of public infrastructure (Gleick, 2000; Grafton et al., 2013; Srinivasan et al., 2012). Experiences and impacts of such freshwater issues are unevenly distributed, with Indigenous, subsistence, and socio-economically marginalised communities bearing the greatest costs of poor freshwater management (Srinivasan et al., 2012; Sultana, 2018). In this context, the ability of existing policy regimes to sustainably and equitably allocate water resources, control sources of pollution, and protect freshwater ecosystems and water users has come under increasing scrutiny (Moore et al., 2014). In Canada, for example, research has highlighted the fragmentation of authority, regulatory gaps, capacity limitations, and inadequate monitoring and enforcement as key contributors to drinking water insecurity (Basdeo & Bharadwaj, 2013; Dunn et al., 2014; de Loë, 2017). Similar findings worldwide led the UN to state in 2003 that the “water crisis is essentially a crisis of governance” – a statement that remains pertinent today (Burchi, 2019).

Many governments are consequently undertaking significant legal and institutional reforms, focused on replacing outdated water legislation, developing rules capable of addressing new and emerging issues, and creating new governance models (see Burchi, 2012; Hendry, 2015; Burchi, 2019). Reforms vary from transnational watershed governance requirements (such as the EU Water Framework Directive), to national-scale laws enshrining a human right to water (as in South Africa), to state-based governance of specific water resources (e.g. California’s Sustainable Groundwater Management Act, 2014), to protections for specific waterbodies (as in the personhood rights granted to New Zealand’s Whanganui River). Despite the paradigmatic shift from ‘government’ to ‘governance’ in the 1990s (Franks & Cleaver, 2007), environmental activism and action continues to focus on the reform of laws, regulations, and policies. This emphasis on legal reform is partly due to recognition of the limitations of existing environmental legislation, which in industrialised countries has tended to embed ideologies of resource extraction and control over nature, with attendant assumptions of ecological stationarity and predictability (Ruhl, 1997). As highlighted by recent work on adaptive management, such legislation poses barriers to efforts to manage human activities in line with changing ecosystem dynamics (Benson & Stone, 2013). Attempts at deregulation and market-

based environmental governance have also largely failed to deliver desired social and ecological outcomes (McCarthy & Prudham, 2004; Prudham, 2004; Castree, 2008a; Bakker, 2010; Dempsey, 2016), in some cases with tragic results⁴. Further, new rules and guidance are needed to address new issues and opportunities (such as hydraulic fracturing, sea level rise) in a changing world (Ohdedar, 2017). Consequently, there is continued worldwide emphasis on the development of new or revised laws for water allocation, efficiency, human rights to water, water for the environment, integrated land-water management, Indigenous rights, and access to justice (Burchi, 2012; Burchi, 2019). Often these law and policy reforms are undertaken in conjunction with wider changes in water governance institutions, processes, and resourcing (Gopalakrishnan et al., 2005; Chaffin et al., 2016; Holley & Sinclair, 2018).

However, many law and governance reforms to date have failed to achieve desired improvements in freshwater access, quality, and ecosystem health, contributing to scepticism towards prospects for transformational change. In some instances, scholars have identified failures to implement, enforce, or adequately resource new laws and regulations, such as in Cohen and Bakker's (2010) analysis of non-compliance with groundwater regulations in western North America, or the widely reported 'maladministration and mismanagement' in implementing Australia's Murray Darling Basin Plan (Grafton et al., 2019). In others, the design of new legislative regimes or governance institutions has limited their ability to deliver expected improvements, as in the excessive discretion afforded to member states under the EU Water Framework Directive (Benson et al., 2012; Green et al., 2013). Yet other reforms have overlooked forms of socio-environmental difference, resulting in unanticipated or underappreciated consequences for water equity and justice (Lukasiewicz et al., 2013; Ravnborg, 2016). For example, Rodina's (2016) work reveals that South Africa's Free Basic Water policy has not overcome ongoing inequality in water access among South Africa's poorest communities due to uneven infrastructure provision and housing informality.

⁴ For example, in Waterton, Ontario, where seven people died and 2300 fell ill May 2000 after the town's water supply was contaminated by coliform bacteria, following neoliberal governance reforms (Prudham, 2004). More recently in Flint, Michigan, local democracy was supplanted by state austerity measures, resulting in changes to the water supply (for costs savings) and consequently the lead poisoning of an entire city's water supply (Pulido, 2016)

Similarly, Doyle et al.'s (2015) study of stream restoration under the Clean Water Act found that a regulatory preference for stable streams resulted in 'peculiarly homogenous' channel design, at the expense of more dynamic and variable stream morphologies.

Research to date highlights that the underperformance and unanticipated outcomes of law reforms are not simply reducible to the content of legislation or its implementation. Instead, law reforms and their limitations must be understood as part of an unfolding change process within a specific social, political-economic, and environmental context, populated by actors and institutions with differently-aligned agendas and capacities (Hillman & Howitt, 2008; Tan et al., 2012; Green et al., 2013; Daniell et al., 2014; Matthews & Schmidt, 2014; Evers, 2015; Chaffin et al., 2016; Yates & Harris, 2018). Thus, according to Delaney (2015, p.97) "law is less a thing – like a giraffe, say, than a dynamic, shifting, often contradictory, multi-point process – like the movements of a swarm of hornets." The process and outcomes of law reform are therefore shaped by place-specific constellation of actors operating within wide-ranging legal and governance spaces with attendant rules, embedded logics, and resources (Shore et al., 2011). Shifts and shortcomings in water law can also be understood through reference to broader ideologies and directions in environmental law. For instance, critical scholarship has argued that many law reforms do not go far enough to overcome dominant Western ideologies and institutions of property, resource exploitation, and colonialism (M'Gonigle & Takeda, 2013; Curran, 2017; Quastel, 2017; Schmidt, 2017a). Such insights thus help to shed light on how law reforms can end up reproducing existing power dynamics and inequalities in freshwater management under the guise of sustainability (Ravnborg, 2016).

These examples of both continued investment in water law reform and its underperformance highlight the need for ongoing critical engagement with the processes and outcomes of water law reform (Grafton et al., 2019). Specifically, further research is needed into whether, how, and why law reform is effective as a tool for improving freshwater management and governance in an era of rising unsustainability and inequality. This study builds on the insights of critical legal geography scholars regarding law as embedded within larger social, political-economic, and environmental processes and thus always in-the-making (Bartel et al., 2013; Perramond, 2013;

Braverman et al., 2014; Delaney, 2015). This perspective draws analysis of law's transformative potential away from the text of new legislation,⁵ and towards the situated processes of law's development, interpretation, and implementation (Hillman & Howitt, 2008; Jepson, 2012; Grafton et al., 2019). Within this lens, place histories of legal and governance change become important in evaluating law's transformative potential, as do the constellation of actors, institutions, rules, ideologies, assumptions, and resources that shape what reforms are undertaken and how.

This dissertation critically engages with the law reform discourse by examining a recent instance of water law reform in Canada, in which BC's century old Water Act was replaced with a 'modernised' Water Sustainability Act (2014) intended "to ensure adequate stream flows, ecosystem health, more community involvement, and protection of groundwater."⁶ The study critically examines the potential for water law reform to drive significant changes in freshwater management and governance through an in-depth analysis of the development, historical context, and early implementation of the WSA. By examining how specific policy options came to be included or excluded from the WSA, how implementation pathways further refine and delimit policy changes, and the outcomes of these changes for specific communities, this research evaluates the transformative potential of the BC Water Act Modernisation (WAM).

The BC WSA offers a unique opportunity to examine the complex social and political relations shaping water law reform and its governance outcomes. While the WSA is still in its early stages of implementation, the new legislation, ongoing policy development, and initial ministry actions indicate directions of change in water management and governance in the province. By situating the new Act in BC's history of water law and tracing its enactment in real time (from 2014-2018), I reveal the uncertainties and opportunities inherent in policy-led governance reform and identify key actors and forms of power shaping policy outcomes. The ongoing development of the Act's regulations, continued policy-activism by non-governmental organisations, revitalisation of First Nations' water laws and governance, and attempts by

⁵ As in the many excellent analyses of legal principles, mechanisms, and decisions contributed by legal scholars

⁶ <https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-planning-strategies/living-water-smart> accessed 11 June 2019

industry and community actors to secure policy outcomes all provide unique opportunities to investigate water politics-in-action, and water futures in their becomings.

3 Research objective and questions

In broad terms, this dissertation critically examines the potential for water law reform to advance the equitable and sustainable management and governance of freshwater. In my analysis, I am interested in how the 1) processes of legislation development, 2) scope of law reforms, and 3) pathways for implementation configure the transformative potential of water law reform.

With attention to these broad questions, I critically examine BC's WAM, which sought to reform its century old water law to promote the sustainable management of water resources, protection of freshwater ecosystems, and enhanced local governance. It did so through an extensive public engagement process, and in the context of longstanding refusal of Indigenous water title and rights. The result is an act that retains the same basic architecture as its predecessor, but with opportunities to develop legislative instruments to address specific issues and watersheds. Accordingly, my analysis of the BC WAM seeks to answer the following research questions:

- 1. How was the substantive scope and content of the WAM directed by State and non-State actors through a participatory policy-making process?*
- 2. What do historical and current water rights data reveal about the outcomes of colonial water licensing for BC First Nations, and how can these insights inform critiques of the exclusion of Indigenous water rights from the WAM?*
- 3. How is the WAM's 'enabling' approach to law reform shaping opportunities and constraints to realising improvements in water management and governance?*

By exploring each aspect of law reform – its development, scope, and implementation – in turn, this dissertation examines how the transformative potential of BC's WAM is configured through historical and contemporary processes. In the first instance I examine how the scope and substance of law reform came to be defined through the province's participatory policy development processes, exploring the connections between process and outcome equity. Second, I situate recent law reforms within their colonial historical context to reveal the limited

scope and substantive exclusions of the new Act – specifically, the province’s failure to address Indigenous water rights and access – and thus critically evaluate claims to transformation.

Third, I explore the future potential of law and governance reforms through interrogation of the implementation pathways embedded in the WSA’s ‘enabling’ approach to reform, and their inherent uncertainties. This multifaceted account of water law reform is intended to not only trace the opportunities and limits to legislation-led change, but also examine how power relations structure the possibilities and unevenly distributed outcomes of law and governance reforms.

4 Theoretical framework

Over the course of this dissertation I engage with a broad range of literatures through a critical geography lens. Each substantive chapter draws on a different body of work to inform my analysis of a different aspect of BC’s water law reforms, ranging from scholarship on public participation, to Indigenous water rights, to environmental law and adaptive governance.⁷

These literatures were identified as relevant to the specific processes and outcomes examined in each chapter, providing detailed insights with which to make sense of and critically interrogate the changes taking place (or not) through the BC WAM. My selection and use of these literatures was also informed by a critical geographical perspective, by which I mean normative commitments to examining power and justice within the places, spaces, and temporalities of socio-ecological change (see also Cantor & Emel, 2018). In the following subsections, I engage with three literatures that have chiefly informed my critical geographic perspective on water law reform – namely legal geographies, political ecology, and geographies of settler colonialism. Whereas existing research on the BC WAM has focused on the substance and principles of BC water law⁸ or its governing arrangements,⁹ these fields shine a light on the socially and

⁷ These literatures and their contributions to this study are set out at the beginning of each respective chapter

⁸ Environmental law scholarship has provided rich insights into legal principles and mechanisms governing the allocation and use of water resources in BC, such as prior allocation (e.g. Dore, 2015, Brandes and Curran, 2017, Ohdedar, 2017, Curran 2019)

⁹ Law and governance scholars have examined the strengths and limitations of BC’s current water governance institutions and frameworks, elaborating opportunities for improvements (e.g. von der Porten and De Loe, 2014, Renzetti and Dupont, 2015, Simms et al., 2016, Phare et al., 2018)

politically embedded production of environmental law, and thus help to set up an architecture with which to evaluate the consequences of law reform for various socio-ecologies. Each field offers a different but complementary set of conceptual, theoretical, and methodological resources with which to unpack the processes and outcomes of water law reform in the BC context. Legal geography, for example, foregrounds legal processes and institutions in analysing the co-constitution of law, society, and place/space, while political ecology reveals the operations of power and uneven outcomes of law reforms. The congruence of these two approaches is evident in their frequent combined use in recent articles on geographies of water law (Jepson, 2012; Cantor, 2016; Borgias, 2018; Cantor & Emel, 2018; Campero & Harris, 2019). In addition, I draw on geographies of settler colonialism for their insights into how western legal institutions and their uneven outcomes are embedded within historical and ongoing processes of colonialism (see also Mustafa, 2001; Pasternak, 2014; Hoogeveen, 2015; Robertson, 2015). Collectively, these literatures provide the theoretical and analytical tools for a multi-faceted critical inquiry into water law reform, built upon their shared normative concerns with power and (in)equity.

In this dissertation I conceptualise power as actors' uneven agency to shape environmental outcomes according to their needs, preferences, and ontologies. I understand this uneven agency to be a consequence of the prevailing institutions, norms, ideologies, categories, and knowledge hierarchies that co-constitute actors' abilities to enact desired outcomes. I do not focus on a specific concept or theory of power, but instead draw on legal geographers', political ecologists', and settler colonial scholars' varied engagements with power in environmental governance to inform my analysis of the power dynamics shaping law reform. Along with Ekers and Loftus (2008), Haugaard and Clegg (2009), and Brisbois and de Loë (2016), I view these literatures and related power theories as offering complementary (cf. contradictory) insights into the nature and operations of power, which may be more or less pertinent to different aspects of law reform. For example, whereas some geographers explain the dominance of neoliberal modes of environmental governance through theories of hegemony and governmentality (e.g. Swyngedouw, 2005; Birkenholtz, 2009), others engage concepts of relational power, topology, and resistance to examine the situated and uneven agency of

environmental actors (e.g. Bulkeley, 2005; Page, 2014). Similarly, some geographers explore the material and spatial dimensions of power (e.g. Blomley, 2003), while others focus on discourse and power-knowledge to understand how environmental problems, interests, and interventions come to be defined (e.g. Cantor, 2017). Geographers have further highlighted a wide range of agents and agencies in environmental governance, including the environmental or colonial State, community/ies, processes, institutions, networks, individuals, and non-human actants. In this dissertation, I draw on these varying conceptualisations and engagements with power to critically examine the ideas, interests, and institutions shaping water law reform in BC, and its outcomes for diverse actors.

The following subsections further elaborate each literature's contributions to the analysis of water law reform, including its specific insights on the nature and operations of power in environmental governance.

4.1 Critical legal geographies

Legal geography arose as a distinctive field of research in the mid-1990s (see Blomley, 1993; 1994), in response to a perceived lack of interest in law and legal processes within geography and similar 'anti-geographic' tendencies within legal scholarship, which regarded space as irrelevant to legal practice (Blomley, 1993; Bennett & Layard, 2015). Concerned that "law is largely studied in the abstract, ignoring both its spatial and social contexts", legal geographers sought to "understand laws as embedded in (co-constituted) social and political life that is in turn emplaced" (Bartel et al., 2013, p.340). Since these early works, legal and geography scholars have expanded the legal geography repertoire beyond the interrelationship of law, space, and society by examining other aspects of law's co-constitution. In particular, the geographic concept of *place* has been used to conceptualise the interrelationships between people, institutions, and environments that give rise to specific laws and legal practices, and that condition the implementation and outcomes of laws. Bartel et al. (2013, p.341) argue that "if we do not ask questions about the location of law's impact, and therefore also who it impacts on, then its effects, including for example environmental destruction or the dispossession and genocide of indigenous peoples, may be ignored." Geographers have extended theorisations of

place's co-constitution with law by stressing the *materiality* of law and legal landscapes (e.g. Delaney, 2003; Bartel & Graham, 2016; Bennett, 2016). An understanding of law's materiality and material effects has proven particularly important in geographies of environmental law, highlighting the more-than-human co-constitution of law and socio-natures (Bartel et al., 2013; Delaney, 2017; Cantor & Emel, 2018). Finally, legal geographers have argued for a greater appreciation of the multiple *temporalities* of law, to understand its history, contingency, and the dynamics of space-time (Braverman et al., 2014; Bennett & Layard, 2015). Attention to law's temporality foregrounds the processual, contingent nature of law – reconfiguring it as a verb rather than a noun – and provides insight into time's constitutive role in the development of legal systems, wherein it thickens and thins socio-spatial relations (Valverde, 2014; Bennett & Layard, 2015).

Expanding awareness of the multiplicity of relations constituting law and its effects in the world has corresponded with the growth and intellectual diversification of legal geographies, featuring a range of inter/trans-disciplinary applications (Braverman et al., 2014). Recent engagements with the spatiality and geographies of environmental law – in particular water law – represents one such confluence of interests (see 2016 special issue of *Geographical Research*, edited by Graham & Bartel). From trend-setting work on the spatial practices of water rights allocation (Mustafa, 2001; Perramond, 2013), legal geographies of freshwater have expanded to examine legal definitions, paradigms, claims, and conflicts shaping water governance across diverse national contexts (Jepson, 2012; Cantor, 2016; Borgias, 2018; Cantor & Emel, 2018; Campero & Harris, 2019; Feng & Li, 2019). This small¹⁰ but growing collection of self-identified legal geography scholarship connects with a much larger body of work offering complementary critical insights into water policy and governance (as in Bartel et al., 2018).

Legal geographers have contributed important insights into water law and governance by “closely examining legal processes and institutions in order to understand how water resources are allocated, regulated, distributed, and governed” (Cantor, 2016, p51). For instance, scholars have analysed case law to reveal the spatial and environmental discourses embedded in water

¹⁰ A search for legal geography/ies + water in Geobase identified just 8 journal articles

law, and thus the performativity of judicial decisions for the types of environments and resource uses that are protected (e.g. Jepson, 2012; Cantor, 2016; Dudley, 2017). They demonstrate that the misalignment of discursive constructions of water users and/or 'nature' with changing hydrosocial realities can result in not only a failure to legally protect some communities/environments, but also their reconfiguration. For example, Jepson (2012, p.616) describes how legal challenges over territorial boundaries transformed colonias residents from water claimants with political standing and rights, to "passive consumers of dysfunctional public services." Other scholars have highlighted the ontological divisions created through legal definitions of water, and consequently the exclusion of some components of the hydrosocial cycle from environmental management (e.g. geothermal water, Feng & Li, 2019). Along with Campero and Harris (2019), Feng and Li (2019) demonstrate how gaps and ambiguities in legal systems can enable industrial exploitation of water resources at the expense of communities and ecosystems, creating new hydro-geographies.

Yet other legal geographers have focused on practices of water law, revealing both how specific practices emerge within broader structures and ideologies of environmental governance, and how place dynamics condition the application and outcomes of legal practices. For instance, Perramond (2013) demonstrates how water rights adjudication operates as a State¹¹ practice of spatial knowledge generation, enabling the State to 'see' and thus govern water resources/users according to the liberal logics of private property. He finds that State mapping practices conflict with local temporally based understandings of water use and collective management practices, resulting in incomplete, variable, and even deliberately misleading information about water use. Importantly, Perramond and other legal geographers (Jepson, 2012; Cantor, 2016; Dudley, 2017; Borgias, 2018) do not confine themselves to State practices, using ethnographic methods (among others) to examine how local actors employ legal practices to resist State power and advance their own interests. For example, Borgias (2018) describes how activists whose water interests are not legally recognised by the State employ a range of legal and governance

¹¹I use the 'State' (capitalised) to refer to the set of institutions "capable of exercising coercion over a given territory" (Rogers et al., 2013), as distinguished from the 'states' (lower case) that compose federations such as the USA and EU

practices to resist water resource development. While in some instances these practices (e.g. monitoring, reporting non-compliance) subsidise the State by supporting and demanding enforcement of its own laws, other practices (including lawsuits and protests) exceed existing legal frameworks by building momentum for social and institutional reform. Research into legal practices thus reveals how locally embedded actors are involved in co-constituting water law alongside the State (although with varying power and resources, as Jepson, 2012 and Borgias, 2018 highlight), contributing to its emergent, often uneven, and sometimes incomplete realisation across space.

This dissertation adds to the growing ‘stream of scholarship’ (Braverman et al., 2014) on freshwater legal geographies by critically examining the processes, history, and progress of water law reforms. Whereas existing research has explored the institutions, practices, and outcomes of existing water laws (e.g. Mustafa, 2001; Perramond, 2013; Borgias, 2018) or the evolution of case law on an issue (e.g. Jepson, 2012; Cantor, 2016), this study focuses on the development of new water legislation and regulations. More specifically, it examines the co-constitution of new laws and institutions to govern water resources in a settler-colonial context characterised by diverse hydro-social relations and increasing hydrologic uncertainty. In doing so, it builds on legal geographers’ understanding of law as a dynamic, unfolding process rather than a static entity (Delaney, 2015), wherein law remains always in-the-making – its realisation in particular space-times dependant on the processes, actors, and practices involved.

Legal geography research requires “fine-grained, detailed attention to the complex processes of legal constitutivity” (ibid, p.98, see also Jepson, 2012; Perramond, 2013; Cantor, 2016). In this study, such processes include historical water licensing as well as contemporary processes of public consultation, legislation and regulation development, and implementation. I examine these processes and their outcomes using a combination of ethnographic and desktop methods, following the example of recent legal geography-political ecology studies (e.g. Cantor, 2016; Borgias, 2018). While legal and document analysis have long been core methods in legal geography, providing a detailed understanding of legal and political dynamics (Andrews & McCarthy, 2014; Campero & Harris, 2019), political ecologists and others have argued for

greater uptake of ethnographic approaches (e.g. Perramond, 2013; Bennett & Layard, 2015). Braverman (2014, p.123-4) states that ethnography is “particularly well suited to our work for its explorations of power, its (recent) emphasis on engaging the subjects of research, its multi-sited fieldwork and projections, and its call to study administrative networks.” In this dissertation I employ policy and document analysis and interviews as complementary approaches that enable detailed examination of the substance and processes of water law reforms, alongside situated insights into the drivers and expected outcomes of reform. In addition, I analyse government water rights databases to provide greater insight into the hydrosocial landscape that new water legislation is being enacted within.

Lastly, legal geography is an explicitly critical approach to the study of law and legal processes (Bartel et al., 2013; Bennett & Layard, 2015; Cantor & Emel, 2018), featuring a “sustained suspicion of power” and “normative commitment to a radical vision of social justice” (Braverman et al., 2014, p.5). Legal geographers’ emphasis on co-constitution is useful for understanding how legal institutions reflect and constitute dominant power relations in society (e.g. Jepson, 2012; Bartel et al., 2013), despite law’s claims to objectivity and impartiality. For example, the hegemony of liberalism in settler colonial States is revealed through analysis of legal histories, such as the changing definition of rights and property holders (e.g. Harris, 2002; Schmidt, 2017a), as well as the operation of contemporary laws, institutions, and processes (e.g. mineral staking regulations, Hoogeveen, 2015). Bartel et al. (2013, p.342) elaborate that legal geographies “frequently challenge the extent and legitimacy of operation of certain kinds of laws, principally those of Anglo-European origins, since underpinned by universalising and totalising goals yet with vested interests in class and property (hence also race and gender).” This critical lens has been further extended through efforts to reveal and critique the anthropocentrism of modern Anglo-European law (e.g. Delaney, 2001; Graham, 2010; Cantor, 2016). In this dissertation, I contribute to legal geography’s critical examination of power, equity, and justice in environmental law through my appraisal of consultation in Chapter 2 and water licensing in Chapter 3, revealing the institutionalisation of colonial-capitalist power relations through bureaucratic processes. In doing so, I draw on two further bodies of literature to focus and inform my critical lens – political ecology and geographies of settler colonialism.

As noted earlier, both of these literatures have been used in conjunction with legal geography in other research (see engagements with settler colonialism in Mustafa, 2001; Pasternak, 2014; Hoogeveen, 2015; and with political ecology in Cantor, 2016; Borgias, 2018; Salgo & Gillespie, 2018), although typically not together. In the following sections, I elaborate why each literature is pertinent to my critical examination of water law reforms and describe key insights that have shaped my legal geography approach.

4.2 Political ecology

Political ecology is a diverse field of study that broadly examines societies' relationships with non-human environments through the lenses of critical political economy and poststructural theory (Robbins, 2004; Perreault et al., 2015). Given the diversity of topics and research approaches employed under the banner of political ecology, Perreault et al. (2015, p.7-8) state that it is best described by a core set of shared commitments:

first, a theoretical commitment to critical social theory and a post-positivist understanding of nature and the production of knowledge about it, which views these as inseparable from social relations of power. ... Second... a methodological commitment to in-depth, direct observation involving qualitative research of some sort, often in combination with quantitative methods and/or document analysis. ... Third... a normative political commitment to social justice and structural political change.

Given political ecology's similar emphasis on critical theory, in-depth field research, and social justice, it is unsurprising that it is frequently used in combination with legal geographies in research on environmental law. Cantor (2016) for example demonstrates that political ecology can help to reveal how particular constructions of 'nature' and 'environment' are embedded in legal paradigms and decisions, and consequent outcomes for the protection of different environments and nature-society relations. Political ecology is also "a rich analytical framework for studying questions of water governance with an eye toward uneven power dynamics and processes of contestation" (Borgias, 2018, p.88), as Perramond (2013) and Borgias (2018) show in their analyses of the competing legal practices of State and non-State actors. Political ecologists' work on neoliberal natures and associated environmentalities (as summarised in McCarthy & Prudham, 2004; Castree, 2008b; Castree, 2008a; Himley, 2008; Harris, 2009; Bakker, 2015; Collard

et al., 2016) has also supported critical interrogation of modern State logics and institutions, along with their outcomes for environments and communities (e.g. Jepson, 2012; Kay, 2016). Existing legal geography-political ecology studies thus highlight opportunities to understand the production and outcomes of environmental law through prevailing social norms, including environmental discourses, practices, and subjectivities.

In this dissertation, I draw on political ecology insights on environmental law and governance to guide my analysis of the ideas, actors, and power relations shaping water law reforms in BC, and their outcomes for diverse socio-ecologies. Specifically, in Chapter 2 I build on existing work on power and participation in environmental governance (e.g. Swyngedouw, 2005; Morinville & Harris, 2014; Blackstock et al., 2015; Brisbois and de Loë, 2017) to unpack the differing ability of State, industry, Indigenous, and civil society actors to shape the legislative outcomes of participatory policy-making processes. Political ecologists' work on participatory environmental governance¹² supports a sceptical orientation towards State-led participatory processes, due to their tendency to co-opt civil society input to provide legitimacy for State or industry actions (Agrawal, 2005; Matthews & Schmidt, 2014; Morinville & Harris, 2014). However, ethnographic research also demonstrates that the progressive potential of participatory processes is not entirely foreclosed, as non-State actors engage in processes in ways that resist, reformat, or subvert State intentions (Turnhout et al., 2010; Blackstock et al., 2015; Sneddon et al., 2017; Borgias, 2018). Political ecology therefore directs attention to the agency, strategies, and practices of both State and non-State actors in examining the operation and outcomes of policy-making processes.

Political ecologists have also been attentive to broader structural forms of power in environmental governance, highlighting the political economic dimensions of environmental policies and outcomes (e.g. Budds, 2004; Perreault et al., 2015; Brisbois and de Loë, 2016; Dempsey, 2016; Schmidt, 2017a). These scholars elaborate how hegemonic ideologies of capitalism, (neo)liberalism, and colonialism pervade modern environmental management,

¹² As with earlier work on participation and power in development studies (such as that by Cooke and Kothari, 2001; and Cornwall, 2004, 2008) and environmental governance (e.g. Lemos and Agrawal, 2006)

shaping the framing of problems, identification of solutions, and the identities, values, and knowledges considered important to decision making. Their analyses help to explain the uneven outcomes of environmental policies by examining how political economic power relations and associated governance logics map onto various forms of social difference (e.g. Harris, 2009; Ranganathan, 2016). Unpacking these structural dimensions of power thus contributes to the critical analysis of law reforms by helping to explain the scope and substance of reforms undertaken (including those policies retained, replaced, or excluded from consideration), and resulting socio-ecological inequities. In Chapter 4 I draw on political ecological critiques of (neo)liberal water governance arrangements (e.g. Budds, 2004; Prudham, 2004; Harris, 2009; Cohen, 2012; Linton, 2014; Schmidt, 2017b; Yates & Harris, 2018) to interrogate the legal paradigms underpinning recent ‘modernisation’ of water law and governance. Political ecologists have argued that recent water governance reforms – to privatise and marketise water, decentralise water governance, devolve responsibility for water to local governments or communities, and institute flexible regulation – all form part of the same neoliberal imperative, to enable the efficient economic development of water resources (Himley, 2008; Loftus & Budds, 2016). This work therefore encourages critical engagement with supposedly sustainable environmental law reforms by highlighting their co-articulation with broader shifts towards the commodification and exploitation of water.

4.3 Geographies of settler colonialism

In this dissertation I draw upon geographies of settler colonialism to provide explanatory insight into the meaning and outcomes of water law reforms for Indigenous communities in BC. Settler colonial studies is an interdisciplinary field of scholarship that critically examines settler colonialism as a distinctive social and historical formation¹³ premised on the dispossession and replacement of Indigenous peoples (Verancini, 2011; Pasternak, 2014). Geographers have engaged with settler colonial studies – alongside work on decolonisation and Indigeneity – to explain the relationship between settler colonialism and the production of particular places,

¹³ Verancini (2011) emphasises that whereas colonialism is predicated on permanent relations of domination, settler colonialism is directed towards the elimination of these relations through the erasure of Indigenous peoples and ways of being

spaces, and socio-ecologies (Blomley, 2003; Harris, 2004; Pasternak, 2014; Hoogeveen, 2015; Daigle, 2018; Todd, 2018; Whyte, 2018; Curley, 2019). Their work highlights the ongoing injustices wrought by settler colonialism on Indigenous peoples and ways of being, as well as Indigenous resistance and resurgence (see in particular Daigle, 2016; Simpson L, 2017; Todd, 2017b). Importantly, settler colonial studies highlight that colonisation is not an event that occurred in the past, but an evolving complex of discourses, institutions, and processes rooted in settler colonial logics of domination and erasure (Verancini, 2011).

Law and legal institutions have been identified as a particularly powerful component of the settler colonial State apparatus; Harris (2004, p.179) states that “law provided a far more comprehensive framework than did [other disciplinary technologies] for recalibrating land and life on the colonizers’ terms and without reference to indigenous antecedents.” Indeed, assertions of colonial sovereignty relied upon the non-recognition and erasure of Indigenous legal orders and political geographies (Pasternak, 2014; Daigle, 2018). Today, settler law polices the material, bodily, and geographic boundaries of Indigenous life – determining which individuals have what rights to and jurisdiction over particular lands and resources – while simultaneously opening up unceded territories for settler development and capitalist accumulation (Hoogeveen, 2015; Daigle, 2018; Whyte, 2018; Curley, 2019). The imposition of settler law is thus inextricably linked with colonial-capitalist dispossession and violence¹⁴ (Blomley, 2003; Harris, 2004; Holmes et al., 2015; Daigle, 2018; Whyte, 2018). For example, Daigle (2018) explains how a sequence of settler laws has disrupted Indigenous relationships with and through rivers in her ancestral territories: first through displacing Indigenous peoples onto reserves (and into settler economies), then by enabling natural resource development (despite Indigenous opposition), and most recently through amendments that removed federal protection for most rivers. This legal entrenchment of settler jurisdiction and colonial-capitalist relations over time has resulted in not only the poisoning of river ecosystems and intergenerational impacts on community health, but also the rupture of Indigenous water-based

¹⁴ Blomley (2003, p.121) argues that while “liberalism tends to locate violence outside law”, “violence plays an integral role in the legitimization, foundation, and operation of a [Western] regime of private property.”

practices, kinship relations, and governance. As Curley (2019, p.3) states, “no genre of modern state activities is more consequential to the environment as the production and practice of the law.”

The interrelationship of law and settler colonialism highlights opportunities for legal geographies to contribute to, and learn from, critical geographic research on contemporary settler State institutions and processes. Critical legal geography has emphasised colonial power relations and spatializations from its early beginnings (e.g. Blomley, 2003), revealing the geographical imaginaries and practices of colonial law. While State power may rely on the hegemony of settler colonial ideology (e.g. *terra nullius*), these discursive forms of power are undergirded by the material and corporeal power of the settler state (Blomley, 2003; Harris, 2004). More recently, decolonial scholars have engaged with legal geographies to critically examine geographic concepts of settler colonial power, including jurisdiction (Pasternak, 2014) and property (Hoogeveen, 2015), as well as the operations of settler legal systems with respect to Indigenous rights (Robertson, 2015; Greaves, 2018). Work on the multi-dimensional nature of settler colonial power thus highlights that the right to access and use water is a product of colonial-capitalist ideologies, material in both its enforcement and effects, and is connected to broader forms of socio-economic and spatial control (e.g. the right to own property).

While ‘legal geographies of settler colonialism’ scholarship is still a small and emerging field, it is situated within a broader body of work that interrogates the interdependencies between modern forms of environmental law, settler-colonialism, and capitalist accumulation (e.g. Daigle, 2018; Todd, 2018; Yazzie & Baldy, 2018; Curley, 2019). This larger field highlights opportunities to expand critical legal geographies by examining Indigenous experiences and everyday geographies of settler environmental law. For instance, Curley’s (2019) work on Native American water settlements highlights tensions between settler and Indigenous systems of water rights, and the ensuing dispossession of water resources, as a fruitful area for critical geographic research (see also Simms et al., 2016; Bradford et al., 2017; Schmidt, 2017a; Jackson, 2018). Such work also promotes engagement with geographies of legal pluralism, and the decolonising potential of Indigenous legal orders (see Pasternak, 2014; Cantor & Emel, 2018). In

this dissertation I draw on geographies of settler colonialism to inform my critical analysis of the processes and outcomes of water law reform with regards to Indigenous water rights. Specifically, in Chapter 3 I undertake a detailed empirical investigation of how BC First Nations' water use entitlements have changed over time as a result of successive revisions to colonial water law. I examine the specific legal logics and processes through which dispossessions were enacted, situate these processes within the broader structural imperatives of settler colonialism, and identify some of the lived implications of these processes for Indigenous communities. This historical analysis in turn is used to critically evaluate the changes and omissions enacted through the WAM.

5 Case study overview

British Columbia's WAM provides a unique opportunity to examine how current trends in water law and governance are struggled over, institutionalised, and contested through law reform. The BC WAM is a recent experiment in water law reform, in a long and ongoing trajectory of domestic water policy and institutional reforms occurring around the globe (Burchi, 2019). It is thus a significant case study globally as well as locally, as an experiment that drew on other jurisdictions' experiences and examples of water law reform (see Ministry of Environment, 2010b) and will inform future experimentation.¹⁵ Significant resources and opportunity-costs are invested in law reform processes, and it is therefore important to examine how recent reform experiments both respond to and perpetuate particular trends in water law and governance. The WAM is a particularly pertinent case study for examining current trends in water law because it brought together many of the key challenges facing water governance in an era of climate change and rising inequality – i.e. how to improve the efficiency, equity, and sustainability of freshwater access and use, and the effectiveness of laws and institutions governing this precious resource (Ministry of Environment, 2008). As this dissertation will demonstrate, law makers faced (what they saw as) competing demands to address BC's colonial legacy of the denial of Indigenous water rights, and to secure water for people, industry, and

¹⁵ For example, recent analyses have compared the WSA's approach to groundwater regulation with approaches in California (Christensen and Brandes, 2015) and England (Ohdedar, 2017), drawing lessons for regulatory implementation in these jurisdictions as well as reforms elsewhere

the environment into the future. The BC case study therefore provides an opportunity to examine how the common imperatives of efficiency, sustainability, et cetera are incorporated within law reforms, and the tensions, synergies, and exclusions that result from efforts to realise these objectives.

Furthermore, the scale and innovation of the BC WAM establishes it as a case study of international interest. Early policy proposals contemplated reforms to everything from BC's water allocation system, to its governing authorities, user and ecosystem rights, and rules governing water trading (Ministry of Environment, 2009). The public, environmental organisations, and First Nations encouraged even more extensive reforms, including recognition of Indigenous title, adoption of the public trust doctrine, and creation of a new ministry for water. Recognising the intense public and industry interest in the proposed revisions to the Water Act, the BC government undertook an extensive, multi-stage public engagement and policy development process that spanned more than five years and employed innovative techniques. Both the reform process and resulting new act have been lauded as a step-change in BC's water governance landscape, while noting that realisation of many changes remains dependant on regulation development and implementation. Brandes et al. (2016) for example describe the new act as "awash with opportunity". In particular, the reforms instituted a shift towards collaborative decision-making in a historically centralised regime, integrated ground and surface water management, and provided protection for ecological water needs. The new act also embodies a 'modern', adaptive approach to water legislation, responding to widespread concerns that current prescriptive, static approaches are poorly fitted to managing water resources under a changing climate (Milly et al., 2008; Craig, 2010; Cosens et al., 2017). The scale of changes contemplated and enacted through the WAM, as well as its innovative approaches to public engagement and environmental regulation, make it a strong case study to examine emerging trends in both water law and law reform (see also Simms et al., 2016; Brandes & Curran, 2017; Ohdedar, 2017; Curran, 2019).

Finally, analysis of the development and early implementation of the WSA offers a unique opportunity to examine the complex social and political relations shaping water law reform and

its governance outcomes. This research began in 2014, the same year that the WSA received royal approval, and has observed the ongoing development of policies, regulations, and governance initiatives over a 4-year period. By tracing the Act's enactment in real time, it has been possible to highlight the uncertainties and opportunities inherent in policy-led governance reform, and identify the key actors and forms of power shaping policy outcomes and resulting water use and governance arrangements. The ongoing development of the Act's regulations, continued policy-activism by communities and non-governmental organisations (NGOs), and incipient legal action by First Nations all provide unique opportunities to investigate water politics in-action, and water futures in-the-making. The following subsections provide further context on water governance in BC and the history of the WAM, to guide analysis of these reforms and possible water futures.

5.1 Freshwater governance in British Columbia

Water management in Canada is primarily the purview of provincial and territorial governments, whose legislation dictates the ownership, use, and protection of water resources within their jurisdiction. The Constitution Act (1867) divided authority between the federal and provincial governments, vesting ownership of public lands and natural resources (including water) with the provincial Crown, subject to aboriginal rights and title claims (Brandes & O'Riordan, 2014). In BC, local governments in turn have been delegated certain responsibilities for land and water planning and service provision according to the BC Local Government Act (2015). The resulting distribution of governance responsibilities across each level of government is described in Table 1.

Table 1 Division of water governance authority across three levels of government

Federal government	Provincial government	Regions & municipalities
Governance of drinking water on First Nation reserves Managing water on federal lands Fisheries protection Managing transboundary waters Protection of navigation routes Environmental assessment	Issuing water licences, permits and approvals Flow regulation Hydroelectric power development Land use activities – EA, licensing, etc Pollution control Setting water quality standards Water monitoring Creating and enforcing regulations	Land use planning/zoning Drinking water treatment and distribution Wastewater treatment Asset/infrastructure management

First Nations represent a fourth level of government in BC, but under Canada's colonial legal system BC First Nations hold few water governance powers outside of reserve lands. British Columbia was one of the last provinces colonised in Canada, at a time when colonial interest in safeguarding Indigenous rights was waning (Harris, 2002). Consequently, few historical treaties were signed with BC First Nations, and those that were created¹⁶ made no provision for Indigenous water rights. In recent decades five modern treaties and two self-government agreements have been signed, providing a minority of BC First Nations with some jurisdiction over water within their self-government lands. Outside of these treaty regions First Nations' authority is largely determined by the Indian Act (1985), which devolved responsibility for reserve housing, infrastructure, and services (e.g. water and sanitation) to First Nation band councils, along with some powers to make bylaws within reserve lands. This Act has been widely critiqued as undermining Indigenous hereditary systems of governance and downloading responsibilities to First Nations without authority to determine their communities' futures, among other issues (e.g. White et al., 2012; Basdeo & Bharadwaj, 2013; Daigle, 2018).

¹⁶ The Douglas Treaties on eastern Vancouver Island and Treaty 8 in north-eastern BC

Analyses of these multi-level governance arrangements highlight five key characteristics of water governance in BC. First, water governance and management in BC is centralised at the provincial level, with authority for water licensing, pollution management, drinking water management, and environmental assessment falling with the province (Dunn et al., 2014). In contrast, the federal government has a narrow set of powers related to fisheries and navigable and transboundary waters. The centralisation of governance authority has become a significant challenge in recent years, as neoliberal cut-backs under Gordon Campbell's liberal government diminished the resources available to regulate natural resource development (Rowe, 2013). With fewer staff and smaller budgets stretched over large regions, the provincial government struggled to enforce regulations, let alone address emerging issues associated with intensifying resource use and climate change. Under BC's centralised governance structure, regional and municipal governments also suffered, as they lacked both the authority and resources¹⁷ to address the growing water management issues affecting their communities (Brandes & O'Riordan, 2014). As highlighted by the Cowichan example in the prologue, many BC local governments seek greater powers and resources to address critical water issues in their jurisdiction, but without the formal capacity to do so have undertaken voluntary initiatives or work 'on the side' (*ibid*).

Second, water governance in Canada and BC is highly fragmented, with different authorities (at different levels) responsible for resource management decisions, in accordance with different acts and regulations (Bakker & Cook, 2011). Devolution of water regulation and management to provincial governments has resulted in the evolution of vastly different approaches to water allocation across Canada's provinces and territories. Whereas common law 'riparian rights' approaches dominate in eastern provinces, in the west, variations on the American 'prior appropriation' doctrine are prevalent (see Brandes & Curran, 2017). The resulting fragmentation of governance is evident when you consider that water crossing a provincial border may be owned by different entities, allocated according to different legal principles, managed by

¹⁷ Local government powers and expenditure are strictly controlled by the BC Community Charter and Local Government Act; new governance powers and property taxes can only be introduced by referendum and letters patent, within the scope allowed by legislation

different levels of government or types of departments, and be subject to widely differing rules, protections, and practices. Such provincial variation in legislation is noted to be an issue for management of transboundary waters, pan-Canadian industries and consultancies, and Indigenous nations whose territories exceed provincial boundaries, while also creating the potential for environmental injustice (see Dunn et al., 2014).

Governance fragmentation is also apparent within provincial boundaries. For example, water licensing authority in BC is shared by the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (MFLNRORD) and the Oil and Gas Commission, while the Ministry of Environment and Climate Change Strategy is responsible for managing resource use activities that could affect water sources, and the Ministry of Health is responsible for the protection of drinking water. While efforts have been made to better integrate land, natural resource, and water management through the establishment of MFLNRORD as a centralised regulatory entity, significant uncertainties and gaps in jurisdiction, and divisions in governance authority remain (Brandes & O'Riordan, 2014). This fragmentation inhibits effective governance by limiting institutions' governance capability, enabling competing institutional objectives, creating barriers to coordinated planning, decision-making, and management, and limiting governance transparency.

Third, despite constitutional protection of First Nations' aboriginal rights and title¹⁸, First Nations have been afforded very limited authority with respect to water governance. While First Nations "maintain that Aboriginal rights to water flow from the historical and on-going connection of First Nations to their traditional lands and resources" (Ministry of Environment, 2010, p.67), aboriginal rights to water have not been legally established nor disproven (Phare, 2009). The provincial government has leveraged the unresolved state of First Nations' water rights to assert its ownership and jurisdiction over all waters in the province, denying First Nations all but customary use rights. As such, First Nations lack an authoritative role in the governance of freshwater resources within their traditional territories. Further, BC First Nations' water access and use are subject to the province's colonial water licensing regime, a

¹⁸ Section 35 (1) of the *Constitution Act of Canada* (1982)

‘First In Time, First In Right’ (FITFIR) system of water allocation that has too often awarded priority rights to settlers at the expense of a waterbody’s traditional users. Resulting uncertainty in water access and inadequate allocations remain ongoing constraints on the growth and economic development of many First Nation communities, who rely on this water for drinking, household use, and irrigation, among other uses (Simms, 2014).

In recent years, significant steps have been made towards broader recognition of aboriginal rights and title to land and resources within First Nations’ traditional territories. A series of landmark court decisions¹⁹ have gradually increased the extent of lands recognised as having unextinguished aboriginal title, the rights of First Nations to use and make decisions about those lands and resources, and the onus on governments and private actors to consult and obtain consent from interested First Nations (see Bankes, 2015). However, it remains to be seen whether these decisions will translate to legal recognition of aboriginal title and rights to water in the near future. Recognising the limitations of the colonial legal system, an increasing number of First Nations have opted to focus on codifying their Indigenous water laws to guide water use and management within their traditional territories (Napoleon & Friedland, 2016).

Fourth, government-led water governance in BC has historically focused on the facilitation of resource use and development through the allocation of water use permits and approval of natural resource applications (Brandes & O’Riordan, 2014). As stated by Jim Mattison, former BC comptroller of water rights, “the water allocation system is—and always has been—about the orderly distribution of water for economic development” (in Brandes & Curran, 2017, p.46). While recent legislation (e.g. Fish Protection Act, 1997) has mandated stronger regulation of resource use activities to prevent impacts on waterbodies and vulnerable ecosystems, the focus has remained on the conditions surrounding application approval, rather than the sustainable management of natural resources and ecosystems. Under this use-oriented regulatory framework, efforts to initiate stewardship-oriented approaches (e.g. source water management planning under the Drinking Water Protection Act (2001), or the Living Water Smart (2008)

¹⁹ Notably, *Calder* (1973), *Sparrow* (1990), *Delgamuukw* (1984-1997), *Haida/Taku River Tlingit* (2004), and *Tsilhqot’in* (2014) Supreme Court of Canada decisions, and the Federal Court of Appeal *Enbridge* decision (2016)

provincial water strategy) have met with limited success, and in many cases have yet to be implemented.

Finally, NGOs have emerged as a prominent force in freshwater governance in BC over the last 20 years. In response to the perceived lack of leadership at the national level, lack of capacity with the provincial government, and lack of opportunities for local and First Nations involvement in decision-making, a large number of NGOs and partnerships have been created to promote more integrated, effective, and responsive governance (Nowlan & Bakker, 2007; Wilkes et al., 2013; Brandes & O'Riordan, 2014). In some instances, provincially backed formal authorities have been created to enable integrated planning and management activities across large watersheds (e.g. the Fraser Basin Council). In other cases, local organisations or partnerships have been established to facilitate coordinated action around pressing water issues (e.g. the Cowichan Watershed Board) or undertake management activities such as monitoring and restoration (e.g. Streamkeepers). Yet other organisations have been created to coordinate action and advocate on behalf of particular interest groups (e.g. First Nations Fisheries Council). While many of these organisations are inhibited by their lack of formal authority and resources, they represent a significant trend towards decentralised and watershed-framed governance in BC.

5.2 British Columbia's Water Act Modernisation

Until recently, the BC Water Act was the primary legislation for managing the diversion and use of provincial water resources in BC.²⁰ The Water Act was enacted in 1909 to enable landowners to acquire surface water use rights, and the provincial government to administer them (Ministry of Environment, 2013). Written for a settler State, the Water Act was developed with the primary motivations of settling disputes over water rights and providing security for water users, thereby enabling the development of primary industries in the province (beginning with gold mining). The Act (as with legislation in other western provinces) stated that all water in BC is owned by the Crown, and allocated water use entitlements to landowners according to

²⁰ Other legislation governs other aspects of water use and management, including drinking water protection, fisheries, oil and gas development, waste management, environmental impact assessment, forestry, and riparian area protection

the doctrine of prior allocation. Under this system, the province granted the right to divert, store, and use water via licences and short term ‘use approvals’ that were subject to terms and conditions set by the province, the availability of water, and the use rights of earlier licensees. However, groundwater was not included within the Act; initially, landowners were allowed to dig a well on their property and extract water from a common aquifer without any permit (Dore, 2015), creating a de facto system of ‘riparian rights’. Over time additions to the Act established licence fees, rentals, and registration and reporting requirements (Ministry of Environment, 2013).

The Water Act evolved slowly over the last hundred years, expanding only slightly from its original focus on enabling the extraction and use of surface water resources, despite increasing evidence of water scarcity and conflicts over water use. Table 2 summarises key amendments to the Water Act and new legislation created to expand protections of water resources, drinking water, and freshwater ecosystems. While these additions were intended to expand the regulation of water uses and enable more comprehensive planning-based approaches to water management, many of them were not implemented. For example, provisions for regulating groundwater extraction introduced in 1960 were never brought into force (Ministry of Environment, 2013). Similarly, no Water Management Plans or Drinking Water Protection Plans were approved (as of 2011) under new water planning provisions in the BC Water Act and Drinking Water Protection Act (Fraser Basin Council website^{21,22}). Other amendments were noted to provide only small improvements in protection of aquatic environments.

²¹ http://www.rethinkingwater.ca/water_management_plans.html

²² http://www.rethinkingwater.ca/drinking_water_protection.html

Table 2 Timeline of amendments to the Water Act and supplementary legislation

Major amendments and supplementary legislation	
1960	Water Act expanded to 1) regulate groundwater (not enacted); 2) require approvals for activities in/about a stream; 3) require short term use approvals
1995	Water Protection Act prohibits bulk water removals and inter-basin transfers
1997	Fish Protection Act created to strengthen protection of fish and fish habitat
2001	Amendments to improve drinking water protection, including a new section on wells and groundwater protection
2001	Drinking Water Protection Act created to ensure provision of safe drinking water
2014	Water Sustainability Act receives royal assent

In addition to these implementation failures, the Water Act attracted increasing criticism due to its inability to address mounting social and environmental issues. In particular, critics argued that the FITFIR approach “decouples allocation from any kind of ecological or social context, lacks formalised instream flow protection, and creates pernicious incentives to waste water through ‘use-it-or-lose-it’ requirements or ‘beneficial use’ defined strictly in terms of economic benefits” (Brandes & O’Riordan, 2014, p.10). Further, it failed to recognise First Nations’ prior rights to water resources, resulting in the dispossession of First Nation communities through colonial licensing practices (see Chapter 3). The lack of regulation for groundwater extraction and use, limited protections for aquatic ecosystems and drinking water, and failure to address issues of over-allocation and climate-induced scarcity were also raised as key failures of the existing legislative approach.

In 2008 the BC Ministry of Environment released its new water strategy - ‘Living Water Smart: BC’s Water Plan’ - which set out the government’s vision and commitments to ensure BC’s water remains healthy and secure. It highlighted the pressures of population and economic growth on water resources, along with climate change, and set out a series of actions and targets for improving water use and management. Key among these was a commitment to modernise BC’s water legislation by replacing the Water Act and attendant regulations with an act that would “ensure adequate stream flows, ecosystem health, more community involvement, and protection of groundwater” (Ministry of Environment, 2008, p.90). While most of the Living

Water Smart targets have yet to be met (Simms & Brandes, 2018), the modernisation of BC's water legislation began the following year, as illustrated in Figure 1.

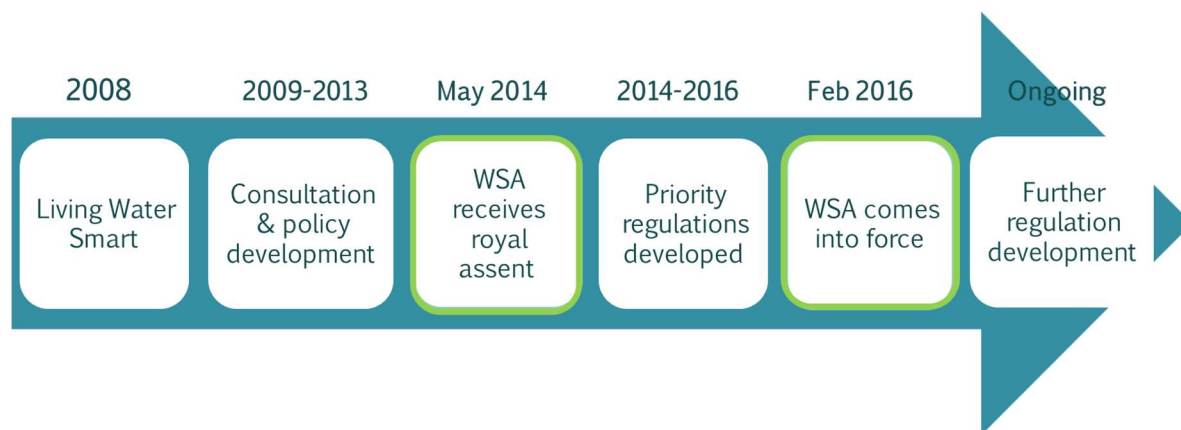


Figure 1 Timeline of the BC Water Act Modernisation

The WAM project commenced in 2009 with an extensive public consultation process that took place over three stages and five years. Each stage in the consultation process involved the release of a consultation document and solicitation of feedback on the information and options presented. The public were invited to submit their comments via mail, fax, email, or the Living Water Smart blog, in addition to regional workshops. Following the third round of consultation, Bill 18 – the WSA – was introduced into the BC Legislature, where it underwent three readings and committee debate, before receiving royal assent on May 29th, 2014. However it did not come into force until February 29th 2016, with the development of priority regulations.²³ In the intervening period, the government solicited public feedback on BC's water pricing framework (resulting in the release of a new schedule of fees and rentals in February 2015) and proposed policies relating to core water management regulations that would come into force with the WSA. The provincial government has adopted a phased approach to the development of regulations and policies that give effect to different parts of the Act, “due to the complexity of the WSA and the number of proposed regulations”.²⁴ So far, ongoing regulation development has included the release of proposed Livestock Watering Regulations (in January 2018), and

²³ A small number of initial regulations were required to implement the basic functions of the WSA. These were the Water Sustainability Regulation, Groundwater Protection Regulation, Dam Safety Regulation, and Water Sustainability Fees, Rentals and Charges Tariff Regulation

²⁴ <https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/laws-rules/water-sustainability-act>

alterations to existing regulations to fine-tune provisions and address unintended consequences.²⁵ The government has also signed a memorandum of understanding with five Nicola First Nations to develop and pilot a collaborative governance structure to manage water resources in the Nicola Watershed.²⁶

The WSA introduced a large suite of changes to water management and governance in the province, including the regulation of groundwater use, protections for instream flows, new policies for water management during times of scarcity, and the opportunity to develop water objectives, water sustainability plans, and novel governance arrangements in priority areas (see Table 3). Overall, the language and structure of the Act appears to hold significant promise for improved environmental protections, and the possibility of place-based, adaptive management of water resources. As the Cowichan and Nicola Valley examples highlight, communities throughout BC hold significant hope that the WSA will create new opportunities and resources to address their pressing water issues in a collaborative, locally informed way. However, as several commentators have noted, many of these opportunities will only come into force through the development of further regulations, which may take years (Brandes et al., 2015; Lui, 2016). Indeed, if the recent extensions to groundwater licensing and mining authorisation deadlines²⁷ are any indication, progress on implementing the WSA may not keep pace with the growth of water crises and conflicts across BC.

²⁵ Note that there was a fair bit of controversy about an oversight in the Water Sustainability Regulation?

²⁶ <https://news.gov.bc.ca/releases/2018ENV0012-000484>

²⁷ In December 2018 the government extended the deadline for mineral exploration and placer mining activity authorisations by a year, while in February 2019 the government extended the deadline for non-domestic groundwater users to apply for a licence by a further three years

Table 3 Key novel elements in the BC Water Sustainability Act (2014)

Novel element	Implications for water management & governance
Groundwater regulation	Non-domestic use of groundwater is regulated for the first time in BC; introduced additional requirements for well drilling & maintenance
Environmental flow needs	Decision makers must consider the environmental flow needs of a stream when making licensing or permit decisions for a connected stream or aquifer
Significant water shortage protections	Government can declare a significant water shortage, mandating protection of basic household water use and critical environmental flows above all other uses
Review of licences	Licensees are subject to a review of licence terms and conditions after 30 years; decision makers can amend terms and conditions to improve efficient use or conservation of water
Measuring & reporting	Government can make regulations requiring improved measuring, testing, and reporting on the diversion or use of water
Water objectives	The government can establish water objectives for an area or freshwater body in BC in order to sustain water quantity, quality or aquatic ecosystems
Water sustainability plans	Plans can be created for designated areas (with government approval) to address or prevent conflicts, risks to water quality, or risks to ecosystem health, or to restore a damaged ecosystem. A wide range of regulatory powers can be created to implement the plan (including restrictions on the use of land, water, or resources)
Alternative governance arrangements	The government can devolve specified powers and duties to another person or entity (e.g. local government, First Nation, watershed organisation) for a particular area or circumstances
New fees and rentals	Application fees and annual water rentals have increased under the WSA, to fund increased water management costs

This dissertation critically examines the development and early implementation of the BC WSA, encompassing the period from the release of ‘Living Water Smart’ through to regulation development and implementation in 2018 (as illustrated in Figure 1). By tracing the actions, events, and processes leading up to the enactment of the WSA in 2016, and exploring the experiences of those involved in the WAM, I have sought to characterise the nature and direction of ‘modernisation’ over this period, and implications for the future of water law in BC.

However, to fully understand the implications of the Act for Indigenous communities, I have also had to look back in time to understand the processes and events contributing to the dispossession of First Nations' water resources. This additional and important historical context is described in detail in Chapter 3.

6 Research methodology

6.1 Approach

This study employed a multi-method analysis of law reform to examine the development, early implementation, and implications of the BC WAM. Specifically, I critically examined the transformative potential of law reform through a shifting temporal lens, focusing first on contemporary processes of reform, then water law's colonial past, and finally, the new Act's future prospects. I used this shifting temporal lens to allow me to scale my analysis to the temporal dynamics of different governmental processes.

In the first instance, the administrative processes of legislative reform (i.e. public engagement, policy research, policy drafting and revision) occurred in the six years immediately preceding this research, which I am describing as the 'current moment' of water law for the purposes of this dissertation. These processes have their roots in the recent past (including the environmental, political, and judicial events that spurred interest in law reform) and extend forward into the near future through ongoing processes of regulation and policy-making, but the focus of this temporal lens is the formal participatory processes and events surrounding the development of the WSA.

Second, water use licensing (the primary mechanism of water governance under the BC Water Act and WSA) operates over inter-generational timescales due to the doctrine of prior allocation; many extant water allocations protected by the new WSA were initially recorded by colonial administrators in the 1850s. Analysis of the present day implications of the WSA for Indigenous communities therefore necessitates historical examination of how past rules, processes, and actors have shaped First Nations' present and future water entitlements.

Finally, examination of the ‘early implementation’ of the WSA (including the development of policies, regulations, processes, and governance arrangements to implement the Act) and its implications for water management and governance in BC required a future-oriented timescale of analysis. While neither I nor my research participants can divine the WSA’s future, I sought to document the expected implications of current directions in the Act’s implementation, based on the experiences of my research participants to date. This type of future projection enables reflexive examination of current interpretations and implementation pathways and priorities, along with identification of alternatives.

This multi-scaled, multi-object analysis of water law reform also lent itself to methodological diversity; approaches to examining present day events and concerns are typically poorly attuned to understanding those of the past. Similarly, different methods are useful for interrogating the outcomes of current and past processes, relative to potential future outcomes. Legal geographers have highlighted the utility of methodological experimentation and interdisciplinary scholarship in expanding the tools, scope, and richness of research into the space-times of law (Braverman, 2014; Bennett & Layard, 2015). Specifically, they advocate for new approaches to examine the temporality of legal spaces and specificities of power in law (Braverman et al., 2014). Feminist political ecologists have similarly argued for the value of methodological diversity and mixed method research, in recognition of the always partial, situated nature of knowledge (Haraway, 1988). From a feminist perspective, use of mixed methods is valuable not only to produce unique or complementary insights (Rocheleau, 1995), but also to promote greater reflexivity by highlighting the assumptions, silences, and discrepancies between different research approaches (Nightingale, 2003). Thus, building on the eclectic traditions of legal geographers and political ecologists, I deployed a diverse but complementary set of research methods to examine law reform across the three timeframes. Specifically, I used a combination of interviews, document and database research, and participant observation of meetings to gather data on water licensing, the WAM, and actors’ experiences and perceptions of BC water law. I then analysed these data using a combination of qualitative and quantitative techniques, ranging from thematic and discourse analysis to counting water licences. These methods were chosen to interrogate the operation of power and

distributional outcomes of law reform over each timescale, combining data sources to provide both descriptive and explanatory power in my analysis of patterns.

6.2 Overview of methods

The three primary research methods used in this study were interviews, document/database analysis, and participant observation. This section provides a brief overview of these three methods, before describing how they were used to address each research question.

I undertook 51 semi-structured interviews with 55 individuals between December 2016 and July 2018. Interviewees were selected from among key organisations involved in the development and early implementation of the WSA, including the provincial government, local governments, First Nation organisations, industry organisations, and NGOs. I identified an initial list of organisations of interest from their written submissions to the WAM consultation process, and gathered information on prospective interviewees from those submissions, organisational websites, and personal recommendations.²⁸ In each instance I attempted to interview those individuals most directly involved in – or affected by – the WAM on behalf of their organisation. Over time I added to this list of relevant organisations and individuals through the recommendations of my interviewees, and by encountering relevant water experts in meetings I attended. While most individuals contacted agreed to an interview, seven representatives (from industry and NGOs) declined to be interviewed for this research, citing time constraints, or stating that they were not the right person to speak on behalf of their organisation on this topic. Several others did not reply to interview invitations (likely due to time constraints, given the positions they held within their organisations). A summary of interviews undertaken for this research is provided in Table 4.

²⁸ In several instances I emailed a general contact address for the organisation, and someone from within the organisation recommended the appropriate representative. In other cases another interviewee or water expert recommended a potential representative.

Table 4 Number of interviews completed and individuals interviewed, broken down by interview participant sector²⁹

Interview participant sector	N (interviews)	N (interviewees)
Provincial/federal government (past and present)	16	17
Industry (oil and gas; mining; agriculture; forestry; water; business; energy)	10	12
Non-governmental organisations (environment; water)	7	7
First Nation organisations (province-wide; issue specific)	5	5
Local government (municipalities; regional districts)	4	5
Watershed organisations (societies; boards)	4	4
Philanthropic organisations (foundations)	3	3
Consultancies	2	2
Total	51	55

Interviews were undertaken in person, at a location of the interviewee's choosing, or over the phone, and lasted between 30-90 minutes. Most interviews were audio recorded and transcribed. In six cases the interviewee(s) requested that I take notes instead, mostly due to organisational policy (and in one instance, because they said they would speak more freely without a digital recorder). I used a semi-structured interview format, which allowed me to ask targeted questions based on existing knowledge of the WAM process (e.g. findings from document analysis), while also providing flexibility to ask follow-on questions and explore unanticipated points of interest raised by interviewees. Interview questions typically covered a range of topics, some general and others tailored to the knowledge and experience of the interviewee. Common topics included: their/their organisation's role in the WAM; the public engagement and other policy-making processes used in the WAM; core provisions of interest in the WSA; implementation of the WSA; the WAM's implications for water governance in the province; and relevant local initiatives. Interviews were initially coded in NVivo according to these same broad topics, and then in further detail for each chapter (see chapter methodology sections for further details). In recognition of Indigenous ownership of their knowledge and

²⁹ Note that some interviewees provided insights on more than one sector (e.g. they were in government, but are now a consultant), but only their primary sector is represented here

control over how it is shared, all Indigenous interviewees quoted in this dissertation were provided with an opportunity to review (and if necessary, amend) the use of their quotes prior to submission, and be named in connection with their quotes.³⁰ Naming interviewees acts as a form of citation, recognising Indigenous interviewees as knowledge holders (Kuokkanen, 2007; Svalastog & Eriksson, 2010).

Document/database analysis were another primary research method used in this study, both as a standalone method (in the case of database analysis) and to inform or supplement interviews. I used open-access provincial government databases to identify and access government documents or data relating to water governance in BC. Specifically, a custom-built public engagement website developed by the Ministry of Environment for the WAM included a database of all written submissions on the proposed WSA (numbering several thousand). Another provincial library database provided access to 135 historical summaries of First Nation water rights, while two provincial water rights databases contained basic licensing data and documents for all current water licences in BC. Documents and/or data were downloaded from these databases and systematically analysed using a combination of qualitative coding in NVivo and quantitative analysis in Excel or R. In addition, I analysed a range of policy documents, news articles, reports, and published opinions/perspectives to supplement my interviews and database analyses. These documents included the WSA and its regulations; policy proposals and other government documents prepared for the WAM; information published by the government on its WAM blog and website; relevant reports prepared by water experts in universities, consultancies, and NGOs; reports and planning documents prepared by local governments or watershed organisations; and other publications, presentations, and online articles prepared by industry representatives, First Nations, and NGOs. These documents were generally analysed for informational content (e.g. rules regarding well drilling; or information

³⁰ My original ethics agreement provided all interviewees with confidentiality of personal information. After one Indigenous interviewee asked to be named in connection with their quotes, I applied for an amendment to my ethics agreement that would enable interviewees to waive their right to confidentiality. I then forwarded the updated consent form to the Indigenous interviewees in this study. Two interviewees agreed to be named; their names appear in the dissertation where they are directly quoted.

on an NGO workshop), or to identify varying perspectives on the WAM and prospects for water governance and management in BC.

Finally, participant observation of water meetings played a significant role in shaping this study and my understanding of water governance in BC, although it does not figure centrally in my presentation of results. Over the course of my PhD, I attended a wide range of academic, NGO led, First Nation led, and local meetings focused on water management and governance in BC (see However, as noted earlier, I rarely cite observations from these meetings in this dissertation, largely due to the huge volume of data that my research generated. Nevertheless, participation in these meetings played a significant role in shaping my understanding of the Act's ongoing development, various parties' perceptions and actions regarding the WAM, and the socio-ecological and governance context of the reforms. Meetings also provided me with opportunities to meet a range of actors involved in the WAM, and have on and off the record conversations with those individuals about the new Act. In several instances, these initial meetings led to later interviews. I frequently returned to observational notes taken during those meetings to refresh my memory on recent events, and search for further information on publications, individuals, initiatives, or past occurrences mentioned by meeting participants. Participant observation has therefore been hugely important in shaping my understanding of the WAM, my selection of research questions, methods, and subjects (as the prologue highlights), and the critical lenses I applied in my analysis of the WSA.

Table 5). Most meetings were held in-person, with a handful conducted by webinar. I attended most of these meetings as an invited participant or participant observer³¹ (e.g. Res'Eau-WaterNET events); other meetings were open to the public (e.g. POLIS webinars). In some instances, my participation sometimes involved presentation of a talk or poster, for which I received valuable feedback. I was able to observe and take notes for the small number of 'closed' meetings (indicated in However, as noted earlier, I rarely cite observations from these meetings in this dissertation, largely due to the huge volume of data that my research

³¹ I use 'invited' in the sense that I was either specifically invited to participate, or that my application to attend was approved

generated. Nevertheless, participation in these meetings played a significant role in shaping my understanding of the Act's ongoing development, various parties' perceptions and actions regarding the WAM, and the socio-ecological and governance context of the reforms. Meetings also provided me with opportunities to meet a range of actors involved in the WAM, and have on and off the record conversations with those individuals about the new Act. In several instances, these initial meetings led to later interviews. I frequently returned to observational notes taken during those meetings to refresh my memory on recent events, and search for further information on publications, individuals, initiatives, or past occurrences mentioned by meeting participants. Participant observation has therefore been hugely important in shaping my understanding of the WAM, my selection of research questions, methods, and subjects (as the prologue highlights), and the critical lenses I applied in my analysis of the WSA.

Table 5 by an asterisk) because I was either a designated note taker for the meeting, or had sought written participant consent. In public or semi-public meetings (e.g. those that were open to the public but required a RSVP due to limited capacity) where participants had no reasonable expectation of privacy, I took notes on presentations and large-group discussions alongside most other meeting participants.

However, as noted earlier, I rarely cite observations from these meetings in this dissertation, largely due to the huge volume of data that my research generated. Nevertheless, participation in these meetings played a significant role in shaping my understanding of the Act's ongoing development, various parties' perceptions and actions regarding the WAM, and the socio-ecological and governance context of the reforms. Meetings also provided me with opportunities to meet a range of actors involved in the WAM, and have on and off the record conversations with those individuals about the new Act. In several instances, these initial meetings led to later interviews. I frequently returned to observational notes taken during those meetings to refresh my memory on recent events, and search for further information on publications, individuals, initiatives, or past occurrences mentioned by meeting participants. Participant observation has therefore been hugely important in shaping my understanding of

the WAM, my selection of research questions, methods, and subjects (as the prologue highlights), and the critical lenses I applied in my analysis of the WSA.

Table 5 Water governance meetings attended as a participant observer between 2014-2018

Meeting type	Specific meetings attended
Meetings in the Cowichan Region	CVRD workshops on regional water management and governance (May, July & September 2014)* Public meetings of the CVRD regional water committee (2014) Public open house on the Cowichan Water Use Plan (October 2017)
Workshops, webinars and meetings organised by NGOs	Watersheds 2014 Satellite Event (January 2014), Watersheds 2016 (September-October 2016), and Watersheds 2018 Virtual Forum (June 2018) Workshops on 'Advancing water sustainability in BC' organised by the Fraser Basin Council and BC Wildlife Federation (March 2014 & April 2015) Webinars organised by POLIS Project on Ecological Governance (2015-18) Webinar on 'Community engagement and the WSA' organised by the Canadian Freshwater Alliance (August 2016) Union of BC Indian Chiefs 'Chiefs Council' (June 2017) Workshop on 'Water sustainability & the city' organised by the Canadian Freshwater Alliance (October 2017)
Res'Eau-WaterNET ³² meetings	Res'Eau-WaterNET annual meetings (2014-2018) 'Water: The life of a community' workshops (hosted by First Nation communities in February & May 2017)*
Other academic meetings	Water Economics Policy and Governance Network annual meeting (June 2014) UBC Centennial 'Water Ways' workshop (March 2016) Amnesty International Conference on Water Governance (January 2018)

Each empirical chapter of this dissertation addresses a different research question through a different temporal lens, using a unique combination of data sets and methods. I have identified

³² Res'Eau-WaterNET is an NSERC small systems strategic network dedicated to community based research to solve problems in small drinking water systems. I was part of Res'Eau-WaterNET from 2014-2018, during which time I was fortunate to participate in annual meetings and other events alongside drinking water experts and community leaders from across Canada.

the research questions, methods, and data used in each chapter in Table 6 below, but reserve a fuller description of how these methods and data are used for the chapters' methods sections.

Table 6 Overview of data sources and methods used in each chapter

	Chapter 2	Chapter 3	Chapter 4
Research question	How was the substantive scope and content of the WAM directed by State and non-State actors through a participatory policy-making process?	What do historical and current water rights data reveal about the outcomes of colonial water licensing for BC First Nations, and how can these insights inform critiques of the exclusion of Indigenous water rights from the WAM?	How is the WAM's 'enabling' approach to law reform shaping opportunities and constraints to realising improvements in water management and governance?
Primary data sources	Written submissions to public consultation process on the WSA WSA (2014) Policy documents Interviews with government officials & participants in consultation process	Provincial surface water licensing data Historical summaries of First Nation water use rights Interviews with government officials & representatives of First Nation organisations	Interviews with government officials & BC water experts WSA (2014) & regulations Reports, court decisions & policies
Methods	Coding & quantitative analysis of policy preferences in submissions Comparative analysis of policy preferences with legislative outcomes Thematic analysis of perspectives on consultation in submissions & interviews	Quantitative analysis of trends in First Nations' surface water licences Coding & analysis of historical trends in First Nations' water use rights Thematic analysis of interviews Participant observation of First Nation organisation meetings	Thematic analysis of interviewees' expectations of the implementation & outcomes of WSA Qualitative analysis of provisions, rulings, & documents identified by interviewees

6.3 Positionality

I am a pākehā (white) New Zealander trained in environmental geography, who moved to Vancouver in December 2013. Each of these aspects of my identity – as a non-Canadian, person of settler origin, and geographer – have influenced my research on water law reform in BC.

First, as a recent immigrant to BC when I began this research, I knew very little about Canada's systems of law and governance, environments, or water issues. I consequently had to learn a lot, quickly, as I undertook my initial research activities in 2014,³³ when I acted a participant observer and advisor for the CVRD's surface and ground water management and governance workshop series. Over time I acquired a wealth of knowledge about BC's water management and governance from academic publications, reports, websites, and meetings, but still occasionally felt out of my depth in interviews with government staff and local water experts. I often had to conduct quick online searches for unknown acronyms, jargon, and names following these interviews to ensure that I had accurately recorded and understood the interviewee's response. I believe that this unfamiliarity with the local context and my obvious outsider status³⁴ was at times an asset in interviews, as it led me to ask questions and query assumptions that local researchers might not have, and led interviewees to provide additional context in their responses to questions. My interviewees and I were thus less prone to taking shared knowledge for granted – a common mistake in interviewing (Brinkman & Kvale, 2018) – resulting in clearer and more complete interview responses. I also benefited from this intellectual distance when analysing the law reform process, as I did not take dominant governmental logics for granted and saw opportunities to pose research questions or critiques that Canadian researchers may not have.³⁵ However, it is similarly likely that I did not ask questions a local expert would have, and missed opportunities to ask follow-up questions because I did not fully understand or appreciate the significance of an interviewee's response. This is certainly true of earlier interviews, when most of my knowledge still derived from reports and other writings rather than 'insider experiences.' I attempted to counter this issue by organising easier interviews with friendly water experts first and sending follow-up questions

³³ I was fortunate to be employed as a research assistant for a Res'Eau-WaterNET project on water governance in 2014, which provided me with opportunities to learn about water issues in BC prior to commencing my PhD

³⁴ New Zealand accents are a clear giveaway whether an interview is conducted in-person or over the phone. The first question asked by interviewees was usually 'so where are you from?'

³⁵ Coming from a small country where policy changes typically happen fairly quickly, I still remain surprised by the general acceptance in BC that implementation of law reforms will take many years.

by email when needed, but know that my limited knowledge was still a constraint on insights obtained in some cases.

Second, as a researcher of settler origin, I was aware that I was researching a topic of considerable significance and injustice for First Nations in BC. Further, research with Indigenous peoples has historically perpetuated colonial relationships through the exploitation of Indigenous knowledge, imposition of western worldviews, essentialisation of Indigenous perspectives, and by not centring Indigenous concerns and interests (Tuhiwai Smith, 1999; Coombes et al., 2012). Throughout this research process I made several attempts to identify a research project that would respond to First Nations' expressed concerns regarding the WSA, and engage one or more First Nations as research partners. I was only partially successful in these attempts – I was not able to establish a research relationship with a specific First Nation within the timeframe of this research project. However, through multiple conversations with representatives of First Nations and First Nation organisations, attending First Nation presentations and meetings, and a lot of reading, I identified an analysis that (I believe) supports and responds to a core concern stated by First Nation representatives – the lack of water use rights allocated to First Nation communities under BC water law (see Joe et al., 2016). I developed a critical accounting of the actions and outcomes of the settler State's water licensing system, and invited representatives of First Nation organisations to articulate the impacts of this system on Indigenous communities. As a settler researcher, I believe that this interrogation of the operations of the settler State is an important step in recognising and becoming accountable for the injustices of the colonial past and present (see for example, Harris, 2004; Matsui, 2009; Castleden & Skinner, 2014). This includes recognition on a personal level that I and other immigrants to Canada have benefited from the dispossession of First Nations' lands and waters, and therefore bear some responsibility in advocating for change to existing iniquities. I hope that by enumerating the problems created by the colonial licensing regime, this research will help to support First Nations' arguments for replacement of this regime with one centred around Indigenous water rights and laws (Sam & Armstrong, 2013).

However, as a person of settler origin, my analysis is inherently limited by my worldview and inability to fully appreciate the significance, meaning, and experiences of water dispossession for First Nations (Latchmore et al., 2018). I have attempted to minimise a western interpretation of First Nations' perspectives in this research by listening to Indigenous experts³⁶ and learning to identify my biases, but this was inevitably only partly successful. I therefore avoid speaking for First Nations in my writing, instead quoting interviews and published statements to allow Indigenous voices to stand on their own wherever possible. However, the selection, positioning, and inferences drawn from these quotes is my own, affected by my assumptions and biases. In particular, I recognise that my decision to focus on the impacts of the colonial water licensing system on BC First Nations' water access has the potential to perpetuate a stereotype of Indigenous peoples as helpless victims of colonial regimes (see Coombes et al., 2012). As Wilson et al. (2018, p.290) demonstrate, research must attend to the "innumerable ways that Indigenous peoples have governed themselves and continue to do so despite historic and ongoing colonialism." In this research I have attempted to avoid repeating the victim stereotype by highlighting First Nations' resistance to dispossession of their traditional waters, both historically and contemporarily (see also Matsui, 2009; Sam & Armstrong, 2013). Specifically, in Chapter 3 I describe the work of First Nation scholars and community leaders to reassert Indigenous jurisdiction over waters within their territories and protect their aboriginal title and rights through the courts and in public forums.

Finally, I note that as an environmental geographer, my approach to research on law and governance reform differs significantly from common approaches among legal and critical governance scholars.³⁷ Rather than developing a single analysis or theory across the dissertation, I engage with a range of literatures, theories, and methods from across geography, environmental law, political ecology, governance, and critical policy studies. Within each

³⁶ Res'Eau-WaterNET's workshop series 'Water: the life of a community' was particularly invaluable in providing an opportunity to hear from a range of First Nation leaders and water experts

³⁷ Legal research on law reforms typically focuses on review, analysis, history, and comparison of law, including legislation and case law (e.g. Benson, 2002, Benidickson, 2017). On the other hand, critical geographers and governance scholars often engage in long-term, ethnographic, place-based research on law reforms, abstracting from case studies to develop theories of governance, environmental justice, neoliberalism, etc (e.g. Jepson, 2012, Schmidt, 2017b)

chapter, I use different data, methods, and frames of reference to examine a different aspect and timescale of law reform. However each analysis is guided by shared normative concerns with power, equity, and ecological outcomes, sustaining a broad critical engagement with the processes and outcomes of law reform. Such methodological pluralism combined with core normative commitments is common in environmental geography, political ecology, and legal geography research, where epistemological diversity is viewed as providing rich insights into relationships between people, environments, and the State (Castree et al., 2009; Braverman et al., 2014; Perreault et al., 2015). As noted earlier, methodological experimentation and interdisciplinary approaches are viewed as expanding the array of tools and consequently scope of legal geography research (Braverman, 2014), while mixed methods are argued to encourage reflexivity regarding the plural and partial nature of knowledge in political ecology research (Nightingale, 2003). Further, feminist political ecologists and environmental justice scholars have highlighted the utility of mixing quantitative and qualitative methods in research with historically marginalised communities (Rocheleau, 1995; Harris et al., 2016) and other power geographies (Harris & Hazen, 2006).

My training in environmental geography has therefore emboldened me to adopt diverse methods and theories to examine different aspects of law reform. Doing so has enabled me to examine law reform over longer timescales and in greater detail than would be accessible within a more traditional (in critical geography at least) ethnographic approach. I have been able to combine historical insights from the last two centuries with systematic analyses of present-day procedural and distributive justice, evidencing and nuancing claims of historical and ongoing colonialism. I have been able to critically examine the State's claims to meaningful public engagement through quantitative analysis of its consultation process, while also contextualising my quantitative findings through interviews with policymakers and submitters. Finally, I have had the privilege of hearing embedded actors' hopes, assumptions, and expectations for BC's freshwater future, adding rich insight and interpretative context to my analysis of the WSA, its regulations, and implementation. Therefore, while I have often felt that I do not have enough time or space to dedicate to any one method, theory, or timescale in this

dissertation, my combination of approaches has at least provided a diversity of insights commensurate with the wide range of issues raised by the BC WAM.

7 Dissertation structure

Chapter 2, *Whose input counts? Evaluating the process and outcomes of public consultation on the BC Water Act Modernisation*, critically examines State and non-State actors' influence on the scope and content of the BC WSA through participatory policy-making processes. This chapter contributes to research on water law reform by evaluating the role of public consultation processes in promoting the development of equitable, sustainable water legislation. In doing so it highlights the design and operationalisation of legislation development processes as a key lens through which to trace the power dynamics shaping law reforms. The chapter develops a novel mixed methods approach to analyse the Province's consultation process and its policy outcomes with respect to principles of democracy. While the public engagement process was innovative, wide-reaching, and has garnered praise from commentators inside and outside the State, this analysis demonstrates that good intentions and significant investments of time and resources do not shield consultation processes from elite influence. Systematic analysis of written submissions reveals statistical differences in policy preferences between industry and non-industry submitter groups, and patterns in how these preferences align with policy outcomes in the WSA, suggesting uneven participant influence on policy-making. Further, analysis of submissions and interviews with submitters identified barriers to effectual engagement in the consultation process, particularly for First Nations. This chapter highlights the importance of analysing consultation and other policy-making processes in the study of law reform, to examine how the transformative potential of law reform is configured through State mechanisms and non-State influence.

Chapter 3, *Historicising law reform: An account of historical and ongoing dispossession enacted through water allocation law*, explores the implications of the new WSA from the perspective of what it has left undone – i.e. the recognition and protection of Indigenous water rights – and the iniquities that the retention and expansion of colonial water licensing continues to enact on BC First Nations. Building on existing critiques of Indigenous water rights in Canada, it argues that

evaluating the transformative nature of the WSA requires reckoning with the outcomes of the water licensing system in terms of First Nations' water access and use. Given the infant state of the groundwater licensing system in 2019, this chapter examines First Nations' surface water licences as both the extant outcome of colonial water law in BC, and a historical precedent of issues that may emerge as groundwater licensing progresses. Historical and current surface water licensing records are analysed to identify how First Nations' legally recognised water rights have changed over time, and the current distribution of water licences among BC First Nations. In doing so, this chapter seeks to identify those aspects of settler colonial allocation processes and broader property-based systems of water regulation that have resulted in the current uneven- and under-provision of surface water entitlements. Interviews with representatives of First Nation organisations highlight how these processes and their outcomes continue to marginalise Indigenous peoples, despite claims to reform.

Chapter 4, *Embedded indeterminacy in the modernisation of British Columbia's water law*, interrogates the governance logics and implementation pathways embedded in the structure of the WSA, and their implications for the realisation of desired changes in water management and governance in BC. Recent work on environmental law reform has advocated for the adoption of more flexible, adaptive, and place specific approaches to environmental law and governance; this adaptive approach is mirrored in the WSA's structure and current implementation pathways. Drawing on interviews with ministry officials and water experts in BC, together with analysis of water legislation in the province, this chapter critically examines the logics and implications of this 'modern', enabling approach to water law. Attention is paid to whether and how enabling mechanisms are expected to improve the sustainable management of BC's freshwater resources, as well as their equity implications. While analysis remains speculative at this point in terms of the specific mechanisms of the WSA's implementation, the study identifies significant concerns over whether enabling provisions will be implemented, their variability across space, and the costs of implementation.

In the final chapter of this dissertation, I draw together the key findings of this study to reflect upon the potential for water law reform to advance the equitable and sustainable management

and governance of freshwater. Each chapter's empirical, conceptual, and methodological contributions are summarised, as well as the dissertation's overall contribution to theorising water law reform. I highlight the implications of these findings for ongoing water law and governance reforms in BC and provide some policy recommendations for future reforms. In addition, I reflect on the methodological implications of researching law reform in real time and suggest three directions for future research on environmental law reform.

8 Dissertation contributions

Empirically, this dissertation provides a critical assessment of BC's WAM, including its processes of legislation development; the strengths, limitations, and omissions of the WSA; and its implementation pathways. It highlights that the WAM's failure to address Indigenous water rights and BC's existing water use entitlements significantly limit the Act's ability to institute sustainable and equitable water governance in the province. Further, while new regulatory tools may prove valuable in some areas, reliance on political discretion and continued failures to adequately resource water governance means that such tools are unlikely to be sufficient to address systemic water issues. The outcomes of law reforms are consequently likely to be highly uneven, adding to existing geographic and settler colonial injustice within the province.

In seeking to understand how these limitations arose, Chapters 3 and 4 highlight the colonial capitalist origins of BC's water legislation, which was developed to make water resources available for economic development. The dissertation further points to the constitutive role of modern-day governance processes, such as consultation, which do not necessarily subvert existing colonial and political-economic power relations. Chapter 2 argues that through participatory processes of policy development, economic use values and liberal rights ideologies have been embedded into the reformed law, compromising its ability to provide for the interests of First Nations, the environment, and communities who rely on freshwater more generally. At the same time, Chapters 2 and 4 draw attention to the passion, commitment, and achievements of water leaders inside and outside government as ongoing prospects for the realisation of progressive changes in water management and governance in BC.

Theoretically, this dissertation contributes to a growing body of work that seeks to account for and critically evaluate contemporary water law and governance reforms. In its title, the dissertation asks whether we – as citizens and scholars – should keep on waiting for the law to change, essentially questioning the importance of law reform to broader efforts to improve freshwater management and governance. Reviews of the adaptive management and governance and Indigenous water rights literatures reveal that environmental law is undoubtedly important in setting the terms for water rights, use, and management, and that reforms are indeed necessary. Current environmental laws are noted to create barriers to the implementation of sustainable management practices and Indigenous peoples' governance practices. However, through its analysis of the WAM, this dissertation argues that environmental law reform is not a *sufficient* mechanism to overcome these barriers and address longstanding environmental issues and injustices. It highlights that legislative processes are embedded in the same political-economic power relations that reforms would seek to revise (i.e. existing mechanisms and distributions of resource rights), preventing law reforms from reaching their full transformative potential. Specifically, it argues that laws designed to allocate water for economic use are unlikely (on their own) to adequately provide for ecological and non-economic values. Drawing on recommendations from the wider literature, as well as current initiatives in BC, Chapter 5 argues that more comprehensive legislative and extra-legal reforms needed to transform water governance for a more equitable and sustainable future. Therefore, while colonial, capitalist, and neoliberal water laws *must* change, this dissertation suggests that we cannot afford to wait for, or rely on, these reforms alone – broader investments in progressive environmental law and governance are needed.

Finally, this dissertation makes a modest contribution to the field of critical legal geography through its use of a mixed methods approach to examine contemporary processes of law reform. To date, legal geography has explored law's co-constitution with broader societal changes primarily through judicial and other adjudicative processes. This dissertation adds to this growing body of work by highlighting law reform as a valuable lens through which to examine the processes and power relations constituting environmental law. Specifically, Chapters 2 and 3 demonstrate the need to trace both the recent and historical origins of law

reforms to critically appraise their intervention in contemporary governing arrangements. Building on political ecology approaches to legal research, the dissertation utilises a mixed method approach, combining ethnographic methods with policy, document, and data analysis. Whereas document analysis is useful for capturing the perspectives of policy makers and other actors at particular points in time, interviews provide insights into the political and interpersonal context of policy decisions and developments, offering significant explanatory and critical value. Further, interviews with those affected by law and governance changes provide rich insights into the materiality and geography of law reforms. This dissertation extends conventional legal geography approaches through the inclusion of database analyses, which describe province-scale trends in water rights, perspectives, and histories while also highlighting specific cases of interest for further research. A combination of historical and contemporary, and qualitative and quantitative methods is demonstrated as valuable in undertaking a geographically situated analysis of law reform – one that indicates the plural spatiality, temporality, and materiality of reforms, with implications for environmental justice.

Chapter 2. Whose input counts? Evaluating the process and outcomes of public consultation on the BC Water Act Modernisation

1 Introduction

Public consultation has become an increasingly important feature of policy-making (Shipley & Utz, 2012), intended to promote broad citizen participation and enhance democratic engagement by enabling citizens to influence plans and policies that affect them (Patten, 2001). Governments such as British Columbia's (BC) are now routinely incorporating public consultation into legislative reform processes to communicate the scope of proposed reforms, gauge public opinion, and gather data to inform new laws. While public consultation processes differ significantly in their format and outcomes, they are typically characterised by the solicitation of citizen feedback on a decision, plan, or policy proposal (Rowe & Frewer, 2005), with the intention of informing government decisions or revisions to a proposal under consideration. Consultation processes are advocated as an inclusive, efficient means of gaining insight into public values and perceptions, which are expected to improve the outcomes, equity, and legitimacy of government decisions while retaining the central role of professional policy experts (Shipley & Utz, 2012). However, public consultation has not always lived up to its democratic ideals; studies show that consultation processes often align poorly with decision-making processes, lack transparency, and have little influence on policy and planning (Cheeseman & Smith, 2001; Carr, 2012; Monno & Khakee, 2012). Arnstein's (1969) influential critique that consultation can be tokenistic, reproduce power hierarchies, and contribute to citizen disengagement continues to be echoed throughout the participation literature (e.g. Innes & Booher, 2004; Woodford & Preston, 2013; Kaehne & Taylor, 2016).

Public consultation processes are consequently uniquely important processes through which to study the co-constitution of law and society. Building on earlier legal geography studies of judicial and administrative processes' constitutive role in the interpretation and enactment of environmental laws (e.g. Jepson, 2012; Perramond, 2013; Cantor, 2016), this chapter examines how participatory processes configure the scope and substance of water law reforms. Public

consultation presents a formal policy space in which some types of input, engagement, and perspectives are viewed as valuable – and are consequently more likely to ‘count’ towards policy decisions – while others are determined inappropriate or out of place (see Jepson, 2012; Sneddon et al., 2017). At the same time, actors involved in consultation may contest and reconfigure the policy space through their engagements with policy makers and each other (see Perramond, 2013). Thus, following the example of Borgias (2018) and Campero and Harris (2019), this chapter attends to the role of both State and non-State actors in shaping law reform outcomes through the dynamic and evolving process of public consultation. In doing so, it traces how consultation reproduces or disrupts power hierarchies and contributes to social (in)justice for policy recipients. A critical legal geography of public consultation thus demands an engagement with the democratic assumptions underpinning consultation theory and practice (see Patten, 2001; Carvalho et al., 2016). Within this study, the democratic principles of meaningful influence and equity are employed as a normative framework with which to critically evaluate public policy consultation.

Although a range of evaluative criteria and frameworks have been developed to assess public participation processes (e.g. Rowe & Frewer, 2000; Beierle & Cayford, 2002), many of these lack an explicitly critical orientation. Recent reviews have highlighted that evaluations tend to emphasise process criteria and participant satisfaction, to the relative neglect of outcomes (Carr et al., 2012; Brown, 2014). In particular, systematic analyses of how consultation influences policy outcomes are rare, making it difficult to examine consultation’s role in perpetuating existing societal inequalities (Gilens & Page, 2014). More explicitly critical evaluations that exist tend to focus on more direct and deliberative participatory processes (e.g. Carr, 2012), rather than large-scale submission-based consultation processes that have become common among state and national governments (Kaehne & Taylor, 2016). Little is consequently known about how large-scale processes contribute towards democratising State law reforms.

Critical analysis of participatory policy-making processes is especially pertinent to BC’s Water Act Modernisation (WAM), which unfolded through an intensive, multi-stage consultation process that received significant public attention and government investment. The provincial

government held three rounds of public consultation over five years, resulting in over 4000 submissions. These submissions were used to refine the policies comprising BC's new Water Sustainability Act (WSA 2014). The consultation process has generally been considered successful, based on the large number of submissions generated and sustained engagement over multiple stages. The WAM therefore provides a rich opportunity to critically examine how extensive public consultation contributes to shaping the scope and nature of law reform, including its transformative potential. The institutionalisation of consultation by democratic governments worldwide (Shipley & Utz, 2012) underscores the importance of this analysis for understanding the politics and policy outcomes of law reform.

This study contributes to existing research on participation in law reform through a detailed analysis of the WAM's large-scale, submission-based public consultation process. We³⁸ develop a novel mixed methods approach to analyse both the consultation process and its policy outcomes with respect to principles of democracy. Our use of mixed methods echoes arguments by Harris et al. (2016, p.14) that "it is useful to pursue qualitative and quantitative work in tandem – allowing the quantitative work to reveal patterns that can then be explained and understood with more in-depth work." In this study, qualitative analysis was used to explore themes in submitters' perceptions of policy proposals and the consultation process, while quantitative analysis revealed patterns in how submitter input aligned with policy outcomes. Interviews with policy makers and submitters supplemented these analyses, revealing a range of experiences of the consultation process. A mixed methods approach thus allows us to critically examine the consultation process with respect to meaningful influence and equity dimensions – indicating possible instances of uneven influence on law reforms – and to further interrogate the democratic assumptions embedded in consultation practices.

We begin this chapter by reviewing existing literature on the evaluation of public participation processes, identifying key criteria and approaches to evaluate process design and outcomes. Following a brief background on consultation on the BC WAM, we describe the methods used to analyse submissions and policy outcomes. Subsequent sections summarise key strengths and

³⁸ This chapter is adapted from a published research article co-authored by Ashlee Jollymore and Leila Harris

limitations of the consultation process, variability in policy preferences across submitter groups, and differential alignment between policy preferences and outcomes. Finally, we discuss the politics of 'democratic' consultation, and challenges in providing accountability.

2 Evaluating participation: From process to outcomes

2.1 Participation in environmental policy-making

Public participation has been called a cornerstone of modern democracy, and is increasingly mandated in policy formation. This is especially evident within policy related to resource management, especially around issues of environment and sustainable development. The Aarhus convention (UNECE, 1998) highlights interactions between the public and governmental authorities as key to justice considerations, focusing on the need for public access to information as well as broad engagement in decision-making. Participation is also one of the four key principles related to water governance highlighted in the Dublin Principles (1992), while the OECD (2001, p.11) states that: "Engaging citizens in policy-making... contributes to building public trust in government, raising the quality of democracy and strengthening civic capacity." Additional motivations for public participation include the inclusion of citizen knowledge and expertise, especially when institutional capacity is limited (Fischer, 2000).

This focus on participatory engagement as key to good governance, and democracy broadly, has resulted in the institutionalisation of consultation within public planning and policy-making (Shipley & Utz, 2012), where submission-based consultation processes are a common means to solicit feedback, particularly in western democracies (Kaehne & Taylor, 2016). The advent of the internet has transformed consultation, generating new mechanisms that enable broad, low-cost engagement through electronic platforms (Culver & Howe, 2004). In Canada, participation in policy-making has a long history, traditionally operationalised through public hearings and citizen polls (Woodford & Preston, 2013). In BC, the requirement to consult on plans, regulations, and proposed activities is embedded within legislation (Halseth & Booth, 2003). Specific requirements to consult and accommodate First Nations are also embedded in federal and provincial legislation (Government of Canada, 2011).

2.2 Evaluating participation

The increasing prevalence of participatory policy-making has inspired a growing literature on process evaluation, including criteria and frameworks that evaluate participation's effectiveness and inclusivity, and empirical accounts of specific processes. While some of this work is specific to consultation, the majority relates to public participation generally. In this section we outline key trends in existing research on the evaluation of participation, focusing first on criteria to evaluate process design, and then on assessments of participation outcomes. A significant finding of this review is that while a range of approaches have been developed for process evaluation, there are few systematic analyses of participation outcomes. This study presents a novel approach that addresses this gap by linking process evaluation to policy outcomes.

2.2.1 *Process-based evaluations*

Multiple studies have identified a wide-ranging list of process-based criteria to evaluate fair and effective participatory processes. Over the last 20 years, these criteria have been consolidated in a number of frameworks for evaluating public participation, the most well-cited of which is Rowe and Frewer's (2000) framework of process and acceptance criteria (but see also Buchy & Hoverman, 2000; Beierle & Cayford, 2002; Blackstock et al., 2007; Carr et al., 2012; Brown, 2014). Common process criteria include early involvement, representativeness, inclusivity, adequate time and resources, access to information, clarity of objectives/agenda, and the ability of participants to provide input (Brown, 2014). Criteria-based frameworks enable assessment of specific case-studies and comparison across processes (Rowe & Frewer, 2004). However, Bickerstaff and Walker (2005) argue that generalised check-list approaches occlude power dynamics in participation. Scholars have also examined participatory processes using open-ended qualitative approaches, including participant observation, document analysis, and interviews (e.g. Bickerstaff & Walker, 2005; Carr, 2012; Carvalho et al., 2016), highlighting barriers to meaningful engagement (particularly amongst marginalised populations, e.g. Morinville & Harris, 2014), the politics of process design (e.g. Cheeseman & Smith, 2001), and how process design and implementation affects participation (e.g. Halseth & Booth, 2003).

Analyses identify the inclusivity and representativeness of participation as key considerations for process design. Studies examine both who participates (or does not) and how particular perspectives are represented (Catt & Murphy, 2003). Paramount concerns include participation by marginalised groups, elitism, and the legitimacy of relying upon 'representative' individuals (Cornwall, 2008; Nissen, 2014; Parkins & Sinclair, 2014). Several authors have in fact argued that participatory processes act to construct publics and interest groups, rather than simply representing pre-existing groups (Braun & Schultz, 2010; Eden & Bear, 2012).

A related set of concerns focus on access to participation, typically assessed in terms of process timing, resourcing, method, and location (Brown, 2014). Studies have highlighted that the selection of participation techniques, as well as the timing and format of participation, can promote or inhibit participation by certain groups (Cornwall, 2004; Parkins & Sinclair, 2014). Submission-based consultation processes (including online consultation) can be prone to self-selection biases, promoting participation by those who are already politically engaged and have the time, resources, and expertise to participate (Kaehne & Taylor, 2016). For example, Culver and Howe (2004) found that while online consultation improved participation rates, participants tended to be older, better educated, and more politically engaged than the general population. While limited access and familiarity with computers is noted to inhibit online participation, such forums can provide engagement opportunities for marginalised groups who would not normally participate in-person (e.g. survivors of domestic violence, Coleman, 2004).

Finally, power dynamics are an important concern in evaluating participatory processes. Such dynamics are frequently observed in in-person processes (e.g. focus groups) due to pre-existing relationships, group identity politics, the presence of vested interests, and participants' differing abilities to make their concerns heard (Cornwall, 2004). Evaluative frameworks examine whether process design creates a safe environment for participants to voice opinions, accommodates their differing capacities, and provides facilitation for a fair and respectful process (Blackstock et al., 2007; Brown, 2014). Studies emphasise the potential for 'elite capture' of participatory processes (Parkins & Sinclair, 2014), and the silencing of particular perspectives

due to identity politics (Koch, 2013) and consensus-based processes (Bickerstaff & Walker, 2005).

2.2.2 Outcome-based evaluations

Despite the recent advance of evaluative frameworks, very few studies assess consultation's effectiveness in terms of policy, planning, and resource management outcomes (see Brown, 2014). Assessments of process effectiveness and participant satisfaction are frequently used as proxies for outcome evaluation, despite evidence that good processes do not necessarily lead to good outcomes (Rowe & Frewer, 2004; Carr et al., 2012). The lack of outcome assessment renders relationships between consultation and policy-making unclear, providing few measures to ensure decision-maker accountability (Bickerstaff & Walker, 2005; Emery et al., 2015). Indeed, Bickerstaff and Walker (2005, p.2132) conclude that "one of the key questions for participatory democracy centres on what new deliberative processes are actually delivering in terms of policy outcomes."

Evaluation frameworks typically assess acceptance of process outcomes, transparency, and accountability (Rowe & Frewer, 2000; Carr et al., 2012; Brown, 2014). Acceptance criteria gauge whether participants and government officials accept and/or are satisfied with participation outcomes based on the perceived legitimacy of the process (Rowe & Frewer, 2000), often based on surveys (e.g. Shipley et al., 2004). In contrast, transparency and accountability are typically assessed using simple indicators, including whether decision-making is structured and clearly articulated, consultation results are made available, and outcomes communicated to participants (Carr et al., 2012; Brown, 2014). While evaluation frameworks often contain criteria such as "participant inputs have a genuine impact on policy" (Carr, 2012), there are few measures to evaluate such impact (Rowe & Frewer, 2004; Emery et al., 2015).

Additionally, some evaluation frameworks highlight the tangible and intangible outcomes of participation. Intangible outcome criteria include participant empowerment, social learning, willingness to participate in the future, increased trust of government, and improved understanding of government processes (Abelson & Gauvin, 2006; Brown, 2014). Tangible outcomes assess the 'products' that emerge directly from participation, including decisions,

reports, plans, policies, and new institutions or processes (Shipley et al., 2004; Carr et al., 2012; Brown, 2014), although the nature and content of products is rarely analysed. Intangible and tangible outcomes are typically evaluated using a combination of presence/absence criteria, document analysis, and participant surveys (Rowe & Frewer, 2004).

Empirical analyses of consultation outcomes typically involve either observation or interview-based studies on how consultation impacts decisions (e.g. Cheeseman & Smith, 2001; Carr, 2012; Monno & Khakee, 2012), or quantitative analyses of participant satisfaction with outcomes (e.g. Culver & Howe, 2004). Very few studies have systematically analysed the policy/planning impact of consultation – in other words, the relationship between consultation outputs (e.g. submissions) and policy outcomes. One notable exception is a 2014 study by Gilens and Page; their quantitative analysis of 1,779 public policy issues subject to public consultation in the US showed that “when the preferences of economic elites and... organised interest groups are controlled for, the preferences of the average American appear to have only a minuscule, near-zero, statistically non-significant impact upon public policy” (p.575). Their results support other case-study analyses’ findings of (economic) elite influence on public policy-making (Carr, 2012; Parkins & Sinclair, 2014; Kaehne & Taylor, 2016). Studies also highlight government officials’ role in limiting consultation’s policy impact (Cheeseman & Smith, 2001; Carvalho et al., 2016). Here, we respond to the paucity of systematic analyses of consultation’s policy outcomes by quantitatively analysing the relationship between public submissions and resultant legislation across different submitter groups.

3 Consultation on the BC Water Sustainability Act (2014)

This chapter examines the public consultation process undertaken as part of the modernisation of BC’s water law. In 2008, the BC Ministry of Environment released ‘Living Water Smart: BC’s Water Plan’, which included a commitment to modernise BC’s water legislation by replacing the Water Act and attendant regulations with an act that would include protections for water resources and the environment. The WAM project commenced in 2010 with an intensive public consultation process (Figure 2). Consultation took place over three stages and five years; each stage involved the release of a consultation document and solicitation of feedback on the policy

information and options presented. The public were invited to submit comments via mail, fax, email, or the Living Water Smart blog. In addition, the government conducted 12 regional one-day workshops during the first phase of consultation, including three sessions specifically for First Nations.

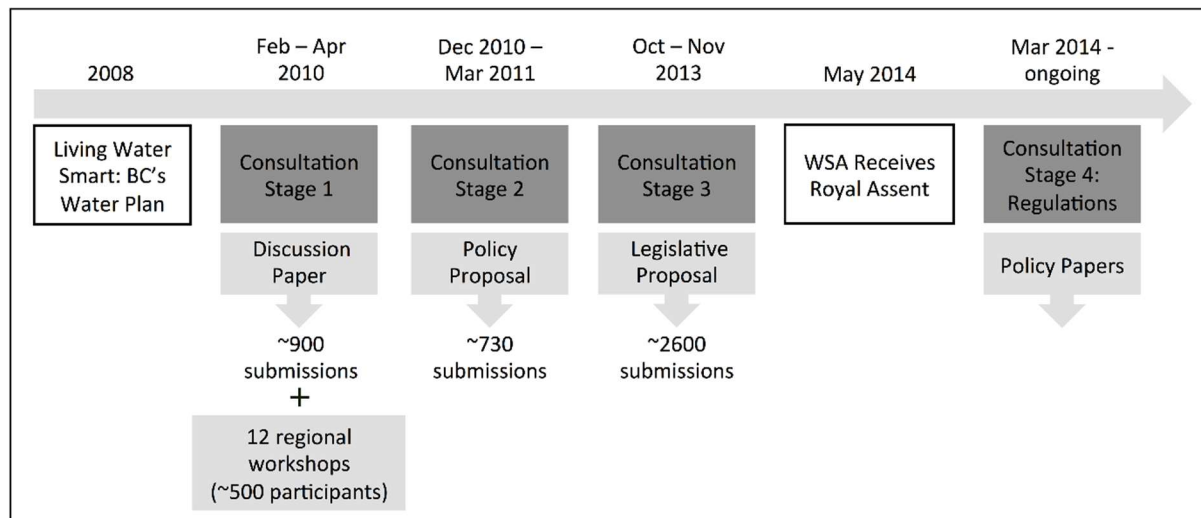


Figure 2 Water Act Modernisation process

The WSA received royal assent in 2014 and came into force in February 2016 with the development of initial regulations. Over the coming years, further regulations that give effect to the Act will be developed in phases; the government has committed to continued public input on proposed regulations. To date, ongoing consultation has largely involved communication of developments in water regulations and implementation via the Living Water Smart blog. For example, the government released an intentions paper on proposed livestock watering regulations in 2018,³⁹ inviting public feedback via the blog or email.

Among the key policy revisions in the WSA are the introduction of groundwater licensing, the protection of environmental flows, and the ability to establish provincial water objectives, water sustainability plans for priority areas, and alternative governance arrangements.

³⁹ Blog Post #24 – Proposed Livestock Watering Regulations (Jan 12, 2018)
<https://engage.gov.bc.ca/watersustainabilityact/2018/01/12/blog-post-24-proposed-livestock-watering-regulations-what-do-you-think/>

4 Methods

This chapter employs a novel mixed method approach to examine public engagement on the BC WAM. In 2015 we undertook a detailed analysis of written submissions on the WSA from the first three stages of consultation (see section 4.1). Qualitative analysis of submissions was used to explore submitters' perspectives on the consultation process and key policy proposals (s4.2), while quantitative analysis revealed patterns in how submitter input aligned with policy outcomes (s4.3). Following these analyses, I interviewed a range of government officials and water experts involved in public engagement on the WAM to examine the drivers, design, and experience of participation policy-making (s4.4). Each method is described in detail below.

4.1 Source material

Our analysis is based on submissions from the first three stages of consultation; the fourth stage had not been completed at the time of the analysis. Submissions were downloaded from the Ministry of Environment's website in May 2015.⁴⁰ We retained the ministry's classification of submissions by submitter group and consultation stage to stratify submissions for our analysis.

All submissions were analysed for 15 of the 16 submitter groups identified by the ministry. For the 16th group, comprised of 'individual'⁴¹ submitters, 10% (482) of submissions were randomly selected from each stage for analysis (using R version 3.2.4; code at https://github.com/ashjolly/WSA_Analysis) due to the large number of submissions from individuals, and resources available for analysis. In total, 867 submissions were analysed across all 16 submitter groups (Figure 3) using a combination of qualitative and quantitative techniques.

⁴⁰ <https://engage.gov.bc.ca/watersustainabilityact/whatweheard/>

⁴¹ The 'individuals' submitter group includes form-based and freestyle (non-form) submissions from unaffiliated individuals

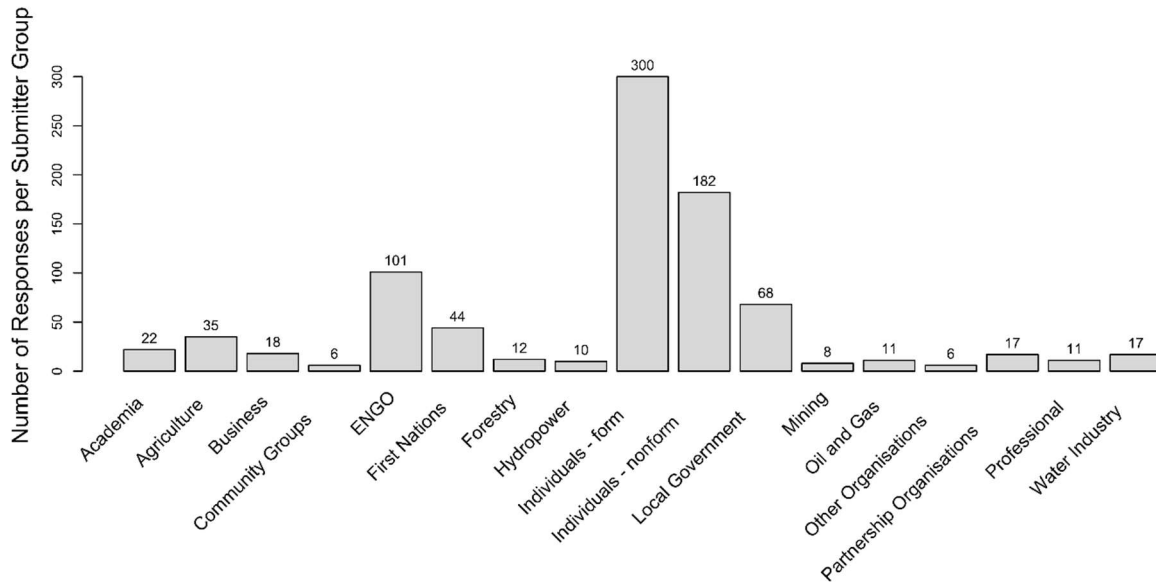


Figure 3 Number of submissions analysed by submitter group (all consultation stages)

4.2 Qualitative analysis

Submissions were coded in NVivo (version 10.2.1, QSR International) using an iterative coding procedure focused on understanding how participants responded to the policy options raised during consultation. All statements that participants made in direct response to the policy options proposed in consultation documents were coded. The resulting codes were used to construct a coding rubric that reflects the range of policy areas (26 in total) contained within consultation documents (Figure 4). Within each policy area, responses were coded according to the level of legislative intervention advocated by participants; responses were categorised as advocating either 1) a more transformative approach to water governance with stronger regulation, 2) a moderate degree of regulation, or 3) less or weakened regulation for that policy area.

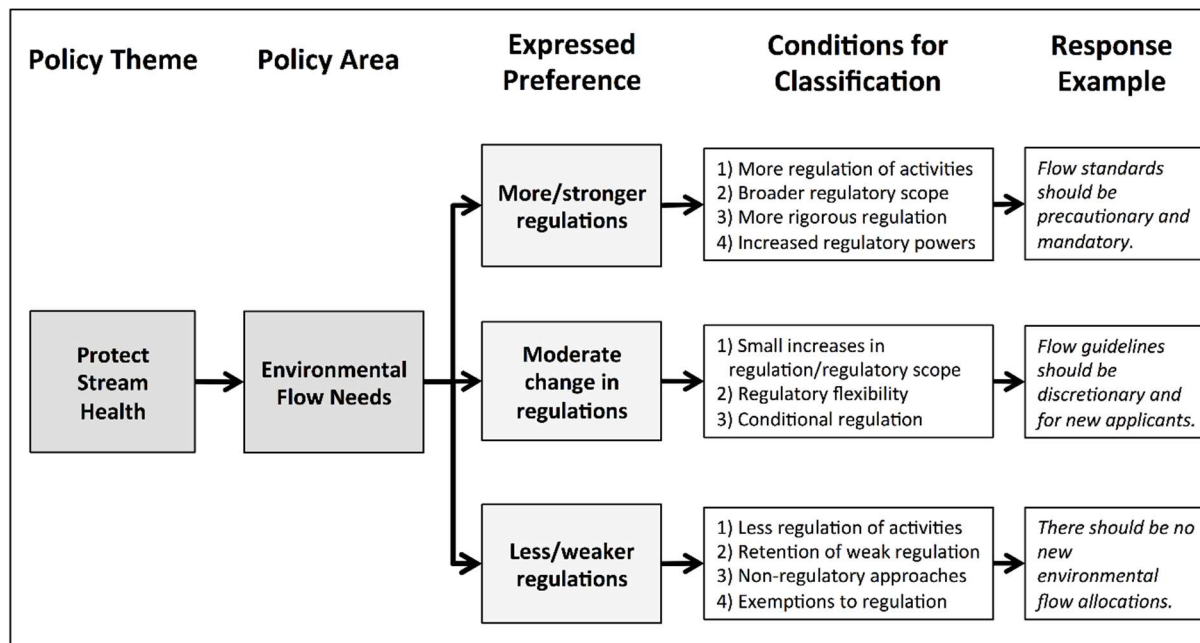


Figure 4 Method for coding submissions, based on policy areas contained in the WSA consultation documents. Submissions were analysed on stated preferences for more, moderate, or weaker regulation (as per example)

In addition, submissions contained a large number of comments regarding the consultation process itself, revealing recurrent themes in submitter concerns and suggestions about the process. Such comments were coded as either positive or negative in tone, and according to themes in recommendations for the process.

Many submissions also contained policy ideas or concerns that the province deemed outside the scope of consultation,⁴² and are therefore not included in this analysis.

Given the number of submissions, coding was split between three individuals. All team members analysed several submissions at the beginning of the process and compared results to ensure consistency. All results were reviewed at the end of the process by a single team member to ensure their proper identification and classification.

⁴² For example, submitters called for incorporation of the public trust doctrine, the creation of a ministry for water, recognition of First Nation title and rights, and policies for climate change and oil and gas development

4.3 Quantitative analysis

To examine the relationship between submitter responses and final policy outcomes, a quantitative analysis of submitter responses to policy areas was then conducted using the coding rubric described previously. This analysis involved calculating two ‘constructed metrics’ (see Satterfield et al., 2013) – a ‘response factor’, and ‘alignment factor’ – using R (v. 3.3.1, R Core Team, 2016).

Firstly, ‘Response Factors’ were calculated to identify how each submitter group responded to a specific policy area, in terms of their desire for more, less, or moderate levels of regulation:

Response Factor

$$\begin{aligned} &= \left(\frac{\text{Number of submitters desiring increase}}{\sum \text{responses in policy area for submitter group}} \right) * 101 \\ &+ \left(\frac{\text{Number of submitters desiring moderate regulation}}{\sum \text{responses in policy area for submitter group}} \right) * 51 \\ &+ \left(\frac{\text{Number of submitters desiring decrease}}{\sum \text{responses in policy area for submitter group}} \right) * 1 \end{aligned}$$

(1)

The ‘Response Factor’ is the average number of submitters in a group that advocated a particular level of regulation, multiplied by a weighting factor, and summed across all regulation levels for a particular policy area. Weighting factors were chosen to ensure clear separation between groups advocating for more versus less regulation.

Secondly, ‘Alignment Factors’ were calculated to compare the level of regulation desired by submitters within specific policy areas (i.e. submitter group response factors) to the outcomes present within the WSA:

$$\text{Alignment Factor} = \text{Response Factor} - \text{WSA Factor} \quad (2)$$

The ‘WSA Factor’ in this equation was calculated by coding the finalised WSA according to our rubric (Figure 4), identifying whether it represented strong, moderate, or weak regulation for the 26 policy areas in our analysis.

The 'Alignment Factor' measures the distance from the level of governance desired by a submitter group to the contents of the WSA. Thus, if the WSA contains the same level of regulation desired by a submitter group, the Alignment Factor will be close to 0; if the submitter group desired more regulation than contained in the WSA, the alignment factor will be closer to 100, and if submitters desired less regulation than the WSA, the alignment factor will be closer to -100.

4.4 Interviews with key actors in the BC WAM

Interviews with provincial government officials and water experts involved in the WAM supplemented the analysis of submissions that forms the focus of this chapter. As described in Chapter 1 (section 6.2), I completed 51 semi-structured interviews with 55 individuals between December 2016 and July 2018. Interviewees were selected from among key organisations involved in the development and early implementation of the WSA, including the provincial government, local governments, First Nation organisations, industry organisations, and non-governmental organisations (NGOs). Organisations of interest and prospective interviewees were identified based on their written submissions to the WAM consultation process,⁴³ as well as organisational websites and personal recommendations.⁴⁴

All interviews included questions on the consultation undertaken during the development of the WSA, although interviewees' ability to comment on these processes varied with the extent of their involvement. Questions to provincial government officials (including elected officials, managers, and staff) typically concerned the motivations for the process undertaken, aspects of its design and implementation, and how effective it was at informing and generating support for water law reform. Interviews with First Nation, industry, local government, and NGO representatives focused on their experience and perception of the consultation process, as well as their strategies in engaging the provincial government. All interviews were transcribed and

⁴³ I was interested in representatives of an organisation at the time of the WAM, whether or not they still worked for the organisation. My interviewees therefore included a number of ex-staff

⁴⁴ In several instances I emailed a general contact address for the organisation, and someone from within the organisation recommended the appropriate representative. In other cases another interviewee or water expert recommended a potential representative

coded as part of the wider WAM study, revealing rich insights on how the consultation process unfolded and was supplemented by other forms of First Nation, stakeholder, and expert engagement. While interviews generally supported the themes and observations from the analysis of submissions,⁴⁵ they also revealed a range of perceptions regarding what participatory policy-making should involve.

5 Results and discussion

5.1 Analysis of WAM consultation process

Our analysis revealed that 182 submissions (21% of all submissions) included some form of comment on the consultation process, of which 70% were negative in tone (cf. 6% positive), while 62% provided a recommendation on the process. The four most common recommendations were to provide more opportunities for input, to undertake meaningful consultation with First Nations, to extend the comment period, and to provide more information on proposed policies. Here we highlight these recommendations, together with interviewee comments and our own observations, to explore some of the concerns related to the design of democratic consultation processes.

The most common recommendation among submitters was to provide more opportunities for public input. During the first stage of consultation, a discussion paper was released that invited the public to indicate their level of support for the proposed principles, objectives, and potential solutions outlined in the document. The discussion paper was necessarily very high level, and the government did not indicate that they were considering further consultation.⁴⁶ Submitters consequently argued that “if this government is serious about democracy, there should be a broader public input process instead of an insufficient 10 day review process” (Individual, Stage 1). The government responded to the public’s requests for further input by providing two additional stages of consultation, each with an increasingly detailed policy proposal. As one provincial official explained

⁴⁵ Interviewee responses generally added nuance and detail to insights from the submission analysis, which have been incorporated into the presentation of results where possible

⁴⁶ Provincial government interviewees confirmed that initially only one phase of public engagement was envisaged

we didn't know at the outset that it would be three, but as we evolved... we start[ed] broad, we converge[d] down to some of the specifics, and people want to be involved along the way... And I think the success of phase one lent itself into the success of stage two, and then people came to expect it, and it was easy, as a bureaucrat, to sell that. (Interview, August 2017)

This extension speaks to a high level of government investment in public participation, and the influence of initial consultation on overall process design, resulting in a multi-stage process where participants were involved from goal evaluation to policy analysis (as advocated by Patten 2001).

Submitters criticised the government for their lack of meaningful engagement with BC First Nations. For example, the Union of BC Indian Chiefs (Stage 1) stated that:

UBCIC is deeply concerned that the submission process outlined in the Discussion Paper is highly problematic; it was designed without Indigenous involvement and treats Indigenous people as 'stakeholders' in the water policy process... There is no recognition of Indigenous jurisdiction or constitutionally-enshrined and judicially-recognized Aboriginal Title and Rights.

Such critiques were re-stated throughout consultation, and continue to inflect First Nations' engagements with the provincial government regarding water. As Chief Judy Wilson noted after the WSA's enactment "I hear they're doing rounds of amendments now, and we still haven't given our consent to the initial Act" (interview October 2017). Indeed, First Nations' submissions had the highest rate of negative comments on the WAM consultation process; 65.9% of all First Nations' submissions were negative in tone, compared to 14.7% of all submissions across all submitter groups. Interviews with provincial officials involved in the WAM revealed that they knew (at least as of 2016) that

First Nations aren't stakeholders, they're First Nations, so government-to-government conversations were important... There was a political interest and commitment to reconciliation and the new relationship agreement, which was prominent at that time. (Interview, August 2017).

Nevertheless, it is clear that consultation fell short of the government's legal responsibilities,⁴⁷ let alone broader ethnical guidelines on what might constitute appropriate consultation (see von der Porten & de Loë, 2014; Joe et al., 2016; Simms et al., 2016; Gullason, 2018).

Despite clear direction that the government had a specific responsibility to consult First Nations, the WAM consultation process was broadly framed in terms of public interest, and First Nations' input was incorporated as one among 16 'stakeholder' groups (rather than on a government-to-government basis). The creation of three (out of twelve) workshops – the only attempt to specifically engage First Nations during the WSA's development – was denounced as 'woefully inadequate' (First Nations Leadership Council, Stage 2). As stated by one provincial official involved in consultation:

It was so badly done... First of all, [three] meetings, and of course we tried to get more, but [three] meetings is just an embarrassment considering 203 First Nations. ...You take a western worldview and say well obviously we need to engage First Nations in this, and perhaps we could just have these meetings, and of course we knew that that was nothing... It wasn't the right time, it wasn't the right method, it wasn't the right anything. But at the same time, we didn't have the licence to change that... the method a First Nation would want a government to engage upon, and the reality of policy development, it's worlds apart... I'll never forget, this elderly lady – I was talking about groundwater up in a northern town, and I was talking about what the problems were and what this discussion document outlined, and how we were really interested in what they thought about that, and she came to me and said 'my village people are dying because of all the polluting oil and gas into our aquifers, and we're drinking this water and we're getting cancer'... And I can't do a bloody thing about that, you know I felt completely and utterly, woefully inadequate. And ashamed that I could dare take my little three

⁴⁷ A series of Supreme Court of Canada decisions in 2004-2005 established the government's constitutional duty to consult and accommodate First Nations on decisions that might impact their aboriginal or treaty rights (Government of Canada 2011). Further, the BC government entered into a 'New Relationship' with BC First Nations in 2005 to improve government-to-government relations. These two developments created legal and societal expectations that the BC government would consult First Nations on the WAM, as it would affect aboriginal water use rights and watershed health within their territories.

pages about groundwater and potential solutions when that was what they were dealing with.
(Interview, September 2017)

The official's story simultaneously highlights the stakes involved in water law reform for First Nations, and the inadequacy of the province's approach to consulting First Nations or indeed protecting their rights and wellbeing more generally. As revealed in this narrative, at least some provincial staff were aware of the failings of the consultation process but did not have the capacity or political support to do more. The inappropriateness and inadequacy of the consultation process likely contributed to the limited participation by First Nations in the WAM consultation – of 203 First Nations in the province, only 18 made formal submissions⁴⁸ (see also Joe et al., 2016). These findings suggest that the province's repeated failure to fulfil their duty to consult and dilution of First Nations' rights to those of 'stakeholders' in the WAM may contribute to further mistrust, as well as disenfranchisement of First Nations.

Submitter comments identified the duration of consultation as another constraint, repeatedly requesting that the government extend the deadline for submissions. The third consultation stage was criticised as particularly insufficient; submitters were given just four weeks to respond to a 127-page legislative proposal. The consequences of short timeframes are unevenly distributed; whereas industry groups, academia, and government organisations have time and resources to dedicate to responding to consultation documents (Kaehne & Taylor, 2016), individual citizens, NGOs, and other under-resourced groups are significantly disadvantaged by short timeframes (Cornwall, 2008). Local governments and First Nations noted especially that there was insufficient time to consult with their communities and governing boards before formulating a response:

Whereas many organizations have a governance Board who's meeting schedule does not accommodate such a short timeline... the Board of the Cowichan Valley Regional District formally request the Ministry of Environment to extend the timeline for public submissions
(CVRD, stage 3)

⁴⁸ Another 16 First Nations organisations and individuals also made submissions

As such, consultation timing constrained the democratic potential of the process, and also undermined the democratic structure of existing institutions, limiting their ability to submit a representative, well-informed response. Nonetheless, the province has continued to provide one-month deadlines for feedback on proposed regulations (e.g. the livestock watering intentions paper).

The final concern raised by submitters was the limited policy information provided, with insufficient detail on proposed policies:

(W)hen it comes to legislation, the devil is in the details. Unfortunately, we will not know those details until the act is presented to the Legislative Assembly... For many of us the answer to these questions will affect the way we do our jobs and how we provide water to our residents
(Water Supply Association of BC, Stage 3)

This stands in direct contrast to the government's stated "interest in hearing about any possible unintended consequences that have not yet been considered" (Ministry of Environment, 2013, p.iii). Interviews with provincial officials reveal that there was some internal discussion over releasing the draft text of the Act, but that they ultimately decided against it, in part due to concerns that the length and legal language of the Act rendered it inaccessible to members of the public. This insight highlights a trade-off in public consultation between making information public versus publicly accessible. Nevertheless, the lack of policy information limited both submitters' ability to provide an informed response, and the utility of responses for policy-making; confusion over policy implications contributed to puzzled and contradictory responses to certain policies. For example, the government's proposal to create a new 'oil and gas' water use purpose was met with strong opposition from both oil and gas submitters, and environmental NGOs, individuals, and First Nations. Oil and gas submitters worried that the new purpose "would provide another opportunity for interest groups to delay development" (Devon Canada, Stage 3), while others assumed it would provide the oil and gas industry with "special and legally-protected rights to use water" (Fraser Riverkeeper Society, Stage 3).

Similar confusion was evident in submitters' responses to 'transfer of rights' and 'permitted uses' policies. This confusion remained despite significant investment on the part of

government to provide informational resources for submitters, including informational workshops, an online blog to respond to questions, and a background report on options presented in the discussion paper (stage 1). The contrast between submitters concerns over the lack of detail and the government's efforts to this end highlights information provision as a key challenge for public participation in policy-making.

5.2 Submitter positions on WAM policy areas

This section describes how submitters responded to the policy options and proposals outlined in WAM consultation documents. First, we examined the number of submissions contributed by each submitter group across all consultation stages (Figure 3), which revealed significant variability. Individuals were by far the largest single contributing group, with the majority of individual submissions originating from NGO-prepared forms (300 of the 482 individual submissions coded). Following individuals, environmental NGO, Local Government, and First Nations submitter groups contributed the greatest number of submissions, while many industry submitter groups contributed few submissions – for example, hydropower, oil and gas, forestry, and mining each had less than 15 submissions.

We then examined how submitter groups responded to the WAM policy areas. We calculated a response factor (the average stated desire for strength of regulation) for each policy area a submitter group responded to. The response factor for each submitter group/policy area pair was compiled as a heat map (Figure 5). Response factors lie on a continuum from 1 to 101, where a response factor closer to 1 (grey) indicates a desire for less regulation, and that closer to 101 (dark blue) indicates a desire for stronger regulation. Additionally, submitter groups were clustered according to statistical similarity in response factors across all policy areas; these relationships are illustrated by the dendrogram to the left of Figure 5 (policy areas were also clustered; dendrogram not shown).

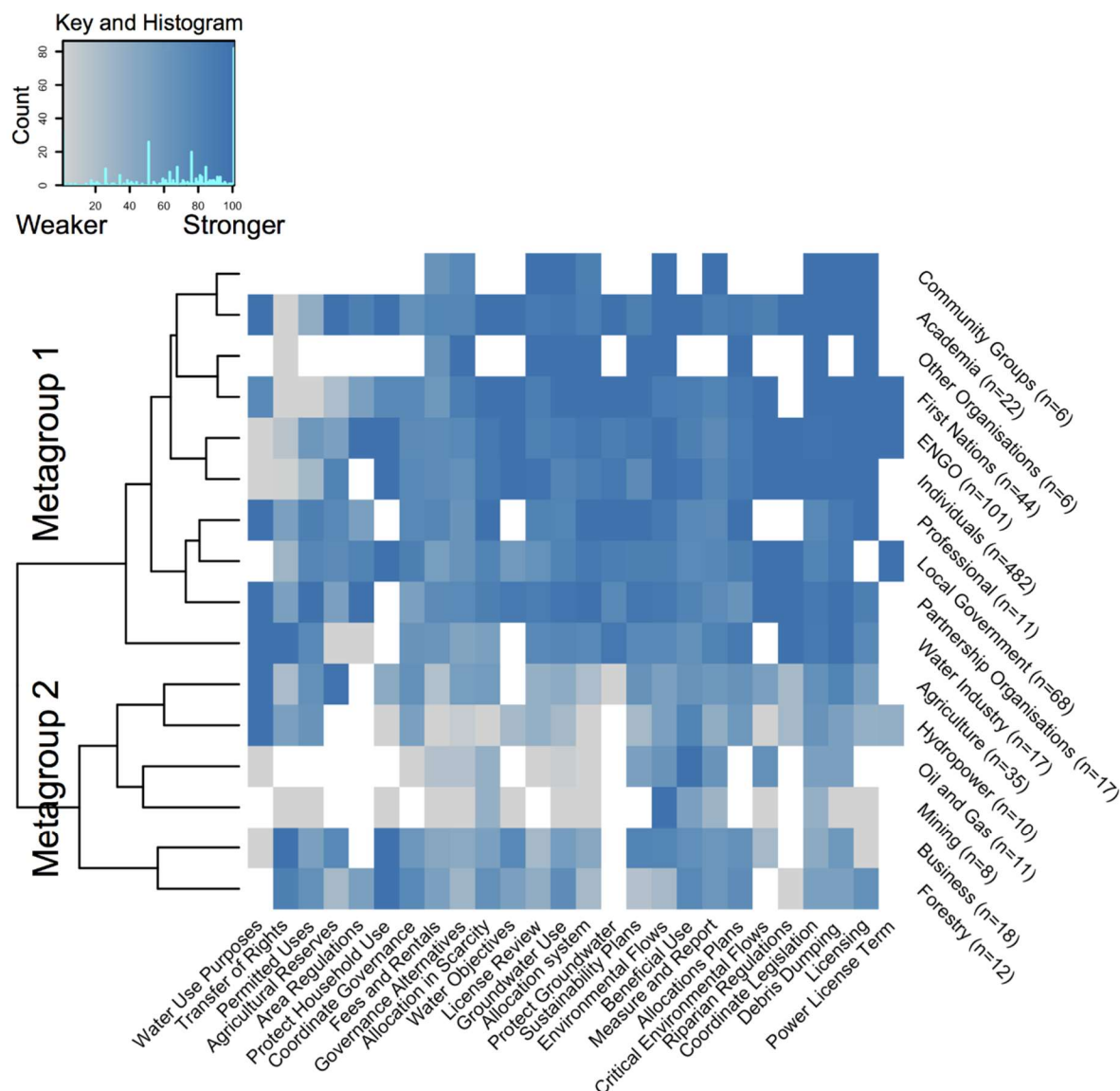


Figure 5 Response factors for each submitter group represented by heatmap pixels, clustered by similarities between submitters (rows) and policy area (columns)

The dendrogram identified two discrete submitter clusters – labelled Metagroups 1 and 2 (Figure 5). It is interesting to note that statistical clustering based on response similarities resulted in a strong aggregation of submitters best described as ‘industrial’.⁴⁹ This ‘industry’ group (Metagroup 2) – consisting of Agriculture, Hydropower, Oil and Gas, Mining, Business and Forestry submitters - tended to favour less regulation, as shown by the predominance of

⁴⁹ Response and alignment factor clusters were determined through hierarchical cluster analysis using a complete linkage method without initial bias (number of clusters, composition, etc.)

grey and light blue squares. For example, industry responses to policy areas related to allocation, licensing, governance, and groundwater resulted in response factors close to or equal to 1, indicating a strong consensus within these groups towards less regulation overall.

Metagroup 1, comprised of ‘non-industry’ submitter groups (Community Groups, Academic, First Nations, environmental NGO, Individuals, Professionals, Local Government, Other Organisations, Partnership Organisations, and Water Industry⁵⁰), is associated with higher response factors, signalling a desire for stronger overall regulation. This was especially true for policy areas enabling stronger environmental protections (e.g. Debris Dumping), improved governance (e.g. Coordinate Legislation), and stronger regulation of licensing (e.g. Licensing) – visible in the cluster of higher response factors at the top right of Figure 5. Submitters within this metagroup also exhibited a greater degree of internal similarity than submitters in Metagroup 2, as illustrated by the variability in colouration in Figure 5.

The internal similarity of response factors within Metagroups 1 and 2, along with the differences between them, suggests a similarity of interests and motivations within these groups. This is substantiated by qualitative analysis; within the industry-dominated Metagroup 2, many submissions underlined the need for regulatory certainty and clarity regarding potential changes to water allocation systems. Further, submissions repeatedly emphasised the importance of protecting existing water rights to maintain industrial and economic activities:

(We are) able to optimize the water resources granted under its licences because of the certainty the current Water Act provides with respect to priority of allocation rights. A change ... could amount to an expropriation, with significant implications for energy planning, electricity rates, and provincial revenue. (BC Hydro, Stage 1)

In contrast, submissions in Metagroup 1 tended to emphasise other, non-economic considerations, including respecting First Nations’ rights, current and intergenerational equity, over-allocation, and improving environmental protection. Thus, these groups appear to be

⁵⁰ The ‘Water Industry’ submitter group incorporates a wide range of submitters, including provincial water associations and consultancies, water utility companies and commercial suppliers, and water retailers (e.g. Nestle Waters Canada). Because the category encompasses a diverse range of views, it does not fit neatly into Metagroup 1 or 2

motivated to participate by a desire to change the existing system, rather than to protect existing rights for economic benefits.

5.3 Alignment of submitter positions with WSA policy outcomes

The results of the alignment factor analysis for the 26 policy areas are illustrated in Figure 6. Each square represents the degree of alignment between a particular submitter group's response and the WSA policy outcome for a particular policy area. How well submissions aligned to WSA legislation is indicated along a colour continuum. Alignment factors indicated in blue indicate that the majority of submitters desired a greater degree of regulation than delivered within the WSA. Mustard yellow indicates that the majority of submissions within a particular submitter category called for less or weaker regulation than is contained within the WSA. Grey squares indicate where submitter preferences were reflected by the WSA, and white squares show where no submissions were made regarding that policy area (no data). Within Figure 6, both submitter groups and policy areas are clustered according to alignment factor similarities; the dendrogram to the left illustrates similarities between submitter groups based on their alignment factors. As observed in Figure 6, clustering of submitter groups according to alignment to the WSA results in the emergence of the same two broad submitter groups as observed when submitters are clustered according to their responses (Figure 5).

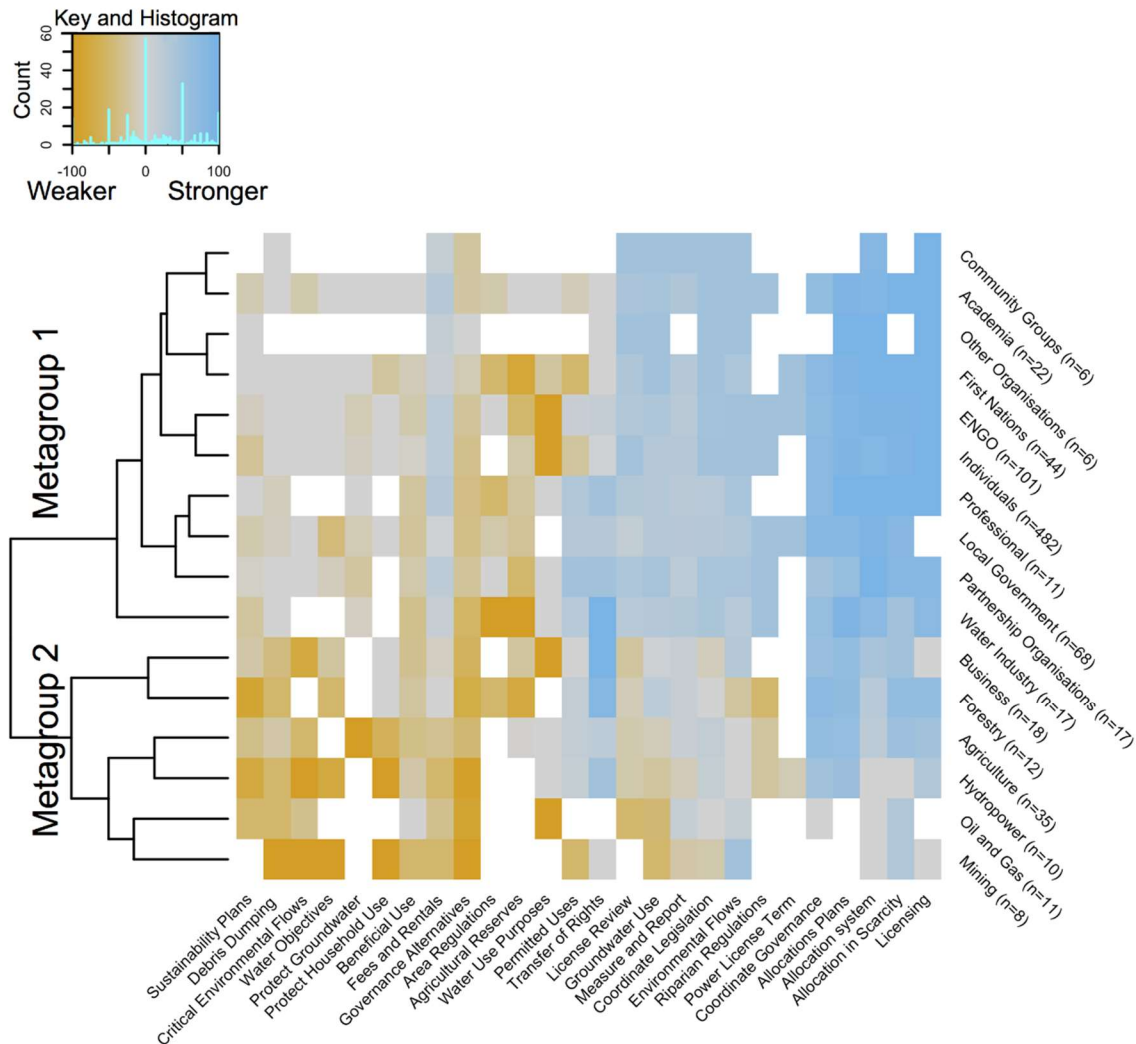


Figure 6 Alignment factors for each submitter group, describing the relationship between submitters' responses to consultation and WSA policy outcomes. Submitters (rows) and policy areas (columns) clustered by similarity

The clustering of alignment values on the right of Figure 6 highlights a group of policy areas where the outcomes in the WSA aligned with the preferences of industry submitter groups (Metagroup 2). This cluster is comprised of policy areas related to water licencing and allocation, including 'allocation plans', 'allocation system', 'allocation in scarcity', and 'licensing'. Metagroup 2 advocated for weaker regulations that would maintain status quo approaches to licensing, ensuring the protection of existing water use rights. In contrast, Figure 6 reveals a near-uniform desire among non-industry submitter groups (Metagroup 1) – who represent the majority of submitters – for more regulation of these policy areas than is contained

within the WSA. Non-industry submitters tended to advocate for strong regulation to ensure the sustainability of water resources, protection of priority uses (e.g. household use), and instatement of more equitable systems of allocation. Allocating and regulating water resources, in effect outlining who gets water and how, is a core component of water policy – indeed, it was the impetus for the initial Act over 100 years ago. However, as the strong division between non-industry and industry submissions indicates, these policy areas are also a key site of conflict in water legislation. The alignment between the licensing policies included in the WSA and Metagroup 2's policy preferences – rather than the majority of submitters – raises questions about how the consultation process fed into policy development, and thus the equity of policy outcomes.

To illustrate these possible divisions more clearly, we examined the response to the 'allocation system' policy area specifically across all submitter groups (Figure 7). This policy area captures submitter responses to the option to change the system of water allocation, raised during the first stage of consultation. Although the majority of submissions (82%) advocated to replace the existing 'First in Time, First in Right' (FITFIR) system of allocation (where water rights are based on historical precedence of licences), the WSA retained this contentious allocation method. Figure 7 highlights that in contrast to submitters in industry groups,⁵¹ who mostly argued for the retention of FITFIR, submitters in non-industry groups tended to advocate for stronger regulation including allocation systems based on water use priorities or proportional water licences, along with increased community involvement in water licensing decisions. First Nations and partnership/environmental organisations were particularly strong advocates for a change in allocation system, as FITFIR has not recognised the historical precedence of First Nation water uses, nor protected water for households and the environment.

⁵¹ Water Industry is a clear exception to this trend. As stated previously, this category represents a range of stakeholders with divergent perspectives

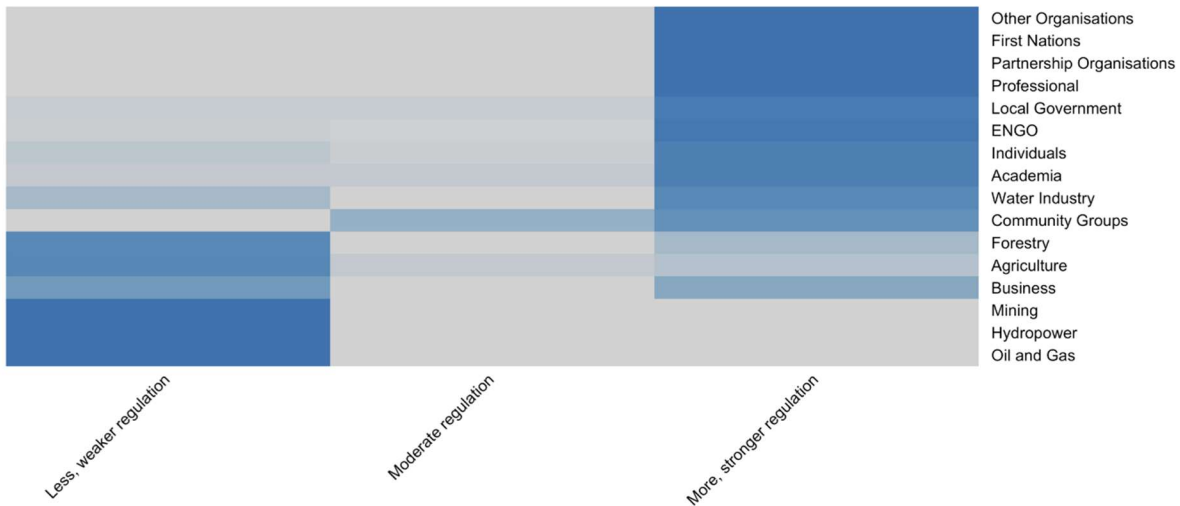


Figure 7 Percentage of submitter group advocating a particular level of regulation for the 'water allocation' policy area; dark blue = 100%, grey = 0%

This strong divergence between the degree of regulation called for and observed thus speaks to the unequal rights and privileges held by different submitter groups. As a provincial official observed:

a lot of people needed it, wanted it to occur, but not water users themselves, because of the FITFIR arrangement... water users have a vested interest in status quo because anything other than status quo is going to cost them money and probably going to cost them water as well. That's what I'm talking about with the systemic inertia around governments where you have historic systems. (Interview, September 2017)

One interpretation of the decision to retain FITFIR within the WSA is therefore that consultation privileges the voices of existing rights holders (status quo), resulting in the entrenchment of existing rights and power relations, and the valuation of economic elite interests beyond those of the majority.

By way of contrast, close examination of the alignment factors on the left of Figure 6 reveals a cluster of policy areas that were subject to strong regulation in the WSA, as was advocated by non-industry (Metagroup 1) submitters, and resisted by many industry (Metagroup 2) submitters. It is notable that several of these policies are conditional, only applying to certain (priority) areas or times when the ministry deems it necessary. For example, new policies enabling the protection of critical environmental flows and household uses will only protect

minimal flows/use volumes when a significant water shortage has been declared. Similarly, a ministerial order is required to develop water sustainability plans for designated priority areas (e.g. areas of sustained scarcity), while alternative governance arrangements for specific areas must be negotiated with the ministry. Other policy areas that received strong regulation under the WSA (i.e. prohibition on debris dumping, groundwater protection) represent pre-existing regulations that have been strengthened with the WSA. In discussing these examples of ‘strong’ regulation in the WSA, we note that there is significant uncertainty regarding their final form, as this will be established through regulations currently under development (see Chapter 4).

In summary, our analysis of alignment factors illustrates that WSA policy outcomes align differently with perspectives of two primary groups: industry and non-industry submitters. While accounting for all elements that shaped the final contents of the WSA is beyond the scope of this study, we do note that core elements of the WSA appear to align better with the level of regulation desired by a small subset of submitters (i.e. industry), particularly for key policy areas that define water rights and allocation. In contrast, policy outcomes that align with non-industry preferences tend to be conditional and discretionary. The following section reflects further on these trends, discussing implications of public consultation processes for democratic theory.

5.4 Assessing the impact of consultation

This chapter began by noting critiques of consultation’s democratic potential, as well as the lack of systematic evaluation to assess consultation’s democratic performance. In this study we sought to address this gap by comparing participants’ inputs with the policy outcomes of a submission-based consultation process. This section invokes the democratic principles of influence and equity to address two questions from our analysis: 1) Does public consultation influence policy-making? 2) And if so, whose input counts in policy decisions?

In terms of consultation’s influence on policy decisions, it is notable that the policy outcome aligned with the majority view for only half of the 26 policy areas addressed through the consultation. In this regard the policy impact of the consultation process is unclear. It appears that the majority public opinion shaped outcomes in only specific instances, while other

considerations may have been paramount in other policy areas. For instance, a provincial government interviewee explained that the decision to retain FITFIR reflected analyses of the implications of changing FITFIR, as well as the political feasibility of those changes – “it wasn’t like simply, well we had 230 submissions that said ditch FITFIR and then we had 50 that said no we like it the way it is, and then oh ok well we had better do something” (interview, October 2017).

However, we note the large amount of government resources invested in consultation throughout the WAM, from the publication of submissions online, and the maintenance of an active blog, to the production of a summary of submissions highlighting controversial policy areas (Ministry of Environment, 2010a). Interviews reveal that provincial bureaucrats had to work hard to secure these innovative and time-intensive consultation techniques, several of which had not been used in the province previously. These innovations were reflective of a bureaucracy that was determined to “do a major legislative review in a different way” and “open up the box on policy-making” by creating “a marketplace of ideas on water policy” – or in the words of one official, a “Water Act by wiki” (provincial government interviewees, August & October 2017). Furthermore, policy documents published at each stage of the consultation process highlight that changes in policy did occur over the course of consultation. Most notably, the potential for transferring water rights and marketisation approaches that appeared in initial policy proposals were removed in later iterations due to significant public opposition. As such, while our analysis does detail shortcomings, it would be difficult to discuss this process as merely tokenistic (cf. Arnstein, 1969; Innes & Booher, 2004).

Other evidence points against the idea that consultation served broader democratic aims of enabling public input into decision-making. The retention of FITFIR as a system of licencing is perhaps the most notable instance where a contentious policy was retained despite strong opposition across the majority of submitters and submitter groups. We note that other motivations for governments to invest in consultation beyond ‘informing policy’ may be a factor within this context, including interests in informing the public, procuring broader knowledge, addressing conflicts, and promoting wider citizen participation (see Fischer, 2000).

More critically, consultation in this instance may have served as a ‘shadow referendum’, enabling government to avoid policy change that might have spurred significant opposition from powerful (industry) groups (cf. Carr, 2012). Indeed, a provincial official implied that some more controversial policy changes (e.g. FITFIR) had to be relinquished in order to secure others (specifically, groundwater regulation) due to political considerations:

We’re all really strong proponents of evidence-based, science-based policy. But you have to always be cognisant of the political as well. So, what do you include in this package? Even if it’s really well substantiated and you’ve got all of the back-up, that doesn’t always mean it’s going to slide through. (Interview, October 2017)

From our results, unexplained differences in alignment between submitter input and policy outcomes speaks to opacity in the translation of public consultation into policy. Although motivations for undertaking public consultation were communicated at the outset, subsequent documents did not provide a clear account of how submissions were used to inform policy, or how other inputs shaped the ultimate composition of the Act. This lack of transparency regarding decision-making is a commonly noted issue in the literature (e.g. Halseth & Booth, 2003). While governments may have good reasons for choosing particular policies over alternatives, the failure to clearly communicate policy rationales post-consultation reinforces perceptions that consultation is tokenistic, contributing to participation fatigue and citizen disengagement (Bickerstaff & Walker, 2005; Murray et al., 2009). Systematic analyses of consultation outcomes, such as our own, may help to improve transparency and accountability by highlighting patterns of influence that warrant further explanation.

A key consideration we are only partially able to address is whether some submissions or submitters influenced policy outcomes more than others. Overall, our alignment factor analysis suggests inequality in submitter leverage on policy outcomes. Specifically, the dominance of economic actors within submitter groups that aligned with contentious policy outcomes (especially key policies regarding water licensing, see Figure 6 and 7) lends weight to claims of elite access and influence on disputed policy developments (Carr, 2012; Gilens & Page, 2014).

Indeed, the suspicion that the final WSA would favour elite interests was noted in several submissions:

As much as the stated goals of the WSA include environmental protection, the industry-specific approach outlined in the WSA eases the approval of industrial water uses with potentially harmful social and environmental consequences. A dominant purpose of the WSA is to streamline water use and access by resource industries, such as mining and oil and gas. (Union of BC Indian Chiefs, Stage 3)

As such, our analysis provides further evidence that economic elites can have greater influence on key policy development than the general public, even when an open participatory process is undertaken (Parkins & Sinclair, 2014).

The indication of elite influence in our results raises yet other questions about how such influence occurs, especially when participatory processes are as heavily resourced and carefully undertaken as the WAM. Together with Carr (2012), we suggest that the socio-political context of consultation, its design, and strategies employed by interest groups may serve to reinforce elite influence. In particular, rights-based arguments made by industry submitters, which emphasised economic and legal rationales for protecting existing entitlements, served to embed existing power relations within consultation. Additionally, several submissions from prominent industry groups mentioned consultation beyond the process open to all citizens. For example, formal submissions from Nestle Waters Canada mention discussions with high-level members of the Ministry of Environment, suggesting that they were provided additional spaces to voice their opinions. Interviews confirmed that face-to-face meetings with industry groups, water experts, and other organisations did take place during the consultation process. While this additional access was not confined to industry organisations,⁵² interviews with industry representatives highlighted that they were able to utilise pre-existing relationships to ministries and ministers to gain regular updates and input on WSA developments. Indeed, one provincial official linked large industrial entities' election financing to their involvement in the WAM:

⁵² For example, a provincial government interviewee recounted multiple meetings with the First Nations Leadership Council and attending several treaty table discussions

Under the current regime for financing political parties there are several ways for companies to financially support the work of political parties or particular MLAs. Without knowing which company (directly or indirectly) funds which party, I noticed that companies that do provide or did provided funds to the governing party appeared to have better access to a minister or to senior staff upon request by the minister. This was also the case with respect to the development and implementation of the WSA. (Provincial government interviewee, October 2017)

These findings suggest that the status of submitters and types of arguments made are more influential in decision-making than the quantity of support for policy options. On this point, it is worth reiterating that submitter groups whose perspective aligned with controversial policy outcomes tended to have fewer submissions than those who argued for alternative policies (Figure 3). This could derive from perceptions among powerful stakeholders that their interests will be accounted for no matter their level of participation within consultation, echoing broad concerns about the dominance of organised interests within participatory democratic processes (Gilens & Page, 2014; Kaehne & Taylor, 2016).

Our quantitative analysis of whose input ‘counts’ in public policy-making also revealed the practice of classification as an important influence on how submitters’ views are represented and accounted for through consultation. Consultation evaluations typically assess process representativeness according to socio-economic and interest group characteristics of participants, compared with the general population (Rowe & Frewer, 2000; Shipley & Utz, 2012). However, our results highlight that representation is also a product of how participant views are made visible through the construction of submitter categories. As described by the Ministry of Environment (2010a, p.13) submissions were classified into categories based on “submitters self-identifying as a representative of a particular group or organization”; submitters who did not self-identify were classified as ‘individuals.’ The ministry then used these categories to quantitatively assess submitter responses to the objectives and policy options proposed. While there is nothing inherently wrong with this approach, the classification and analysis of submissions by submitter categories is inherently political, and should include an understanding of how this affects representation of minority versus majority interests.

By retaining the ministry's classifications in our analysis, we were not only able to highlight the limited alignment between submitter input and policy outcomes, but also reveal concerns about the WAM classification and counting process. First, categories created by ministry officials to capture the diversity of submitters were somewhat arbitrary, and at times grouped submitters who would not necessarily have identified with specific categories. For example, a citizen who used his employer's address as a contact address was classified as a 'business' submission. In such cases, it was not clear whether the submitter intended to represent an organisation, or had the authority to do so. Second, the arbitrary creation of categories obscured the diversity of views involved by reducing them to a series of discrete perspectives. For example, the category 'water industry' represents a wide range of submitters, from provincial water associations (who favoured strong regulation to promote sustainable water use), to water retailers (who supported the retention of existing regulations). By combining such opposing views under one category, neither perspective is clearly visible, which contributed to the weak relationship of 'water industry' to both Metagroups (as is evident in Figures 5-7). Third, we noted significant variability in the number of submissions per category, from six submissions from 'community groups', to 300 'individual form submissions' (see Figure 3). This variability in submissions is hidden when submitter positions are compared across categories (such as in Figures 5 and 6). Thus, classification according to submitter group has the effect of equalising inputs across categories, effectively undermining the significance of a large number of responses from a particular group. Given the previously mentioned low number of submissions from many industry groups, the category-based analysis may have elevated their influence on decision-making. Fourth, a related concern voiced by ministry analysts is how to weigh submissions representing organisations (where one submission professes to speak for many people, e.g. an NGO or entire First Nation) against those representing individuals (Ministry of Environment, 2010a). All of these concerns speak to the very political nature of classification and counting, and the need for critical reflection on the effects of representational choices, including those that affected our own study design and results. This research therefore raises larger questions about the forms of democracy enacted through practices of consultation, and how they can entrench existing forms of political and material inequality.

6 Conclusion

As public consultation is increasingly ubiquitous and mandated, and given criticisms regarding the outcomes and transparency of consultation (Arnstein, 1969; Innes & Booher, 2004), it is imperative to enrich frameworks to evaluate the equity and influence of consultation in law reform. This study utilised a mixed methods approach to critically analyse both the process and outcomes of the multi-stage public consultation undertaken during BC's WAM, according to principles of democracy. Our novel mixed methods approach enabled us to parse patterns of possible submitter influence by mapping submissions against policy outcomes, while also exploring how influence related to process design and the wider political-economic context. Our findings highlight the uncertain influence of consultation on law reform, as well as the possibility of elite influence. Consequently, investments in public consultation will not necessarily lead to more transformative law reforms. We therefore argue that greater analysis of consultation inputs alongside policy outcomes is necessary to both examine possible inequities within consultation and hold governments accountable for policy decisions. Such evaluations are especially necessary as consultation becomes increasingly institutionalised as a means of participatory democracy (Shipley & Utz, 2012; Kaehne & Taylor, 2016).

Our quantitative analysis of submissions on the WAM revealed two distinct clusters in submitter groups' policy preferences, where industry submitters were more likely than non-industry submitters to state a desire for less/weaker regulation – views that tended to align with WSA outcomes on contentious policy issues such as water allocation. The emergence of these clusters and related patterns in policy alignment raise questions about how submitter voices are accounted within consultation, and whether such processes serve to counter or reinforce existing power dynamics. Qualitative analysis of submissions revealed that constraints in timing and resourcing of consultation, as well as limited policy information, served to constrain public input into the Act's development; this contrasted with access claimed by certain industry stakeholders in their submissions and interviews. In the Canadian context, the real or perceived entrenchment of certain interests over others is especially problematic given the government's

(unfulfilled) constitutional responsibility to consult and accommodate First Nations, and the unresolved nature of their water rights. This tension is examined further in Chapter 3.

These findings provide insight into how the scope and substance of law reforms are constituted through participatory policy-making processes. While participant input was clearly not the only influence on the WAM, the consultation process provided a publicly visible space through which the terms of the law reform were defined, and policy options refined. State and non-State actors consequently struggled over the extent and shape of consultation in order to influence the policy decisions made (or at least legitimised) through that space. State actors sought to define the scope of reforms from the outset by setting the goals and policy options for law reform, and soliciting and analysing public input through a highly structured feedback form. Non-State actors contested this structured and bounded process, calling for additional opportunities to provide input along with policies that exceeded the pre-defined scope of reforms (e.g. recognition of First Nation rights). It is indicative of the transformational potential of public participation processes that they succeeded in shifting the scope of consultation, but not the reforms themselves. Industry elites further sought to increase their influence on reforms by using consultation as a public platform to cultivate opposition to more transformative changes and thereby illuminate the political consequences of such change, while simultaneously redefining the consultative space through less visible meetings and channels of communication. It is notable that major revisions to water allocation policy were quickly ruled out following negative industry feedback, while other environmentally progressive policies were rendered place-specific and discretionary. This study therefore reveals how law reforms are co-constituted with existing socio-economic power relations through public consultation processes, and the significance of participatory process design for reform outcomes.

In particular, our study draws attention to the normative assumptions and forms of democracy underlying consultation practice. In contrast to the simplistic public engagement rationales espoused by governments, this study illustrates the plural and contested nature of democracy in participatory policy-making. Our analysis of ‘whose input counts?’ raises the linked issue of ‘whose input should count?’, and what form of democracy this embodies. Public participation

processes are frequently undergirded by an assumption of majoritarian democracy, where the majority or 'consensus' view is expected to inform policy (e.g. Gilens & Page, 2014; Parkins & Sinclair, 2014). However, work by Catt and Murphy (2003), Cornwall (2004, 2008), and Patten (2001) highlights that majoritarian processes can reinforce existing power dynamics and inequalities, and fail to address issues specific to minority and marginalised groups. Our study further demonstrates that interest group pluralism (as enacted through the creation of stakeholder categories) can enhance the influence of economic elites at the expense of more marginalised interests (see also Gilens & Page, 2014). Particularly given the clear failures with respect to the duty to consult and accommodate First Nations, there are lingering questions about how to engage historically disenfranchised groups in consultation processes, how to address specific rights and inequalities through law reform, and whether in some instances marginalised groups should have greater influence on decision-making.

Our study indicates that evaluation of consultation must be informed by examination of the power relations implicit in participation. To the extent possible, it is important that studies of participatory democracy must be attentive to the different outcomes of policy decisions for different groups, with particularly focus on whether outcomes address or reinforce existing inequalities (Cornwall, 2008). This study makes a modest contribution towards such analysis by providing a way to parse submitter input and analyse its alignment with policy outcomes, revealing patterns that can then be interrogated through further research. Such analyses of 'outcome equality' are likely to be most effective when undertaken in conjunction with critical interpretative analysis of the consultation process within its wider socio-political context.

Chapter 3. Historicising law reform: An account of historical and ongoing dispossession enacted through water allocation law

1 Introduction

We haven't supported or sanctioned any water regulation or anything from the Water Sustainability Act. The old ones we still had outstanding issues with as well, and those caused past infringements that haven't been sorted out with us either, so those have to be sorted out and addressed. (Chief Judy Wilson, interview October 2017).

This chapter explores the implications of the Water Sustainability Act (WSA) from the perspective of what it has left undone – i.e. the recognition and protection of Indigenous water rights – and the iniquities that the retention and expansion of colonial licensing systems continues to impose on British Columbia's (BC) First Nations. The previous chapter highlighted that First Nations contested the BC Water Act Modernisation (WAM) on the grounds that they were not appropriately engaged, and that the scope of reforms did not address the Province's longstanding denial of Indigenous water rights⁵³ (see also von der Porten & de Loë, 2014; Joe et al., 2016). As the interviewee quoted above illustrates, many First Nation leaders continue to oppose the imposition of the WSA, which extended the province's earlier claim to "the property in and the right to the use and flow of all the water at any time in a stream in British Columbia" by stating that "the property in and the right to the use, percolation and flow of groundwater... in British Columbia, are for all purposes vested in the government and are conclusively deemed to have always been vested in the government" (BC WSA 2014 s5). The interviewee highlights that the WAM not only missed an opportunity to recognise and protect Indigenous water rights into the future, it also entrenched a settler colonial licensing system and its outcomes in BC's supposedly modern water law. Indeed, the WSA's assertion that property in groundwater was *always* vested in the government underscores the fact that the Act's foundational claim to modernising water management is founded in the denial and dispossession of Indigenous

⁵³ First Nations' title and rights to water have not been legally recognised to date; instead, the provincial crown has asserted ownership over all waters in BC (Bartlett, 1988; Phare, 2009)

water rights. Analysis of the ‘transformative potential’ of the WSA therefore requires a careful evaluation of the longer history and consequences of the way water use rights have played out in the province, particularly as the WSA endorses and extends this system despite the repeated dissent of First Nations. This chapter therefore looks back at BC’s history of surface water allocation, and the licences allotted to BC First Nation communities,⁵⁴ to explicate the consequences of retaining colonial water licensing in BC’s new water law. Specifically, it draws on a combination of historical water rights summaries, current licensing data, and interviews to critically examine the processes and outcomes of surface water licensing with respect to BC First Nations.

The larger story of the colonial dispossession of Indigenous water rights in BC is already well known. Numerous authors have described and criticised the Crown’s assertion of ownership and denial of Aboriginal title to water, the ‘First In Time, First In Right’ (FITFIR) system of water allocation, and jurisdictional disputes over water on reserve lands (see section 2). However, the specific processes and outcomes of the colonial system of water use allocations, which has been imposed on BC First Nations since the creation of reserves, have received less attention. Several studies have documented the historical progression of water law and licensing in BC, drawing attention to the legal precedents and material outcomes of decisions regarding First Nations’ water rights (Bartlett, 1988; Bankes, 1991; Walkem, 2004; Matsui, 2009; Phare, 2009). Other case studies have provided in-depth descriptions of the operation and outcomes of water law for specific First Nations (Sam, 2013; Simms, 2014). To date, no study has provided a province-wide account of the surface water entitlements⁵⁵ that were granted, denied, withdrawn, and maintained by BC First Nations under federal and provincial systems of water allocation. This chapter seeks to address this gap by analysing historical and current surface water licensing records to examine how First Nations’ legally recognised water rights have changed over time, and the current distribution of water licences among BC First Nations. In

⁵⁴ Specifically, licences granted to BC First Nations or band governments for use on their reserve lands

⁵⁵ I use the language of entitlements in this chapter to describe the legal usufructuary rights granted by the Province, and distinguish these government-created rights from the broader, inherent water rights asserted by Indigenous peoples (following the example of Curran and Brandes, 2012)

doing so, it seeks to identify those aspects of colonial allocation processes and broader property-based systems of water regulation that have resulted in the current uneven- and under-provision of surface water entitlements.

The following two sections provide an overview of current knowledge on Indigenous water rights in Canada and BC, summarising the scope and key insights of research to date (Section 2) and, briefly, the nature of water use entitlements under BC water law (Section 3). The sources and methods used for the novel analysis undertaken for this chapter are described in section 4, followed by the results of this analysis in sections 5 and 6: in section 5, a detailed account of BC's history of dispossession is presented, focusing on government actions through which surface water entitlements have been granted, denied, and withdrawn from First Nations in BC. The outcomes of this history are detailed in the following section (6), which summarises First Nations' contemporary surface water entitlements. The discussion (section 7) builds on these insights to critically interrogate the exclusion of Indigenous water rights from the WAM, before reflecting on the implications of these findings for BC First Nations, Indigenous peoples, and settler colonial States in the conclusion (section 8).

2 Indigenous water rights and settler colonial dispossession in Canada

This section provides an overview of existing research on Indigenous water rights and settler colonial dispossession in BC. While Indigenous rights to water is an area of growing interest worldwide (see Durette, 2010; Ruru, 2010; Poirier & Schartmueller, 2012; Hidalgo et al., 2017; Radonic, 2017; Jackson, 2018), research on water rights and dispossession in western Canada is as yet limited, dominated by a handful of legal researchers, historians, and geographers. These authors variously examine the legal case for unextinguished aboriginal title and rights to water (Bartlett, 1988; Walkem, 2004; Phare, 2009; Curran & Brandes, 2012), the implications of legal developments for Indigenous water rights (Bankes, 2015; Curran, 2017; Gullason, 2018), and the history of water rights in western Canada (Matsui, 2009; Sam, 2013; Simms, 2014; Schmidt, 2017a). Such research and analyses have significantly advanced understanding of the unresolved state of Indigenous water rights in BC, wherein the legal bases for unceded Indigenous rights are generally agreed upon but not reflected in current developments in water

law. Geographies of settler colonialism have added important explanatory value to such legal and historical analyses, by situating State denials of Indigenous water rights and jurisdiction within broader settler colonial logics of dispossession and replacement (Pasternak, 2014; Curley, 2019). Such work has further highlighted settler law's suppression of Indigenous practices and relations, and Indigenous resistance through the resurgence of Indigenous legal orders and practices (Todd, 2016; Daigle, 2018; Yazzie & Baldy, 2018). However, to date little work has examined the consequences of current denials of Indigenous water rights in BC, in terms of First Nations' legally-protected access to water under colonial regimes (but see Simms, 2014).

This section reviews scholarship on Indigenous water rights in western Canada to situate this chapter's analytical focus on First Nations' water use entitlements within broader theorisations of Indigenous rights and critiques of settler law and dispossession. First, it summarises sources of Indigenous water rights and pathways to recognition of those rights in settler law, as well as alternative pathways to restoration of Indigenous rights and jurisdiction. Second, it reviews histories of western Canadian water law, highlighting that the WSA is only a recent entry in a long history of denying Indigenous peoples' rights and appropriating their water resources. Third, it draws out key insights from geographies of settler colonial dispossession that help to contextualise and explain the described current and historical denials of Indigenous water rights.

2.1 Legal sources and pathways to recognition of Indigenous water rights

The legal case for unextinguished Indigenous rights to freshwater in BC has been the subject of several analyses, all of which reach the same general conclusion: there are multiple sources of Indigenous water rights in BC, and multiple avenues to realising these rights. Walkem (2004) for example provides a useful analysis of four potential sources of Indigenous rights to water under Canadian law – rights flowing from unceded Aboriginal title to land, an Aboriginal right to and in water, rights to water that are incidental to another Aboriginal right (e.g. fishing), and reserve or treaty rights. Similar distinctions are described by Bartlett (1988), Phare (2009), and the British Columbia Assembly of First Nations (BCAFN, 2016). Together, these analyses demonstrate that while neither the Canadian federal nor provincial governments have

acknowledged Indigenous rights to water, Canadian legislation (specifically, the Constitution Act, 1982), agreements, actions (e.g. reserve creation), and case law all contain the potential for legal recognition and protection of those rights. Boyd (2011) has also argued that First Nations have an enforceable constitutional right to safe drinking water under the Canadian Charter of Rights and Freedoms, the Constitution Act (1982), and international human rights law. However, Phare (2009) and Gullason (2018) emphasise that Indigenous rights to water are not limited to those recognised by the Canadian (or international) legal system. First Nations also possess inherent rights, originating from “the fact of their own existence, as Nations, residing and governing throughout these territories”; these rights are given and limited by the Creator’s laws, and therefore cannot be altered or narrowed by other humans or their governments (Phare, 2009, p.36-7).

Indeed reliance on colonial legal concepts and systems for recognition of Indigenous water rights has been a source of contention within the academic literature and Indigenous communities (see review by Jackson, 2018). Most legal analyses focus on the likelihood and extent of rights that may be recognised based by Canadian governments and legal systems. The key approaches to securing BC First Nations’ water rights typically discussed are comprehensive agreements with the Crown, or legal recognition of reserve rights, Aboriginal title, and/or Aboriginal rights to water through precedent-setting court decisions. In particular, the applicability of US case law on tribal water reservations (commonly known as the Winters’ Doctrine) to Canadian reserves is often deliberated. While it is argued that the logic of an ‘implied reservation’ of water “should apply with as great a force in Canada as in the United States given that treaties and reserves were created in much the same fashion in both countries” (Phare, 2009, p.61), differences in Canadian and US legal and governance systems are seen as limiting the doctrine’s applicability (see Marechal de Carteret, 2015). There is also significant interest in the development of Aboriginal title case law, with successive Supreme Court of Canada decisions affirming Aboriginal title to land in ever more certain terms – building from its theoretical existence (*Calder v. British Columbia*⁵⁶), to its content and delineation of criteria for

⁵⁶ *Calder v British Columbia (AG)* [1973] SCR 313

its existence (*Delgamuukw v. British Columbia*⁵⁷), to the recent precedent-setting declaration of unceded Aboriginal title in a specified territory of BC (*Tsilhqot'in Nation v. British Columbia*⁵⁸). While none of these decisions specifically mention rights to water, legal analysts have advanced arguments for why Aboriginal title could be interpreted as including surface and/or groundwater (Bartlett, 1988; Walkem, 2004; Laidlaw & Passelac-Ross, 2010; Phare, 2011; Brandes & Curran, 2017; Gullason, 2018), speculating that it will not be long before title rights are specified in court. Other legal scholars have focused on case law regarding Aboriginal and treaty rights to water and related resources, including the Environmental Appeal Board's cancellation of a corporate water licence due to inadequate consultation with a Treaty 8 First Nation⁵⁹, and a BC Supreme Court statement that Halalt First Nation had an arguable case that groundwater was conveyed to the federal government along with reserve lands⁶⁰ (e.g. Curran, 2017).

Nevertheless, there is also significant scepticism regarding the scope and extent of rights that may be recognised by colonial governments and courts, leading some authors, lawyers, activists, and communities to explore opportunities for the assertion of Indigenous rights and laws independently of Canadian law. As Coulthard (2014), A Simpson (2017), Hartwig et al. (2018), and others have argued, recognition-based approaches to the restoration of Indigenous rights concedes power and authority to the same colonial government who benefits from the denial of those rights. The larger paradigm of 'rights' has also been subject to critique, due to its close relationship to Western individualised, property-based conceptions of rights, which typically do not align with Indigenous laws and ontologies (Pasternak, 2014; Radonic, 2017; Yates et al., 2017; Wilson & Inkster, 2018). Many critics and activists consequently advocate approaches based in self-determination, wherein Indigenous communities assert their inherent rights and responsibilities to their peoples, territories, and environments and negotiate with

⁵⁷ *Delgamuukw v British Columbia*, [1997] 3 SCR 1010

⁵⁸ *Tsilhqot'in Nation v British Columbia*, 2014 SCC 44

⁵⁹ *Sharleen Gale and Fort Nelson First Nation v Assistant Regional Water Manager*, 2012-WAT0013(c) (BC EAB)

⁶⁰ *Halalt First Nation v British Columbia (Environment)*, 2011 BCSC 945. Note that this decision was later overturned by the BC Court of Appeal, but that the BCSC's comments regarding transfer of groundwater were not directly addressed

colonial governments as sovereign nations (Simpson, 2011; McGregor, 2014; Daigle, 2016; Todd, 2016). For example, according to the BCAFN (2016, p.702), “some First Nations have simply chosen to exercise their dominion over water by using the water source and taking their chances if challenged, being prepared to defend their actions.” Others are currently working on revitalising Indigenous water law in pursuit of Indigenous governance of water resources within their territories (see Napoleon & Friedland, 2016 and the RELAW and Decolonizing Water projects),⁶¹ and exploring models for joint Indigenous-Crown decision-making and governance of freshwater (see for example work by Phare et al., 2018 on collaborative consent). Self-determining alternatives to recognition-based approaches therefore encompass myriad everyday and strategic practices that support the resurgence of Indigenous ontologies and legal orders governing the way nations relate with their ancestral lands, human and non-human relatives, community members and those of other nations (Daigle, 2016). While this chapter cannot do justice to the rich field of Indigenous legal scholarship (see Coyle, 2017) or numerous actions First Nations are undertaking to revitalise their water practices, traditions, and laws, its analysis of the injustices resulting from colonial water allocation law underscores the importance of self-determining alternatives.

2.2 Histories of colonial water rights in western Canada

This chapter builds on previous efforts to document the history of water rights in western Canada, and in particular the historical changes that shaped Indigenous water rights and use in BC (Bankes, 1991; Richard, 1999; Walkem, 2004; Matsui, 2005; Matsui, 2009; Sam, 2013; Simms, 2014; BCAFN, 2016; Schmidt, 2017a). Most of these analyses focus on BC’s (and/or Alberta’s) early history of water rights legislation, from the gold rushes through to the mid-1900s (Matsui, 2009), although some connect these early developments to recent changes in water law (Simms et al., 2016; Schmidt, 2017a). Such work has highlighted the key laws, individuals, decisions, institutions, and processes that shaped Indigenous water rights and access over time,

⁶¹ RELAW – Revitalising Indigenous Law for Land, Air and Water – was launched in BC by West Coast Environmental Law in 2016 <https://www.wcel.org/program/relaw>; Decolonizing Water is a Canada-wide, collaborative project that seeks to create an Indigenous-led community-based water monitoring initiative rooted in Indigenous laws

demonstrating how changes in reserve policies and boundaries, discriminatory laws in the 1800s, rigid licensing rules and processes, disorderly record keeping, federal inaction, and jurisdictional conflicts combined to deny and restrict First Nations' rights to water. Notably, these historical accounts reveal that First Nations were denied not only their Aboriginal title and rights to water, but also equitable water use entitlements under provincial licensing regimes. Richard (1999), Matsui (2009), Simms (2014), and others have added to this general narrative of dispossession through case study research that elaborates the consequences of changes in water law and licensing practices for particular First Nations in BC and Alberta. These case study accounts, which are mostly located in the dry interior of BC, highlight freshwater scarcity as an often-present (and growing) issue that inflects BC's history of water rights. For example, Simms (2014) examines the outcomes of the province's FITFIR approach for two First Nations in the dry Okanagan region, finding that not only do the First Nations hold junior licences on many of their water sources, but were also denied licences due to scarcity. Her interviews and meetings with members of the Lower Similkameen Indian Band highlight the ongoing injustice experienced by First Nations who have been deprived of their longstanding access to water, and how vulnerable these communities are to changes in water availability and use by their neighbours.

Insights from these accounts of BC's history of water rights are drawn upon extensively in the results and discussion sections of this chapter, to situate, compare with, and supplement its analysis of changes in First Nations water rights over time. In addition to such rich historical detail, scholarship on BC's history of water rights suggests three lessons for ongoing research. First, comparison of case study accounts (e.g. impacts of water shortages among Okanagan First Nations in Richard, 1999 cf. hydropower development on Treaty 7 nations in Matsui, 2009) illustrates the significant variability in water use conflicts, policies, and outcomes across western Canada. Indeed Matsui (2009, p.8) asserts that

Reciprocal relations among the mythical notion of Indianness, interconnected socio-economic situations in traditional territories, and regional or local differences in dealing with water disputes resulted in the highly localized and entangled cultures and histories of Native water

rights issues. Simply attempting to provide a homogenous picture of these issues can cause misunderstanding and misrepresentation.

This chapter attempts to account for and further characterise this variability by providing an enriched analysis that highlights both broader patterns as well as the inherent heterogeneity of Indigenous water rights histories and outcomes. Specifically, the analysis draws together information on the changing water entitlements of all 203 First Nations across BC. Whereas historical accounts have tended to either describe a general sequence of legislative changes and processes affecting BC First Nations (e.g. Walkem, 2004), or focused on one or more case studies (e.g. Simms, 2014), this chapter seeks to bridge the general and the case study by enumerating the number and geography of First Nations affected by each development in BC's water rights history.

Second, Matsui (2009) and others (e.g. Sam & Armstrong, 2013; Sam, 2013; Simms, 2014; BCAFN, 2016) make a point of centring the actions and strategies of First Nations in their narratives and case studies. For example, Sam (2013) uses oral narratives to document the customary laws and practices that guide the water management practices of the Sylix (Okanagan) peoples, while Matsui (2009) documents First Nations' assertions of their water rights in their interactions with federal and provincial officials, and contestation of settler expropriations both in court and on the land. These accounts are an important reminder that BC's history of water use conflicts is not only marked by dispossession, but also Indigenous resistance and assertion of their rights (see also Borrows, 1997; Harris, 2001; Harris, 2002; Todd, 2018). As Bradford et al. (2017, p.269) state

Indigenous people are responding to water-related governance challenges by voicing their concerns, reclaiming their roles in water governance and calling for adaptation and realignment of current Canadian water policy regimes to include Indigenous water governance processes.

This chapter attempts to follow the example set by earlier accounts by documenting First Nations' perspectives, resistance to colonial water governance, and assertions of their jurisdiction and rights wherever possible.

Third, recent histories of western Canadian water law highlight the continuation of colonial denials and dispossession of Indigenous water rights in ‘modern’ water law (e.g. Simms et al., 2016; Schmidt, 2017a). Histories of BC’s water allocation law uniformly observe that the new WSA entrenches the colonial status quo by asserting Crown ownership of all water in the province and asserting provincial jurisdiction over groundwater licensing on and off reserve lands (Sam & Armstrong, 2013; Simms, 2014; Brandes & Curran, 2017; Curran, 2017). Gullason (2018, p.29), who provides one of the most comprehensive reviews of the WSA’s implications for BC First Nations, highlights that “the WSA represents a missed opportunity to right a historic wrong perpetrated against Indigenous Peoples and develop an equitable and sustainable nation-to-nation water governance model.” She argues that the allocation of groundwater licences without proper consultation may infringe First Nations’ Aboriginal and treaty rights, and that effective consultation is likely to be limited by both the procedural orientation of provincial consultation practices to date and First Nations’ capacity to engage in case-by-case consultation. Gullason and others (e.g. Simms, 2014; BCAFN, 2016; Curran, 2017) also note that the extension of prior allocation to groundwater licensing may result in further barriers to First Nations’ access to scarce water resources. Historical analyses therefore demonstrate the value of analysing past and present policies together, in order to trace the origins, underlying tendencies, and omissions of modern policy developments, and evaluate contemporary policy interventions in the context of the cumulative outcomes of earlier policies. However, a theoretically informed explanation of these historical developments and outcomes requires an understanding of the broader logics and structures of settler colonialism, as the next section details.

2.3 Insights on settler colonial dispossession

Histories of water law in western Canada highlight that the BC government’s denial of Indigenous water rights and jurisdiction was not an isolated provincial policy, but rather part of a larger structure of settler colonial dispossession. As stated in Chapter 1, settler colonialism is a distinct form of European colonialism, “premised on land acquisition and population replacement” (Pasternak, 2014, p.147) and characterised by “a recurring need to disavow the presence of Indigenous ‘others’” (Verancini, 2011, p.2). In BC, the ‘elimination of the native’

(Wolfe, 2006), which Verancini (2011, p.2) states may mean “being physically eliminated or displaced, having one’s cultural practices erased, being ‘absorbed’, ‘assimilated’ or ‘amalgamated in the wider population”, played out through and in pursuit of land acquisition. Harris (2004) highlights self-interest and the prospect of unused land and unexploited resources as key drivers behind the settlement of BC. As the presence of Indigenous peoples posed a barrier to the appropriation of these lands and resources, they were removed through the legal fiction of terra nullius and their physical containment on reserves. These efforts were further legitimised through the moral impetus of colonial policy, in which agricultural lifestyles and industrial labour were positioned as exerting a civilising influence on Indigenous peoples, while also conveniently enabling access to their lands and labour (Arneil, 1996; Harris, 2004). Studies of settler colonialism to date have described how the logics and processes of dispossession played out with regard to Indigenous lands (Harris, 2002; Blomley, 2003), fisheries (Harris, 2001), and extractive resources (e.g. Hoogeveen, 2015) in BC; a growing interest in the dispossession of water is evident in recent works from other settler colonial contexts (e.g. Daigle, 2018; Sepulveda, 2018; Curley, 2019). In each instance, these studies highlight the use of legal mechanisms to deny Indigenous rights, constrain Indigenous resource use, and thus open up land and resources to capital exploitation. With regard to water, Diné geographer Andrew Curley (2019, p.4) states

Following [State] territorialising of land that erected mechanisms of governance which also disposed Indigenous peoples of aboriginal jurisdiction (Pasternak 2017), “western water law”, as a machinery of dispossession, now targets the last great commons of North America, inherent Indigenous relationships with water.

As Curley highlights, settler colonial dispossession of Indigenous waters involves not only the physical appropriation of water resources, but also the rupture of Indigenous water relations and legal orders and their replacement with colonial legal regimes. This erasure and replacement of Indigenous jurisdiction enables the colonial capitalist exploitation of natural resources by opening them up for appropriation and legitimising State authority to institute laws governing the use and commodification of resources (Pasternak, 2014; Hoogeveen, 2015; Daigle, 2018). As Curley (2019, p.4) explains, the limitation of Indigenous water rights is “part of

the maintenance and reproduction of the conditions of capitalism in the United States that forever limits and eliminates Indigenous relationships with water in service of the development and expansion of non-Native settler-colonial communities.” Michelle Daigle’s (2018) account of the disruption of Mushkegowuk relationships through their separation from Kishiichiwan⁶² highlights that settler colonialism’s elimination of Indigenous relationships with water has effects beyond the waters themselves, impacting the ability of Indigenous nations to maintain their systems of governance.

These insights into the political-economic drivers of various settler colonial policies inform the analysis presented in this chapter by helping to unpack the motivations behind BC’s water policies, as well as parsing the conceptual framework on which Indigenous dispossession rests. Importantly, studies of settler colonialism highlight that it is a process (or structure) – not an event (Wolfe, 2006) – that is “necessarily ongoing”, with “settlement play[ing] a key role in sustaining this process” (Hoogeveen, 2015, p.122). Understanding settler colonialism as a process rather than an event directs attention of the assemblage of power relations, logics, and institutions that have sustained it over time (Curley, 2019), as well as the contingencies and contradictions that have contributed to variations in outcomes.

3 Context: Water law and entitlements in British Columbia

In Canada, water law and management are primarily the responsibility of provincial governments. Approaches to the allocation and regulation of freshwater consequently differ significantly across Canada’s provinces and territories (see Brandes & Curran, 2017). British Columbia, along with other western provinces, states that all water is owned by the Crown, and allocates water use entitlements to landholders according to the doctrine of prior allocation. Under this system, the province grants the right to divert, store, and use water via licences⁶³ that

⁶² A large river system of significant importance to the Mushkegowuk peoples and neighbouring nations as a source of water and food and a key travel and trade route (among other meanings and relations)

⁶³ The province also issues ‘use approvals’ that authorise water use for up to 24 months, but these are primarily held by industry users (e.g. for oil and gas exploration) and are not included in this study

are subject to terms and conditions set by the province, the availability of water, and the use rights of earlier licensees:

- Water use entitlements are not a property right (water is owned by the Crown), and therefore can be revised or cancelled by the Province without compensation
- The province sets the terms of water use in the licence, including the water source and point of diversion, maximum quantity, water use purpose(s), and time period
- Licences are appurtenant to a specified parcel of land or ‘undertaking’⁶⁴ – transfers of land therefore result in transfers of water entitlements
- Licensees are required to make ‘beneficial use’ of water, which is defined as using water for the purpose and according to the terms authorised by the licence. Brandes and Curran (2017) refer to this as a requirement to ‘use it or lose it’ – if water is not used for a period of three years, the province may cancel the licence
- Licensees with the oldest water licences (i.e. earliest licence issue dates) have the highest priority rights on a water source and are entitled to use their full allocation during times of scarcity, while junior licensees may have to curb or discontinue their water use.

These general features of BC’s water law originated from the gold mining era and persist to this day, with only minor modifications resulting from new laws or amendments to the Water Act. The recent WAM retained key elements of the Water Act (i.e. crown ownership, prior appropriation, beneficial use) and extended these to groundwater. New policy additions produced a modified form of prior allocation, where the ‘first in licence, first in priority’ rule is attenuated through exceptions for basic household and ecological needs and the introduction of 30-year licence reviews (Curran, 2017).

As already elaborated, BC’s water laws have consistently asserted exclusive Crown ownership over BC waters, preventing any recognition of Indigenous title or rights to water. Under this system, First Nations’ water use rights have been reduced to two types of entitlements under the BC Water (Sustainability) Act:

⁶⁴ A mine, power utility, local government, water district, provincial or federal government, etc.

1. *Treaty First Nation water reservations*, which are created as part of a final agreement between the First Nation(s) and the Crown. These reservations set aside a specified quantity of water that the First Nation can then allocate using licences. The reservation and all resulting licences are attributed a date of precedence based on the date of the final agreement.
2. *Provincial water licences*. Outside of treaties, First Nations are required to apply for water use entitlements through the same provincial licensing system as all other users.

Thus far, very few water reservations have been created for First Nation communities, due to both historical reasons and the time required to negotiate and ratify modern treaty agreements. As one of the last regions colonised in Canada, BC has a unique history and geography of treaties. Following the creation of the Douglas Treaties on Vancouver Island (1850-1854), James Douglas⁶⁵ and then Joseph Trutch⁶⁶ refused to negotiate any further treaties with BC First Nations, instead instituting increasingly harsh land reserve policies (Harris, 2002). Consequently, most of BC remains unceded Indigenous territory, with only one other historical treaty signed by BC First Nations in 1899 in the northeastern corner of the province (Treaty 8, which also covers parts of Alberta, Saskatchewan, and Northwest Territories). Neither the Douglas Treaties nor Treaty 8 made any mention of water rights (Curran, 2017), and the status of water rights in those treaty territories remains in dispute (Gullason, 2018).

In recent years five ‘modern treaties’ (comprehensive land claims) and two self-government agreements have been signed between BC First Nations and the Crown, each addressing jurisdiction over water to varying degrees. While the Westbank and Sechelt self-government agreements provide for limited jurisdiction to regulate water within their self-government lands, four of the modern treaty agreements provide for a specified water reservation that will be recognised under provincial law (BCAFN, 2016). Of these water reservations, only the earliest (the Nisga’a water reservation) has been directly incorporated into BC’s water legislation. As Curran (2017) highlights, these treaty water reservations do not provide priority

⁶⁵ Governor of Vancouver Island 1851-63; Governor of British Columbia 1858-64

⁶⁶ Chief Commissioner of Lands and Works 1864-71; Lieutenant Governor of British Columbia 1871-76; Dominion Agent for British Columbia 1880-1889

rights for First Nations nor cover all Indigenous interests in water, and only create ‘future allocation potential’ for communities under the existing colonial water management framework. Meanwhile, most of BC’s 203 First Nations remain subject to the past, current, and future vagaries of the provincial water licensing system for their access to and use of water. The history, operation, and outcomes of this water licensing system with respect to BC First Nations will be analysed in sections 5 and 6, following an overview of data collection and analysis methods in section 4.

4 Methodology

This analysis draws on three primary types of data in order to provide a historical and present-day account of the allocation of water use entitlements to BC First Nations. First, historical summaries of First Nations’ changing water rights (prepared by the BC government in the late 1990s) were analysed using qualitative coding to identify temporal and spatial patterns in the creation, loss, and amendment of surface water entitlements by successive colonial governments. Second, surface water licences held by BC First Nations in 2018 were analysed using basic quantitative methods to characterise the water use entitlements that have resulted from ~160 years of colonial allocation. Third, interviews with representatives of First Nation organisations provided additional insight into the past, current, and prospective futures of Indigenous water rights in BC. In addition, this account draws on academic literature and reports by government and First Nation organisations to triangulate and supplement the findings of this study. Together, these sources provide a comprehensive account of the evolution of present-day water rights through colonial allocation practices, highlighting the number of First Nations affected by various actions of government and the scale of changes in entitlements over time. The data sources and methods used are summarised briefly below and elaborated in greater detail in Appendix IV.

4.1 Analysis of historical summaries of First Nations’ water rights

In the late 1990s the BC Ministry of Environment, Lands and Parks completed a report series titled ‘First Nations water rights in British Columbia’ in collaboration with the Ministry of Aboriginal Affairs, University of Victoria, and Clover Point Cartographics Ltd. The report series

resulted in 135 historical summaries that document the past and present water rights of a BC First Nation, from the late 1800s to ~2000. Each report described the government actions that affected the First Nation's water rights; and the history, current status, and notes on water entitlements for each water course of significance to the First Nation, among other details. I downloaded electronic copies of the reports from a government website, and coded them in NVivo 12 using a coding framework that mirrored the structure of the historical summaries (i.e. government actions, history, current status, and notes on water rights). Coding was split between myself and a research assistant, who applied the coding framework with my supervision. I analysed the resulting coded data using a combination of counts, matrix analyses, and qualitative analysis to identify themes, outliers, and examples. The results of this coding are summarised in Section 5.

4.2 Analysis of BC First Nations' surface water licences

I utilised two online water rights databases, the Water Licence Search Tool and Water Licence Query,⁶⁷ to obtain and verify current data on the surface water licences of all 203 BC First Nations (as of May 8, 2018). It was necessary to use both databases to produce a complete licence dataset, as the two databases provide slightly different data and have different search functions. I searched the databases for all water licence records that included 'band' or 'nation' in the client name, saving all results as excel files. I reviewed the resulting spreadsheets and removed all entries that did not list a First Nation or band government under client name, and then compared the remaining client names to a list of BC's 203 First Nations from the BCAFN website.⁶⁸ Where a First Nation did not appear in my list of water licence records, I conducted further searches for it in the two databases using all variations on the First Nation's name that I could find, to ensure that it had not been missed due an error in database entry. Altogether, my database search identified 703 current surface water licences held by BC First Nations. The Water Licence Search Tool provided information on each licence's: status (current, cancelled, etc), status date, licence holder, purpose (irrigation, etc), quantity, appurtenancy, source name,

⁶⁷ <https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-licensing-rights/water-licences-approvals/water-rights-databases> [Accessed May 8, 2018]

⁶⁸ <http://bcfn.ca/community-profiles/> [Accessed March 7, 2018]

and water district, among other information. Additionally, the Water Licence Query database provided information on each First Nation licence's priority date, and those of other licences on the same source. I analysed the collated licence data according to licence status, licence holder, purpose, quantity, status date, priority date, and relative priority using basic summary statistics (counts, averages, etc) and histograms.

4.3 Interviews and participant observation of meetings

As part of my qualitative research (see Chapter 1, section 6.2), I interviewed representatives of First Nation organisations (several of whom were First Nation staff or community leaders), provincial government ministries, and the federal government, and attended a range of meetings at which First Nation representatives spoke about the WSA. At one of these meetings (the Canadian Water Summit) I presented some preliminary results from my surface water licence analysis as a poster, and sought feedback from Summit participants and representatives of several First Nation organisations.⁶⁹ These interviews and meetings, together with documents prepared by the represented organisations,⁷⁰ provide a wealth of insight on different organisations' positions and actions regarding Indigenous water rights, as well as individuals' perspectives on the WSA. I analysed these materials to identify: key concerns regarding water licensing for First Nations; varying expectations of the WSA's implications for First Nations; perspectives on the province's approach to consultation and recognition of Aboriginal title and rights; rationales presented for various courses of action; and expectations of future developments in Indigenous water rights. I have incorporated the insights gained from this analysis into this chapter both indirectly – in the way I have framed my overall analysis and chapter – and directly, to provide critical reflection on the results of my historical summary and water licence analyses in the discussion.

⁶⁹ I spoke with several First Nation representatives present at the meeting, and later emailed my poster to representatives of the Assembly of First Nations, Union of BC Indian Chiefs, First Nation Fisheries Council, and Indigenous Services Canada, inviting feedback. I have not directly included feedback received in this chapter (as I do not have permission to do so), but it has shaped how I conducted and framed my analysis

⁷⁰ Either provided at the interview/meeting, or referenced in the interview/meeting and then found online

4.4 Limitations of this study

Three limitations of the methods employed in this study are worth noting here. First, my analysis of BC First Nations' surface water licences includes only those licences issued to a First Nation or band government – not licences issued to individual First Nation citizens or companies. This analysis is therefore specific to the licences granted to sustain First Nation reserve communities, which according to the BCAFN (2016, p.17) accounts for the vast majority of licences recorded for First Nations.

Second, the historical summaries and surface water licences included in this study were identified via online database search tools. While I used alternative names, phrasings, and spellings in my database searches to identify all possible summaries and licences, it is still possible that some may have been missed due to variations in file/client names. However, cross-checking of my results from the historical summary and two database searches leaves me confident that there should be few missed entries.

Finally, I conducted only a limited number of interviews with representatives of First Nation organisations, despite soliciting more. Consequently, my use of interviewee quotes in this chapter should be understood as illustrative but not representative of the wide array of First Nation perspectives.

5 History of dispossession: Historical account of BC First Nations' water rights

Quantitative analysis of the 135 historical summaries of individual First Nation's water rights reveals a shared story of insufficient allocation and the erosion of water use entitlements among First Nation communities in BC. This shared story is also refracted by place and time, resulting in significant differences in First Nations' surface water entitlements across the province. This section contributes to existing knowledge on the impacts of provincial water law on Indigenous communities by attending to the specific processes through which surface water entitlements were allocated, disputed, amended, and lost to First Nations in BC. The processes described in this section are those that were experienced by a multitude of First Nations (as identified by coding of historical summaries), but attempts are also made to situate these shared experiences in specific events and outcomes for individual communities.

5.1 Pre-licensing allocation of surface water entitlements

In the late 1800s surface water use in BC was governed by a series of colonial and then provincial laws and ordinances that offered limited water use rights to First Nations living on reserve. Early legislation, such as the Gold Fields Act (1859) and Land Ordinance (1870), made no provision for Indigenous water rights. Later, under the Land Act (1888) and Water Clauses Consolidation Act (1897), federal officials were able to obtain water records⁷¹ on behalf of First Nations for agricultural (and later domestic) purposes with the approval of the provincial Lieutenant Governor in Council. Nevertheless, Indian Reserve Commissioners and the Department of Indian Affairs continued to assert their jurisdiction over Indigenous water rights. Consequently, surface water was allotted to First Nations through two discontinuous processes during this period: allotment of water use entitlements by Indian Reserve Commissioners, and approval by Order-in-Council granting water entitlements. As the following analysis demonstrates, both processes of allocation resulted in limited, uneven, and often unclear water use rights.

5.1.1 Allotment of water entitlements by the Indian Reserve Commission

Following confederation (1871), the provincial and dominion governments established a joint Indian Reserve Commission (IRC) to agree on the designation of reserve lands for BC First Nations (1876-1878). The joint IRC was later replaced by a single commissioner who operated under the authority of the province and dominion (1878-1910). Many Indian Reserve Commissioners made it their practice to allocate water use entitlements alongside the land reserves to ensure that First Nations were able to obtain sufficient water to irrigate agricultural lands within their reserves (Matsui, 2009). Records of these entitlements were included in the IRC's minutes of decision. For example,

The prior right of the Indians as the oldest owners or occupiers of the soil to all the water which they require or may require for irrigation and other purposes from St. Pauls Creek and its sources

⁷¹ i.e. a legal record authorising water use

*and northern tributary (IRC Minute of Decision constituting Kamloops Reserve 1, July 27, 1877)*⁷²

*100 inches of water from the first creek below the reserve, on the right bank of Fraser River is allotted for the use of the Indians (IRC Minute of Decision constituting Nesikep Reserve 6, September 24, 1881)*⁷³

Typically, the IRC created two to four such water records for a First Nation, which applied to only some of their (present-day) reserve lands.⁷⁴ For example, the IRC recorded water entitlements for only three (of the present day seven) reserves of the Adams Lake Indian Band. Review of the water allotments in the IRC's minutes of decision highlights significant variability in the location, language, security, and scale of water entitlements created. To begin with, only 56 First Nations were allotted water entitlements by the IRC; most of these water records were created in the late 1870s and '80s and applied to First Nations in the central drybelt region of the province. Figure 8 illustrates this spatial variability; most First Nations that received IRC allotments were located in the Thompson-Okanagan, Lower Mainland Southwest, and Cariboo regions of the province. In contrast, the vast majority of First Nations in the Vancouver Island and Coast, North Coast, Nechako, and Northeast regions were not allotted water use entitlements by the IRC. This spatial variability is likely due to changes in reserve creation over time and space,⁷⁵ the spatial reach and changing practices of Indian Reserve Commissioners, and regional differences in water shortages and pressures. For example, Matsui (2009) reports that when Commissioner Sproat visited the plateau region of BC, he was concerned that First Nations did not have sufficient water to irrigate their reserves and that settlers were quickly claiming available water resources; he therefore set about entering water records alongside land reserves. Subsequent Commissioners O'Rielly and Vowell followed Sproat's example of entering Indigenous water claims, but this practice ceased with the passage of the BC Water Act (1909) and Dominion Railway Belt Acts (1912, 1913) (Matsui, 2009). These spatial and temporal

⁷² A historical summary of the rights of the Kamloops First Nation, 2001, p.3

⁷³ A historical summary of the rights of the Lytton First Nation, 2001, p.17

⁷⁴ The designation of reserve lands was contested and revised through a series of review processes during this period

⁷⁵ Early reserves were created via the Douglas treaties on Vancouver Island, and through Treaty 8 agreement in Northeast. Later reserve creation by the IRC focused on the interior regions of BC

differences in IRC water allotments set the stage for significant diversity in First Nations' water use entitlements and challenges into the future.

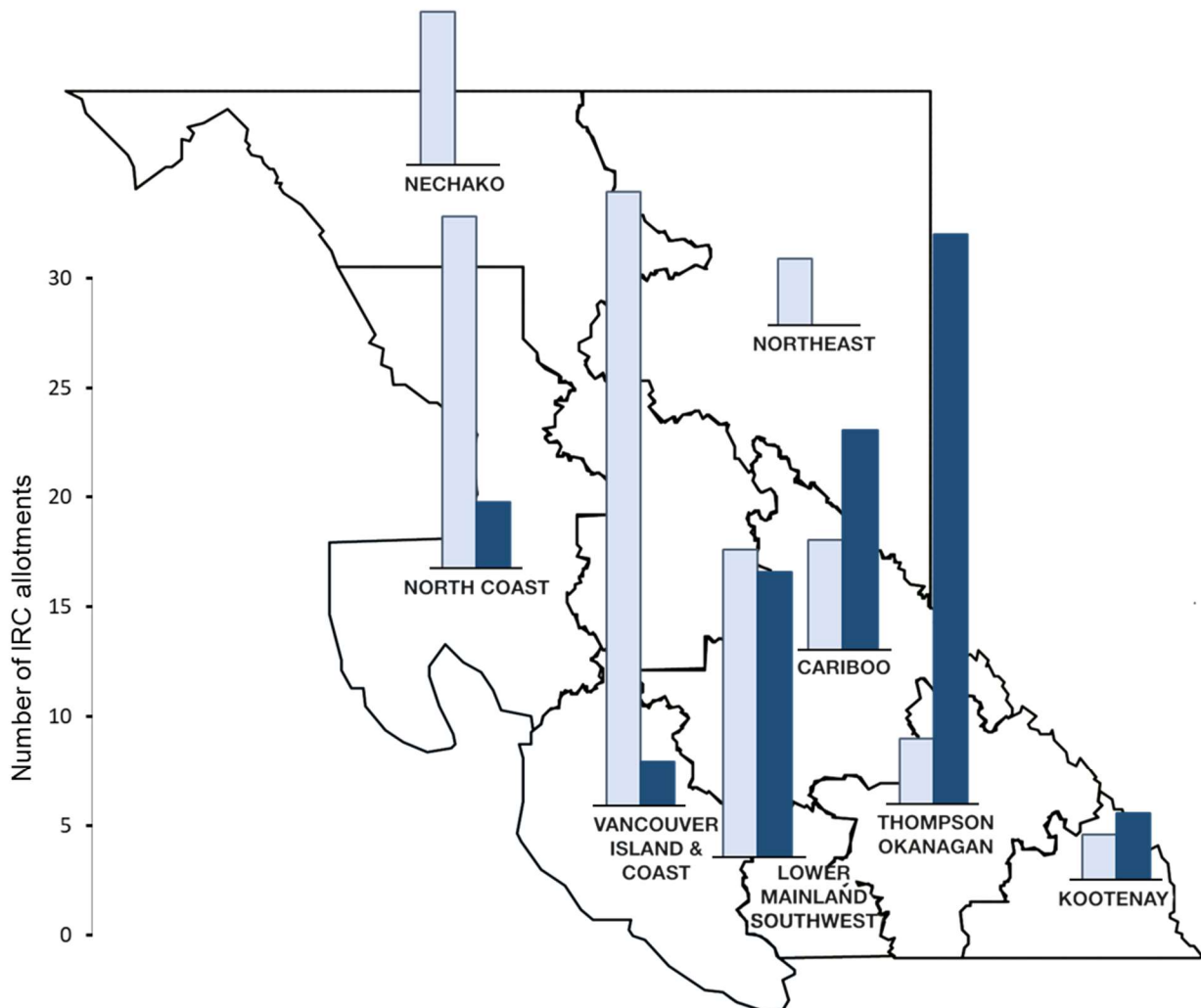


Figure 8 Number of First Nations allotted water entitlements by the IRC (dark blue) versus not (grey) in each region of the province (as defined by the BCFN), according to the 135 historical summaries

As the previous two examples of IRC minutes of decision demonstrate, there was also diversity in the language, clarity, and rights afforded by IRC water records. Some minutes of decision explicitly framed water allotments in terms of First Nations' rights as the earliest occupiers and users of the land and water and granted comprehensive entitlements to waterbodies adjoining their reserves. This included reserving "all the water which they require or may require" for current and future use, or "all the water flowing through the reserve", or simply the water of a

particular waterbody. Other minutes of decision adopted more utilitarian language and allotted a specified quantity of water from a waterbody for a particular purpose (usually irrigation). Some commissioners also noted conditions on First Nation water records – most often that they were subject to the records of neighbouring First Nations and settlers. Indeed, a water record for Neskonlith Indian Band highlights that despite references to First Nations as first occupiers, commissioners did not contest the provincial government's system of prior allocation:

The prior right of the Neskonlith Indians as the oldest owners or occupiers of the soil to all the water which they require or may require for irrigation and other purposes from Niskonlith Lake and Creek,... subject only to the water requirements of the Adams Lake Indians on their adjacent reserve and in regards the aforementioned addition to the old reserve, the Neskonlith Indians are to have what they require of the water from the creek which flows into the South Thompson River, near the house of Mr. Chase, subject to the water requirements of white settlers who have recorded water from said creek. (IRC Minute of Decision constituting Neskainlith Reserve 1, August 13, 1877)⁷⁶

Finally, it is worth noting that many of the IRC minutes of decision were vague in their references to waterbodies, and in some cases even the reserves to which the water claim was appurtenant. Unclear descriptions of the waterbodies and/or reserves likely made it difficult for Indian Agents and First Nations to defend the rights claimed in these water records later; government historians have certainly found it difficult to trace the locate the source and consequently the fate of some claims:

The Indian Reserve Commission made a number of allocations which appear to be intended for the benefit of the Lower Nicola Band... Some of the names given and references made in the description of the water sources have lost their meaning through time. In these cases, the water sources are now unidentifiable or can be only tentatively identified using the limited information supplied. (A historical summary of the rights of the Lower Nicola First Nation, 1999, p.4)

⁷⁶ A historical summary of the rights of the Neskonlith First Nation, 2001, p.3

5.1.2 *Granting of water entitlements by Order-in-Council*

The second process through which First Nations were allotted water use entitlements was the provincial authorisation of water records by Order-in-Council. Under the amended Land Act (1888) and Water Clauses Consolidation Act (1897), the Chief Commissioner of Lands and Works was permitted to create water records for First Nations with the approval of the Lieutenant Governor in Council. Between 1888 and 1909 thirty First Nations in BC were granted such records by Order-in-Council. As with IRC allotments, First Nations that received provincial records were concentrated in the Lower Mainland Southwest (n=9), Cariboo (n=7), and Thompson Okanagan (n=7) regions; no First Nations in the Vancouver Island and Coast, Nechako, or Northeast regions were allotted water by Order-in-Council. Indeed, 24 of the First Nations that were granted water entitlements by Order-in-Council had been allotted water by the IRC earlier.

The nature of water records approved by Order-in-Council changed slightly over time. The earliest records were approved by the President of Executive Council in the 1880s (n=3), and were similar in tone to early allocations by the IRC, reserving “all water flowing naturally through the reserve” for the use of a First Nation. Later approvals by the Lieutenant Governor in Council (who authorised most of the Orders) or Administrator in Council were generally more specific, identifying a quantity of water that could be diverted from a waterbody (sometimes at a specified point) for use on a reserve:

Water Record No. 110, dated August 1st, 1906, issued to the Superintendent General of Indian Affairs for 20 inches of water from Seymour Creek for use on the Seymour Creek Indian Reserve. (Order by Lieutenant Governor in Council on June 2, 1908)⁷⁷

Importantly, such Orders created numbered water records with specified priority dates that were registered alongside settler water records by Provincial officials. However, this did not prevent a handful of Orders-in-Council from lacking clarity in the source and/or subject of their allotment; for example, the historical summary for the Whispering Pines First Nation (1999, p.10) notes that an allocation granted by Order-in-Council is vague with regard to the

⁷⁷ A historical summary of the rights of the Squamish First Nation, 1997, p.6

waterbody and reserve on which the water was to be used, simply allocating “Twenty-five inches of water from a small stream which runs through the Reserve at the 9-mile post.” As government historians were not always able to trace the fate of such vague records, it is unclear whether these Order-in-Councils resulted in licensed water entitlements later.

In most cases Orders-in-Council were granted directly in response to an application filed by officials from the federal Department of Indian Affairs (DIA), or on the recommendation of the Commissioner of Lands and Works. Bankes (1991) states that in the late 1880s the DIA decided to comply with provincial water legislation (rather than contest their jurisdiction) by filing lists of IRC water allocations with the provincial government, resulting in the issuance of water records for some reserves. The approval of water records by Order-in-Council therefore appears to have been a key mechanism that DIA officials used to shore up the water rights originally allotted to First Nations by the IRC, which were perceived as invalid by the province. This approach appears to have been partially successful - the historical summaries present many instances in which an Order-in-Council allotted water from the same source to the same reserve as an earlier IRC, sometimes in similar quantities.

However, given that 56 First Nations were allotted water entitlements by the IRC minutes of decision, it is unclear why DIA officials only gained water records through Order-in-Council for thirty First Nations. Furthermore, in some cases (e.g. Bonaparte First Nation), the Commissioner of Lands and Works recommended approval of a lesser volume of water than applied for, out of concern for settler entitlements. These reduced approvals contrast with Matsui’s (2009) observation of the generous allotments granted to settler landowners by the “lax administration” of the time, “which still allowed applicants simply to state how much water they thought they would need” (p.52). In other instances water records created for First Nations by the Commissioner of Lands and Works were not authorised by the Lieutenant Governor in Council as required. For some First Nations (e.g. Shishalh First Nation,⁷⁸ Williams Lake Band), the delayed authorisation of provincial water records resulted in the assignment of later priority dates and loss of priority rights:

⁷⁸ Referred to as Sechelt First Nation in the historical summary

Conditional Water Licence 7721... was given a priority date equal to the date the Order-in-Council was issued and not the earlier date of August 14, 1899, when the water record was first noted. Indian Affairs requested that the licence have the earlier priority date; however, the licence was not amended. (A historical summary of the rights of the Williams Lake First Nation, 2001, p.18)

Thus, prior to the creation of the BC Water Act, many First Nations in the lower mainland and central dry belt regions of the province had been allocated water entitlements by either the IRC or provincial government. However, many of these allocations remained obscure, insufficient, and/or unrecognised by the province, with unresolved questions regarding the priority of First Nation entitlements. The status of these water rights would be addressed by the provincial Board of Investigation in the 1910s.

5.2 Decisions of the Board of Investigation on recorded water rights

In 1909 the BC government passed its most substantial piece of water legislation, the Water Act, which created a single licensing system for surface water and established a provincial Board of Investigation to review all water claims, determine the priority of claims, and issue water licences. Several historians have noted that previous systems of water entitlement records were disorderly and ineffective, as water records were filed at local offices with no centralised registry, and landowners were allocated as much water as they requested without any investigation of the state of the source or existing water use (Bankes, 1991; Matsui, 2009). The Board of Investigation was intended to rectify these issues by considering all claims on a waterbody and replacing water records with licences based on the validity and priority of records, prior use, and assessment of the water required to irrigate an area. Where the Board⁷⁹ determined that a record was valid, it produced a Board order directing the Comptroller of Water Rights to issue a conditional licence. The Board order would set out the source of supply, point of diversion, lands on which the water would be used, water use purpose, priority date,

⁷⁹ Which consisted of the Chief Water Commissioner and two or more officials appointed by the Lieutenant Governor in Council

maximum quantity of water diverted, and in some cases works to be completed before the issue of a final water licence:

July 18, 1921: At a final hearing before the Board of Investigation, acting pursuant to the Water Act 1914, the Board determined that on the 26th day of September, 1888, there was filed in the office of the Dominion Lands Agent at New Westminster, B.C. a bona fide application for a record of water from Bonaparte River, for use on the Bonaparte Indian Reserve (No. 3, Bonaparte) and that water from the said river has been used for beneficial purposes on the said Indian Reserve. The Order of the Board, numbered 2415, set out that a conditional licence should be issued which would: (i) provide for the diversion of water from Bonaparte River, (ii) take precedence from the 26th day of September, 1888, (iii) authorize the diversion of a maximum of 672 acre feet of water a year for the irrigation of 224 acres of Bonaparte Indian Reserve no. 3, provided that 5000 gallons of water a day throughout the year could also be used for domestic purpose. (A historical summary of the rights of the Bonaparte First Nation, 2000, p.3)

The original 1909 Water Act did not include any provisions regarding First Nations' water claims, contributing to continuing uncertainty regarding the validity and priority of various water records allotted to First Nations, and processes for recognising their claims. In 1912 and 1914 the Water Act was updated to include provisions (sections 53 and 46 respectively) permitting federal Indian Agents to acquire domestic and irrigation water licences on behalf of First Nations living on reserves. However, the province continued to contest the validity of IRC water allocations, arguing that water was subject to provincial jurisdiction and could only be allocated under provincial law. Although the Railway Belt Water Act of 1913 provided for recognition of federal water records made on behalf of First Nations in the dominion railway belt, the validity and priority of IRC allocations within the railway belt were still not clarified until a decision of the Board in July 1920⁸⁰ (Bankes, 1991). Outside of the railway belt, the Board recognised only those water records filed in provincial offices according to provincial laws. This position was later entrenched in the Indian Water Claims Act (1921). As a result of these

⁸⁰ The decision confirmed that water records filed in Dominion Land offices in 1888 were to be treated as valid records, with any deficiencies in record details to be addressed through investigations by the Board and its engineers

protracted disputes over jurisdiction and the status of various First Nation records, the Board of Investigation did not review First Nations' water claims for years after the BC Water Act was first established (decisions were issued from 1917 onwards).

Determinations of the Board of Investigation were often less-than-favourable for BC First Nations; the historical summaries highlight that only a limited number of First Nations were granted water entitlements by Board order, and that those entitlements were often less than applied for or originally bestowed. Table 7 highlights that not all First Nations who had been allotted water by the IRC, Order-in-Council, or both were granted water entitlements by Board order. It may be inferred that the DIA did not pursue – or succeed in pursuing⁸¹ – a Board of Investigation decision for at least nine First Nations to whom they had allotted water rights in previous decades, although the reasons for this are unclear.

Table 7 Numerical breakdown of the First Nations who received one or more pre-licensing allocations, and subsequently had one or more of those allocations confirmed by the Board of Investigation

First Nations granted water entitlements by...	Pre-licensing allocations	Board order
IRC only	32	29
Order-in-Council only	6	3
IRC and Order-in-Council	24	21
Other record	Unknown	2

However, only analysing the number of First Nations that did not receive a Board order based on prior records understates the number of First Nations whose water allocations were ignored, refused, or reduced by the Board of Investigation process. In most cases, only some of a First Nation's pre-licensing water allocations were reviewed and upheld by the Board of Investigation. For example, a hearing of the Board of Investigation confirmed High Bar First Nation's water use entitlement on Lebasque Creek, but ignored prior allocations by the IRC and Lieutenant Governor in Council on four other creeks. The historical summaries identify 53 First

⁸¹ It is not clear whether an absence of determination in the historical summaries means that the DIA did not make a claim on behalf of a First Nation, or that the claim was refused and subsequently not reported

Nations with one or more pre-licensing allocations that were not upheld by the Board of Investigation (for a total of 188 allocations), in statements like:

The allocations to the waters of Niskonlith Lake and Creek and the unnamed creek made by the Indian Reserve Commission have not been formally recognised by the Province. Recognition of this allocation would give the Neskonlith Indian Band earlier priority on Niskonlith Creek. (A historical summary of the rights of the Neskonlith First Nation, 2001, p.8)

A key reason behind the lack of formal recognition of pre-licensing allocations was the jurisdictional dispute between the provincial and federal governments over who has the authority to allocate water in BC. The provincial government has consistently asserted ownership and jurisdiction over water in BC, including water flowing through federal lands. This assertion was possible because of the lack of mention of water in both the constitutional division of powers and agreements to transfer federal lands (including reserve lands) to the dominion (Matsui, 2009). While the federal government opposed this assertion of jurisdiction over water on federal lands, and at least one court decision found in their favour (see Matsui, 2009), it failed to overturn provincial ownership and management of water on First Nation reserves. The provincial government was thus able to rule that only water allocations made according provincial laws were legitimate, and cast IRC allocations of water alongside reserve lands as invalid. For example, a determination of the Board of Investigation cancelled the 1881 allotments to the Williams Lake First Nation, stating that

Claim to the 'waters of the two streams flowing through this Reserve' is disallowed on the ground that it is based only on an unauthorized allotment of water made by the Indian Reserve Commissioner. (A historical summary of the rights of the Williams Lake First Nation, 2001, p.4)

The federal government was able to gain formal recognition of some IRC allocations by filing lists of these allocations in provincial and dominion offices. However, the creation of water records based on IRC allocations was subject to: the actions of Indian Department officials in submitting these applications, the actions of provincial officials in creating records based on these applications, the location of reserves relative to the Railway Belt, and the timing of

provincial legislation. As such, the creation of water records to protect water use on reserves was highly uneven across First Nations, and often resulted in junior water records (as illustrated in the case of Neskonlith Indian Band). The arbitrary and inconsistent treatment of First Nations' water claims is particularly evident in two features of the historical summaries: first, several orders-in-council, authorised by the provincial government according to its own laws, did not receive formal recognition through the Board of Investigation. Second, many Board orders authorised the creation of licences with priority dates of September 26, 1888, because this was the date that the DIA filed a list of IRC allocations in Dominion offices, irrespective of the date of the allocations themselves. Indeed the earliest possible priority date for licences based on federal filings was established as 1884 – the date that administration of the Railway Belt lands was transferred to the federal government. These arbitrary timelines together with different rules for the creation of settler and Indigenous water entitlements (remember that the 1875 Land Act contained no provisions for First Nation water rights) meant that many First Nations' eventual water entitlements were junior to settler records created between the creation of IRC allocations and their filing in government offices (Bankes, 1991).

In addition to disregarding some types of pre-licensing allocations and affixing later priority dates to others, the Board of Investigation frequently reduced the water use rights granted to First Nations relative to their earlier allocations. The historical summaries contain repeated statements that the entitlements allocated by the IRC or Order-in-Council were considerably more than those authorised by the subsequent water licence. For example, the Anderson Lake Band's⁸² original allocation of 666 acre feet of water (by Order-in-Council in December 1899)⁸³ was reduced by the Board of Investigation to a licence for 220 acre feet of water, with a priority date of January 8th, 1900. As this example illustrates, reduction of water entitlements included not only allocating lower volumes of water to First Nations, but also issuing licences with later priority dates, shorter irrigation periods, and/or different purposes compared with original allocations. The historical summaries provide few explanations for these reductions in

⁸² Preferred name: N'Quatqua First Nation

⁸³ A historical summary of the rights of the Anderson First Nation, 1997, p.6-7

entitlements, although Matsui's (2009) account suggests that reductions were likely based on Board assessments of the area of irrigable reserve land and the volume of water required to irrigate said lands. In other cases, water scarcity, settler interests, and legal interpretations were used to justify reduced allocations. For example, the Board of Investigation authorised a diversion for a restricted irrigation period of only two months each year (compared to the usual six months), and refused a request to extend the irrigation period on the basis that "there was insufficient water in the stream after June 30th to fill the requirements of earlier licences" (A historical summary of the rights of the Okanagan First Nation, 1997, p.26). In another instance, the Board recommended a licence be given the later priority date of 1908 (when an Order-in-Council was issued) rather than the earlier date of 1899 when the water record was created.⁸⁴ Indian Affairs appealed this decision on the grounds that the Order-in-Council itself stated that the water records were to be confirmed as from their date of issue, but were ultimately unsuccessful. In reviewing this and other contested cases adjudicated by the Board of Investigation, Bankes (1991) argues that Indigenous water claims were highly vulnerable to (re)interpretation of provincial legislation and subject to close scrutiny by the Board. This vulnerability and scrutiny was also evident in the later issuing, substitution, and removal of First Nation water licences.

5.3 Actions to create, revise, and remove surface water licences

Following the Water Act (1912), surface water licences for First Nations could be created by the Comptroller of Water Rights either by order of the Board of Investigation (as described above) or in response to an application by the DIA. The Comptroller typically issued a *conditional* water licence to the DIA on behalf of the First Nation. Each conditional licence included requirements to make beneficial use of water and construct necessary diversion, storage, or other works (within a specified timeframe) before the licence could be substituted by a *final* water licence. In addition to the substitution of conditional licences, First Nations' water entitlements could be changed through the amendment, cancellation, or abandonment of licences. Table 8 summarises

⁸⁴ A historical summary of the rights of the Williams Lake First Nation, 2001, p.18

the frequency with which various actions of government affected the licensed water rights of BC First Nations, based on mention of these actions in the historical summaries.

Table 8 Adverse outcomes of colonial licensing process for BC First Nations

Impact on/change in water entitlements	# First Nations affected	% of First Nations documented (n=135)
Licensed rights less than original allocation by IRC or Order-in-Council	30	22%
Licence allocated lesser rights than DIA or the First Nation applied for	22	16%
Refusal of application	8	6%
Water licence cancelled	37	27%
Water licence recorded as abandoned	42	31%
Issue of licence in substitution of previous licence caused loss/decrease in rights	55	41%
Amendment of licence caused loss/decrease in rights	2	1%
Outstanding application	25	19%

5.3.1 Approval of applications for surface water licences

The DIA began applying for water licences on behalf of First Nations in the late 1910s, resulting in hundreds of licences being issued for domestic and irrigation use, and later industrial and other purposes. Whereas only 41% of First Nations with historical water entitlements were granted water licences by the Board of Investigation,⁸⁵ almost all (127/135) First Nations were issued water licences in response to federal government applications.

Nevertheless, it is important to note that not all licence applications were successful. The Comptroller of Water Rights refused licence applications for eight First Nations due to water

⁸⁵ Of the 135 First Nations whose colonial water allocations were recorded in historical summaries, 55 were allotted water use entitlements by Board order

shortages or the source being fully recorded. Together, the province's refusal to acknowledge First Nations as the earliest water users, racist laws that prevented First Nations from applying for the same rights as settlers, and the federal government's early inaction meant that settler water entitlements were often used to deny or reduce First Nation water licences. This inequity appears to have persisted throughout the licensing process; several historical summaries note that water licences were issued to other applicants after a First Nation's earlier application had been refused due to insufficient water. For example:

The Lower Similkameen Band applied for the right to use 2,000 gallons a day from Nahumcheen Brook on August 1, 1969; however, the application was refused due to insufficient water. A licence was subsequently issued to a private land owner 17 years later for the diversion of 150 acre feet per annum and 1,000 gallons a day from Everden Spring and Nahumcheen Brook. (A historical summary of the rights of the Lower Similkameen First Nation, 1997, p.23)

In another case, an application filed on behalf of the Skeetchestn Indian Band was refused because a nearby Improvement District held a licence to supply water for irrigation purpose to all lands within its boundaries (which included the reserve). While this may be an efficient approach to licensing from a colonial water governance perspective, it once again made First Nations' access to water contingent on the rights and actions of settlers.

In other instances, applications for First Nation water licences were not refused but rather reduced through specification of lesser volumes, fewer purposes, and/or shorter irrigation periods than requested. In total, 22 First Nations were granted 28 water licences that provided less rights than the DIA had applied for. For example, Xaxli'p First Nation applied for the right to divert 2000 gallons per day from Santini Spring for domestic purposes but were allocated the lesser quantity of 1500 gallons per day because it was judged sufficient for existing dwellings. Indeed there are many instances in which First Nations were allocated less water than requested because provincial officials deemed a reduced amount sufficient for current usage. In several of these cases the historical summaries describe these reductions as potentially constraining land use and community development, noting that "the full quantity of water applied for... may be required for the area to be irrigated" (A historical summary of the rights of the Westbank First Nation, 1997, p.22) and "the volume of water licensed for use... does not

provide for any growth on the reserve” (A historical summary of the rights of the Toquaht First Nation, 1997, p.3). Lesser entitlements were also allotted due to perceived water shortages or because infrastructure was not (yet) provided for the purpose; in yet other cases the historical summaries state that “there is nothing on file to indicate why a lesser quantity was authorized” (A historical summary of the rights of the Adams Lake First Nation, 2001, p.20). While settler licensees were no doubt also subject to reduced allotments due to shortages and perceived water needs, there is some evidence that settler applications were not subject to the same scrutiny and reductions as First Nation licences. For example, the Comptroller issued the Lower Similkameen Indian Band a water licence for the Similkameen River for the reduced irrigation period of April 1st-July 31st due to water shortages; in following years three settler licences were issued with irrigation periods from April 1st-September 30th. Future studies could further explore differences in the treatment of settler and First Nation applications based on approvals for water from the same sources.

5.3.2 Substitution of surface water licences

Following the issuance of water use licences, many First Nations’ water entitlements were further affected by the substitution, cancellation, abandonment, and amendment of those licences. Licence substitution most often involved the replacement of conditional licences with final licences following the construction of infrastructure and water use inspections, but in other cases licences were substituted due to a change in licensing conditions. Analysis of the historical summaries reveals 203 instances in which the substitution of water licences resulted in the reduction of licensed rights, affecting 55 First Nations. Given that BC’s water licence database identifies 359 superseded licences,⁸⁶ the historical summaries demonstrate that more than half of all substitutions resulted in a loss of rights. In contrast, just five First Nations are identified as receiving improved water entitlements through the substitution of five water licences. As with earlier losses, reductions in licensed rights typically involved reductions in the volume of water allocated (and irrigable area), licence priority, irrigation period, and water use purposes. For example, the substitution of final water licences caused Bonaparte First Nation to lose licensed

⁸⁶ During the period covered by the historical summaries (1920-2000)

rights at four water sources, significantly reducing its irrigation capacity. In most cases such reductions were due to site inspections by provincial engineers, who found that a lesser quantity of water was needed for a stated purpose. However in other cases (e.g. the issuance of a final licence with a later priority date to Westbank First Nation) no explanation was provided as to the loss of rights. Bankes (1991) notes that the federal government had little control over these reductions, as “having decided to take out records under provincial laws, [it] was forced to comply with those laws to maintain its rights” (p.240).

5.3.3 Cancellation and abandonment of surface water licences

Larger incursions on First Nations’ licensed water entitlements were carried out through the cancellation and abandonment of water licences. The historical summaries identify 37 First Nations that were subject to the cancellation of 68 water licences, and 42 First Nations whose water entitlements were recorded as abandoned in 69 cases. In addition, two First Nations’ water entitlements were reduced as the result of amendments to licences. Most of the licence cancellations (47 out of 68) occurred during the two decades following the Board of Investigation hearings (1924-1944), as indicated in Figure 9. These cancellations (of mostly conditional water licences) by the Comptroller of Water Rights were largely due to failures to meet licence conditions (e.g. the construction of diversion and storage works) or make beneficial use of water. A handful of licences were also cancelled due to non-payment of fees and rentals. Bankes (1991) notes that licence conditions had placed a significant burden on the DIA, who were responsible for the construction of works required by conditional licences, as well as the First Nations, whose labour was often required to complete and maintain works. While some extensions were provided to enable the completion of works and beneficial use of water, in other cases licences were cancelled despite DIA and/or First Nation objections. For example, the Bridge River Indian Band⁸⁷ objected to the proposed cancellation of their conditional water licence, stating that they “would like to... go on record as not agreeing to have any of our water taken from our present and future use” (A historical summary of the rights of the Bridge River First Nation, 1999, p.16). Similarly, the province cancelled all three of Westbank First Nations’

⁸⁷ Preferred name: Xwísten

licences on Marshall Brook for lack of beneficial use, despite the appeals of the DIA and First Nation, as well as evidence that the senior licensee on Marshall Brook (who requested the cancellation) had actively prevented Westbank First Nation's use of the water. Some First Nations were not even given the opportunity to protest this loss of rights; the historical summaries report several instances where First Nations were not notified about the proposed cancellation of licences appurtenant to their reserve lands, and a larger number where it is unclear whether they were notified or not. In many instances, cancellation of water licences resulted in First Nations losing all licensed rights on a waterbody, reserve, or in total (as in the case of Tzeachten First Nation).

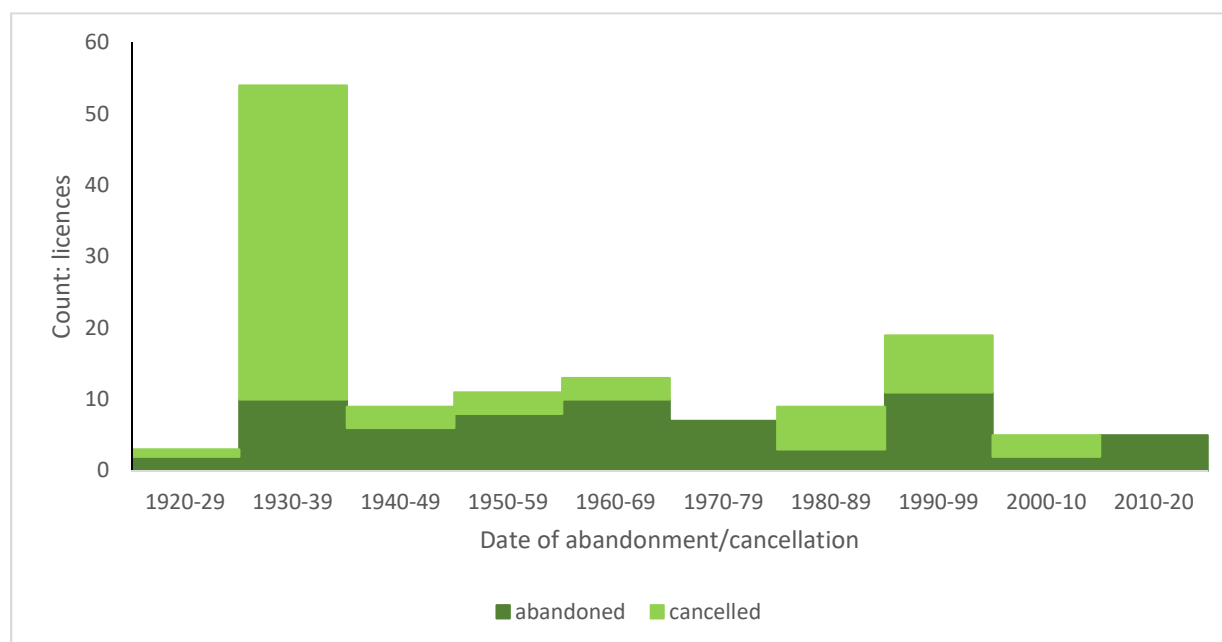


Figure 9 Number of BC First Nation licences recorded as abandoned or cancelled between 1920-2018, according to licence status date in Water Licence Search database

In addition to cancellation, licences (and other water records) were subject to abandonment by the landowner, licence/record owners, or province. Figure 9 demonstrates that First Nations have been subject to the steady loss of water licences through abandonment over the last century. However, until relatively recently, the primary owner of water licences appurtenant to First Nation reserves was the DIA. Private individuals and companies leasing reserve lands (e.g. for agricultural activities) could also apply for – and abandon – water licences on reserve lands. Consequently, abandonment of water records appurtenant to reserves was usually undertaken

by actors other than the First Nations whose people and economic development relied upon the reserves. The abandonment of water licences often resulted in the loss of all entitlements for a water source (as in the case of Squamish Nation), and sometimes for a reserve or entire First Nation (as in the case of Chawathil and Ohamil⁸⁸ First Nations). The historical summaries contain numerous examples of federal officials and lessees requesting the abandonment of water licences, and in some instances a determination by the province that a licence had been abandoned based on non-use:

Indian Superintendent J.V. Boys informed the Comptroller of Water Rights that Conditional Water Licence 18492 was no longer needed as water was to be henceforth obtained from Hospital Lake. Accordingly, the licence was abandoned... The rights that the Gitanmaax Band held on Ksoo-Gun-Ya Spring appear to have been abandoned without their knowledge. (A historical summary of the rights of the Gitanmaax First Nation, 1997, p.4-5)

The Canoe Creek Band was not notified of the abandonment of Final Water Licence 21508 by James Cattle Company Limited. (A historical summary of the rights of the Canoe Creek First Nation, 2000, p.23)

The Engineer's survey noted that the Band had abandoned the water system associated with the domestic rights authorized under Conditional Water Licence 24984. ...There is no indication on file that written consent was received from Indian Affairs or the Bonaparte Band to abandon the domestic rights on Settlement Brook. (A historical summary of the rights of the Bonaparte First Nation, 2000, p.10-11)

The summaries highlight that in many cases the First Nation was not notified or consulted regarding the abandonment of the licence, while in others it is not clear whether the First Nation or DIA was notified. However, in a few instances a First Nation did request or consent to the abandonment of licences due to difficulty transporting or storing water from a source, or non-use. For example, Squamish Nation abandoned a final water licence on Seymour Creek following government assurances "that it would be possible to receive another water licence in the future if required" (A historical summary of the rights of the Squamish First Nation, 1997,

⁸⁸ Preferred name: Shxw'ōwhámél

p.8); however no water reserve was established on Seymour Creek, and as such, no guarantee of future water entitlements exists. This and other examples highlight the paternalistic nature of water management in the province, wherein First Nations' water entitlements were typically negotiated between the provincial and federal governments or third parties with only cursory recognition of the perspectives and interests of First Nations themselves. Mechanisms such as abandonment, cancellation, and amendment of water licences were administrative tools for freeing up water sources for others' use that indifferent officials and interested third parties (as in the case of Westbank First Nation) used to slowly erode First Nations' already limited water rights. The following section describes the results of this gradual erosion of entitlements through the operation of water law.

6 Current state of BC First Nations' surface water licences

Today, less than two-thirds of BC First Nations hold a cumulative total of 713 active surface water licences, less than two percent of all surface water licences in BC.⁸⁹ The previous sections offer insight into why First Nations have collectively been issued so few licences, by identifying the processes that limited the granting of licences to First Nations and those that reduced and removed their water entitlements. These restrictive tendencies will be elaborated further in the discussion (section 7). This section focuses on the outcomes of these processes, by describing the number, purpose, volume, priority, and security of those surface water licences currently held by First Nations, using data collected from BC's water licence databases.

6.1 Number of surface water licences

According to the BC Assembly of First Nations, BC is home to 203 First Nations,⁹⁰ although this number has fluctuated over time due to government policies and First Nations' decisions and agreements. Today, only 126, or less than two-thirds of those First Nations hold surface water licences. Among those 77 First Nations without licences, 11 held licences in the past but lost

⁸⁹ A provincial government analysis of surface water allocation by sector in March 2006 identified 44,000 surface water licences. It is to be expected that the total number of licences has grown since this date

<https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-licensing-rights/water-licences-approvals/water-rights-databases/surface-water-allocation>

⁹⁰ <http://bcafn.ca/community-profiles>

them through cancellation or abandonment. The remaining 66 were never granted water entitlements under the provincial Water Act, and most were never allotted water rights by any federal or provincial record. While several First Nations have been accorded some water governance rights by treaty, currently only the Nisga'a Nation holds a quantified surface water reservation that is protected by provincial law.⁹¹

Among those First Nations with surface water licences, almost half (47%) hold just one to two active water licences (Figure 10). As licences are appurtenant to a specific land parcel, this means that most First Nations hold water licences for only one or two of their reserves or settlement lands. For example, the Squamish Nation holds a single domestic water licence that is appurtenant to just one of its 23 reserves/villages. This undersupply of reserve communities is a result of government officials' tendency to allot many small (and often geographically distant) reserves to BC First Nations,⁹² but few water entitlements. Prior to the development of technology for large-scale groundwater extraction, the under provision of surface water entitlements on reserves severely constrained their economic potential, as is evident in the loss of Oregon Jack Creek Band's once-fertile orchards due to the lack of a senior water licence on its third reserve (Bankes, 1991). While technology has improved, this legacy of uneven development as well as geographic, chemical, and financial constraints on groundwater extraction continue to impact water access and use on reserves without water licences.

⁹¹ The final agreements of the Maa-nulth, Tla'amin, and Yale First Nations also include provisions for water reservations, but none of these have been incorporated into the Water Sustainability Act yet

⁹² The 135 First Nations for which there are historical summaries hold between 1 and 72 reserves or settlement lands each, with an average holding of nine reserves

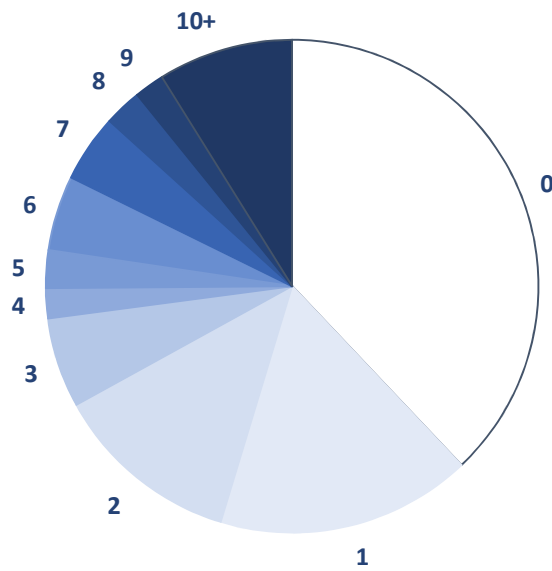


Figure 10 Proportion of BC First Nations holding 0 or more surface water licences. Numbers represent licence counts

Figure 10 also demonstrates that there is significant variability in the surface water entitlements allocated to First Nations. While almost half of First Nations hold one to two licences, a minority (18 First Nations) hold ten or more surface water licences, with five holding more than 20 licences.⁹³ The reasons for this variability in water licence allocations are not immediately clear; there is no correlation between the number of water licences and the number or cumulative area of reserve lands held by First Nations for example. However, there is strong regional variability in the number of current licences issued to First Nations (see Figure 11), with most licences issued in the Thompson-Okanagan, Lower Mainland Southwest, and Cariboo regions. This spatial variability reflects the regional pattern of pre-licensing allocations, suggesting that First Nations' water licence holdings have been predominantly shaped by geographic and historical conjunctures, including competition for scarce water resources, dominant economic activities, and the allocation practices of the IRC, DIA, and provincial government.

⁹³ Okanagan, Xaxli'p, Tk'emlups te Secwepe'mc, Cook's Ferry, and Lytton First Nations

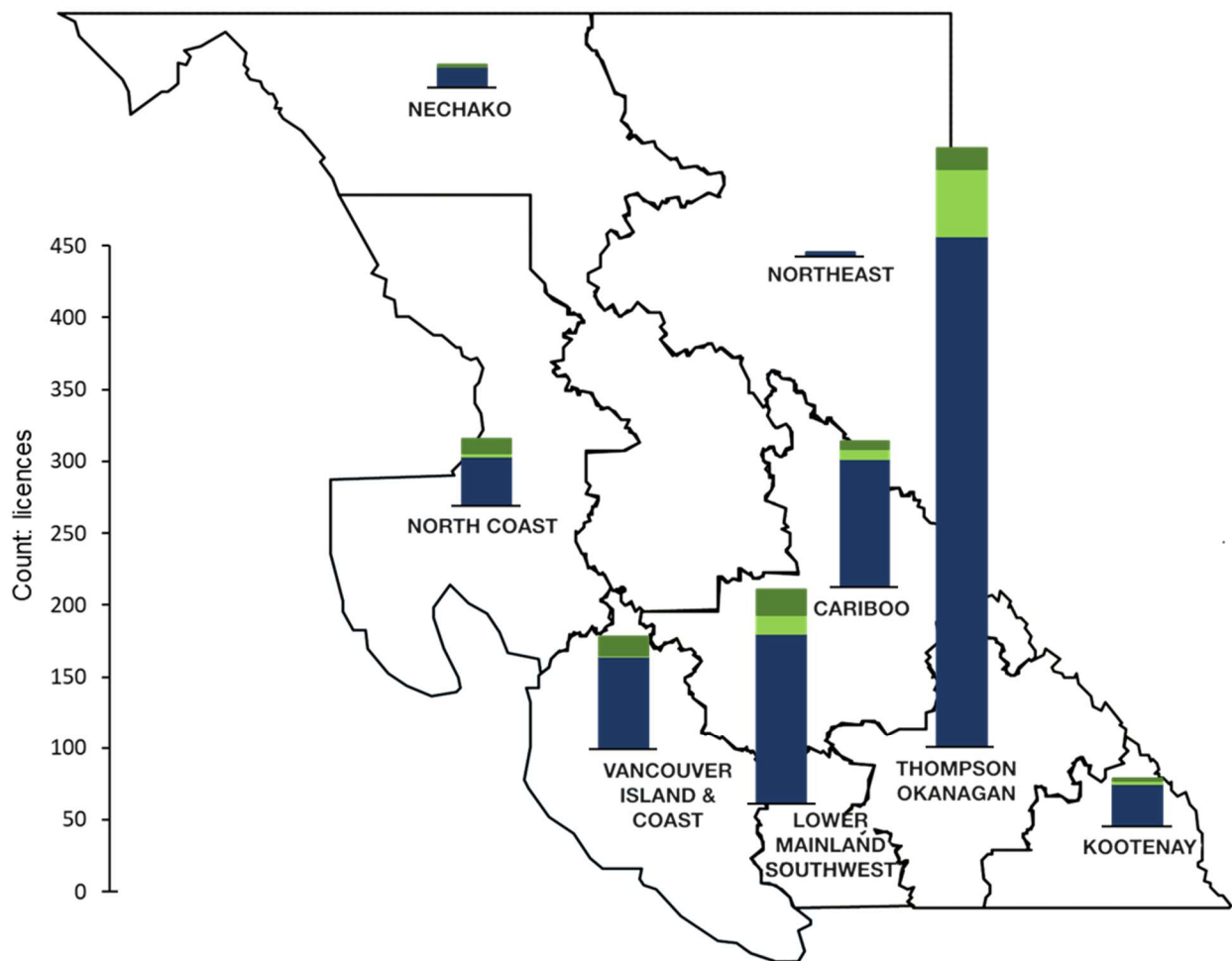


Figure 11 Geographic distribution of current (dark blue), abandoned (dark green), and cancelled (light green) surface water licences belonging to BC First Nations

However, the number of surface water licences allocated to First Nations only forms one part of the picture, identifying how many reserve communities can legally access surface water. First Nations' ability to use surface water for domestic, economic, and conservation activities also depends on the water use purposes and volumes authorised by surface water licences, as discussed in the following subsection.

6.2 Purpose and volume of First Nations' surface water licences

In the early years of the Water Act, First Nations could only acquire licences for domestic use and irrigation, in line with colonial interests in fostering agriculture among Indigenous communities (Matsui, 2009), while settler users could also acquire licences for industrial

purposes. Later, a wider range of industrial, storage, and waterworks purposes were enabled, and up to three water use purposes could be authorised by a single licence. Analysis of the present-day designation of First Nations' surface water licences (Table 9) reveals that irrigation and domestic uses remain the most common purposes across First Nation licences, reflecting the colonial logics and history of licensing. Other common water use purposes authorised for First Nation communities include waterworks (reflecting the rise of centralised distribution systems), storage (the impounding and retention of water for later use), and conservation (the diversion, retention, or use of water for conserving fish or wildlife). It is notable that four out of the five most common water use purposes for First Nation licences provide for non-economic uses, including household use, ecosystems, and storage for future use. Indeed, conservation licences account for the largest volume of water authorised for First Nations' use, highlighting the significant contribution that First Nations are making to the protection of fish and wildlife in BC. While conservation of freshwater ecosystems is of key importance to First Nations for whom salmon and other freshwater species are central to their diet, traditions, and way of life, the benefits of conservation licences also flow out to others who interact with freshwater bodies. It could therefore be inferred that First Nations' largest licenced water 'use' is for the collective good of all British Columbians.

Table 9 Number of licences and total volume of water use authorised for First Nations by water use purpose⁹⁴

Water Use Purpose	Count (licences)	Total volume authorised (m3/day)
Irrigation	406	337,565.8
Domestic	248	5,269.6
Waterworks	121	96,092.9
Stream Storage: Non-Power	70	94,096.6
Conservation	19	1,093,699.2
Freshwater bottling	10	25,543.8
Livestock & Animal	8	54.6
Commercial Enterprise	7	583.0
Land Improvement	5	Total flow
Lawn, Fairway & Gardens	5	4,717.3
Camps & Public Facilities	4	522.8
Pond & Aquaculture	4	2,256.8
Processing & Manufacturing	4	713.7
Power: Commercial	3	95,036.5
Fire Protection	2	34.1

In contrast, a minority of First Nations' surface water licences provide for other economic activities, such as freshwater bottling, commercial enterprises, aquaculture, or processing and manufacturing. The lack of water use diversification in Table 9 highlights that while some First Nations have been able to use their water sources to support alternative economic development in their communities, such activities remain uncommon in general. The under provision of water licences for economic purposes among First Nations is even more apparent when compared to surface water licences for the province as a whole. While the comparison presented in Table 10 should be read as indicative only (it compares analyses by the provincial government in 2006 to licensing data from 2018), it highlights that First Nations account for a tiny proportion of water authorised for economic uses in the province – apart from agriculture. In particular, 'commercial and general waterpower' jumps out as the single largest water use

⁹⁴ Note that licences may authorise more than one purpose, and that in practice volumes authorised may be less than stated due to conditions placed on licences. For example, conservation licences issued to Cowichan Tribes state that diversion may only occur when the flow discharge rate is 6.5m3/sec or less.

sector for BC, but only the fourth largest for BC First Nations, which collectively account for 0.006% of the total volume authorised. This finding is particularly striking given recent interest in small-scale run-of-river hydropower among BC First Nations.⁹⁵ These results thus illustrate how initial rules constraining First Nations' water use purposes, limited entitlements granted to First Nations, and legislative requirements to nominate a water use purpose for all licences have combined to tie First Nations to economic activities of the past, rather than enabling their self-determination and adaptation of water uses into the future. These constraints are likely to be particularly problematic in regions where waterbodies are fully allocated or subject to water shortages, limiting the diversification of First Nations' water use and associated activities.

Table 10 Number and total volume of surface water licences issued for all of BC by sector (in 2006), compared with First Nations licences (in 2018)⁹⁶

Sector	Province:		First Nations:	
	Count (licences)^	Total volume authorised (m3/day)	Total volume authorised (m3/day)	% of provincial volume
Domestic	24,287	92,553	5,270	5.69
Agriculture	16,965	4,292,737	337,620	7.86
Storage	2,659	272,737,123	94,097	0.03
Conservation & land improvement*	1,861	23,678,904	1,093,699	4.62
Waterworks	1,593	4,920,600	96,093	1.95
Industrial & commercial*	1,504	5,756,468	32,081	0.56
Waterpower individual residential	320	878,630	-	0.00
Waterpower commercial & general	291	1,623,527,123	95,037	0.01
Mining & petroleum	130	343,375	-	0.00
Aquaculture	27	1,054,247	2,257	0.21
Total	44,000	1,937,281,759	1,756,187	0.09

⁹⁵ See for example this story published by 'The Narwhal' in November 2017 <https://thenarwhal.ca/b-c-first-nation-harnessing-small-scale-hydro-get-diesel/>

⁹⁶ This table presents a combination of information provided by the province in March 2006 (https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/water-rights/surface_allocation_volume_purpose.pdf accessed 17 May 2019), and the licensing data analysed by the author. See Appendix IV, section iii for further details.

[^] Note that licences may authorise more than one purpose, so that the sum of licences by sector will be greater than the total licence count.

^{*} The sectors 'Conservation and Land Improvement' and 'Industrial and Commercial' also contain 525 and 57 'total flow' authorisations respectively that are not included in these estimates.

Table 10 also highlights the small volumes of water allocated to BC First Nations relative to the province as a whole – the daily allocation for all BC First Nation communities in 2018 represents just 0.09% of the total volume authorised for the province's per day. As a rough comparison, the 2011 census found that 49,681 First Nations people with registered Indian status live on reserve in BC, making up 1.13% of BC's total population of 4,400,057.⁹⁷ Thus, on a per-person basis, the surface water allocated to First Nation communities relative to BC as a whole would appear to be off by at least an order of magnitude.

Inadequate allocations are particularly problematic for licences authorising water for domestic and waterworks purposes (i.e. household use) on First Nation reserves, where reserve communities may rely wholly or in part on the allocations for their everyday water supply. Analysis of domestic and waterworks authorisations reveals that only 113 First Nations (56%) hold one or more licences authorising water supply for household use. Among these First Nations, significant variability in licensed volumes means that while a handful are authorised to use more than 1,000m³/day for waterworks or domestic purposes, most hold licences authorising up to 100m³/day.⁹⁸ A lack of correlation between the volume licensed to each First Nation and the number of members living on reserve suggests that this variability cannot be fully explained by differences in population size. Some First Nations' domestic and waterworks licences are clearly grossly inadequate for their populations; Coldwater First Nation for example is licensed to use only 47,700L of water per day for a population of 328 people living on-reserve (146L/per person).⁹⁹ By comparison, a nearby golf course is authorised to use 96,313L of water per day for watering.¹⁰⁰ Thus, even First Nations that do hold domestic surface water licences are constrained by the terms and conditions of those licences, many of which date back

⁹⁷ 2011 Census and National Household Survey data provided by Statistics Canada
<https://www12.statcan.gc.ca/datasets/Index-eng.cfm?Temporal=2013>

⁹⁸ The median total volume of water licensed for household use across the 136 First Nations with surface water licences is 63.42m³/day

⁹⁹ Statistics Canada estimated the average daily water use of Canadians in 2013 to be 466L/per person

¹⁰⁰ Licence C053145 allocates 35154.18m³/year for golf course watering to Aspen Grove Golf Ltd

to the 1880s-1920s and were not ‘future proofed’ for community and economic growth. As First Nations cannot simply move when their reserve licences fail to support their communities, some experience significant precarity in their water supply. Indeed, several interviewees provided anecdotal evidence that some First Nations use more water than is authorised by their licences as a result of these constraints.

6.3 Priority of First Nations’ surface water licences

Another important measure of the rights granted by First Nations’ surface water licences is their priority date and standing. Under BC’s system of prior allocation, licences authorising the diversion of water from the same waterbody take priority according to their precedence date (i.e. date of authorisation). Water users with older licences therefore have higher priority on a waterbody and are more likely to be able to use their full allocation during drought conditions. In water scarce and/or over-allocated regions of the province, junior licensees are vulnerable to losing use of their water entitlements during shortages.

This analysis reveals that many First Nation communities are junior licensees. As detailed in section 5, early provincial laws and decisions by the Board of Investigation prevented First Nations from acquiring the first records/licences on a water source in many cases. As depicted in Figure 12, the vast majority (97%) of First Nations’ surface water licences have priority dates from 1888 onwards, following the inclusion of Indigenous water records under the Land Act 1888.¹⁰¹ Indeed, the first visible peak in licence priority dates corresponds with the federal government’s filing of hundreds of applications for water records on September 26 1888¹⁰² in an effort to protect First Nations’ water use under provincial law. The second smaller peak reflects an influx of First Nation water licence applications around the time of the Board of Investigation (56 licences have priority dates between 1920-23), possibly on behalf of First Nations whose validated water records were insufficient for their needs. This timing coincides with what Matsui (2009) describes as a significant shift in the federal government’s approach,

¹⁰¹ Water licences with pre-Land Act priority dates were typically settler licences that were later acquired by the DIA through purchase or transfer of lands to which the licences were appurtenant

¹⁰² 182 current water licences have priority dates of September 26, 1888; many more cancelled, abandoned, and amended licences would have also been authorised from this date

from contesting the provincial government's authority over First Nations' water rights to working with(in) provincial government allocation processes.

A third peak in licence priority dates in the 1960s and '70s highlights that many surface water licences granted to First Nation communities were created relatively recently and are likely to provide only junior rights to water sources. The cause of this peak is unknown and would benefit from further investigation to examine the socio-economic and/or policy drivers of this increase in licensing, the security of these recently granted water rights, and why the number of licences granted to First Nations declined from the 1980s onwards. A useful first step would be to examine temporal trends in licensing across the province as a whole, to identify whether this latter peak reflects an increase in licence applications in general, or was specific to First Nations or federal lands.

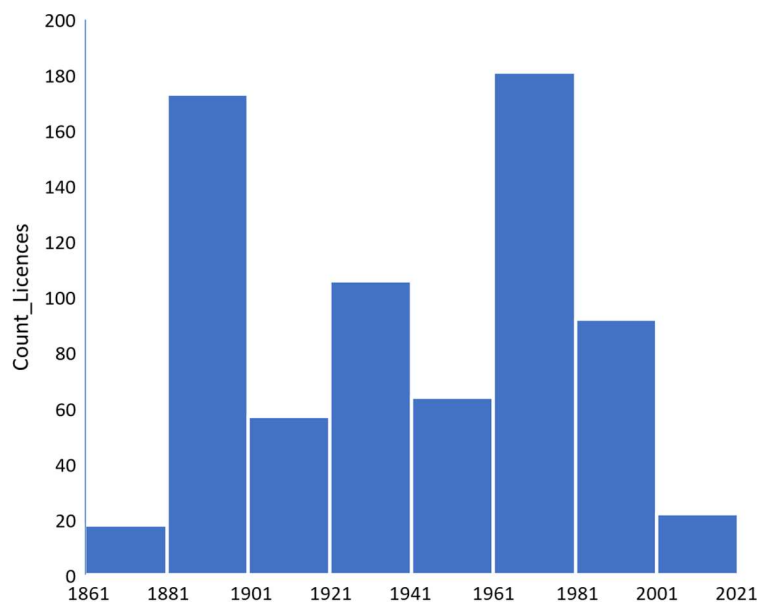


Figure 12 Temporal distribution of priority dates of current surface water licences issued to BC First Nations

To examine the priority status of First Nation licences, the priority date of each First Nation surface water licence was compared to the priority dates of all other licences on the same water source(s). This comparative analysis determined whether each First Nation licence is the only

licence, the first licence, or a junior licence for each nominated water source,¹⁰³ and – if there is an earlier licence – who owns it. The results of this analysis are presented in Figure 13, revealing that more than a third of First Nation licences are not ‘first in right’ on their water source(s).

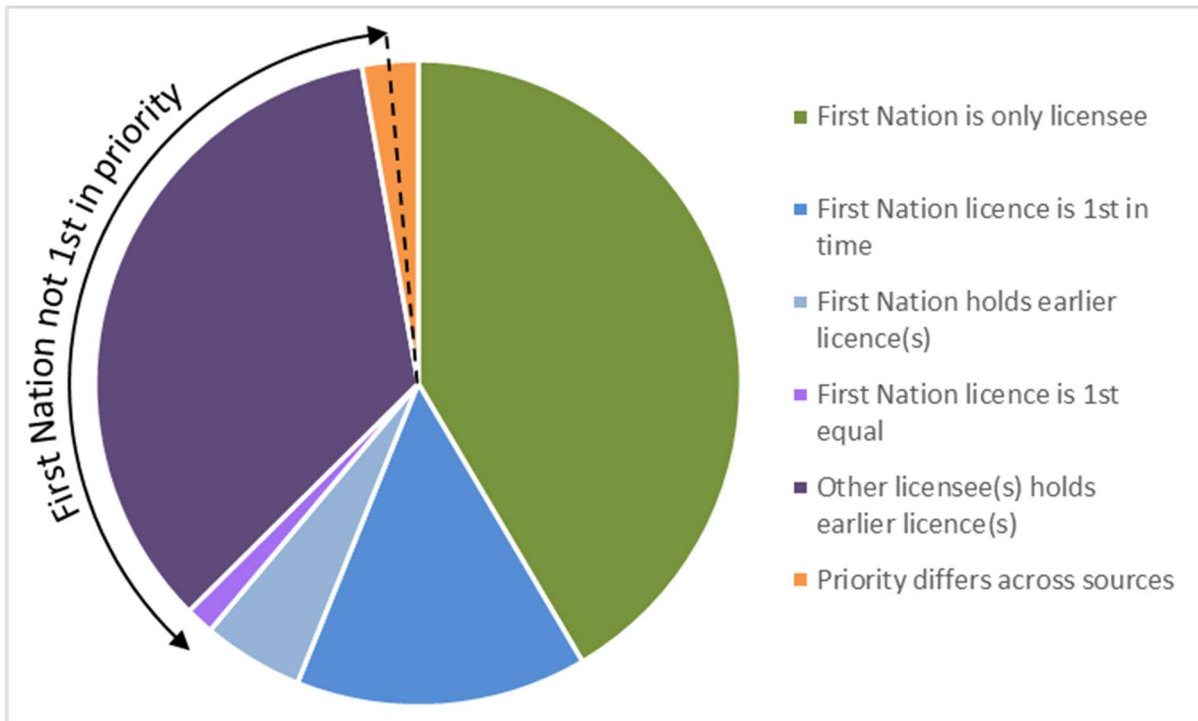


Figure 13 Priority status of current licences held by First Nations on water source(s)

Among those First Nation licences that do have senior status on their nominated water source(s):

- the First Nation is the only licensee on the nominated water source(s) for 41% of licences
- the First Nation is ‘first in right’ on the water source(s) for 20% of licences, because the licence is either first in time or is only preceded by licences held by the same First Nation
- the First Nation is effectively first in priority¹⁰⁴ across all nominated sources for 1.5% of licences.

In each case, these surface water licences legally protect First Nations’ water use in times of scarcity.

¹⁰³ Under BC law, licences may nominate one or more potential sources from which water may be diverted; a single licence’s priority status may consequently vary across the water sources for which it is authorised

¹⁰⁴ i.e. either the only licensee, the most senior licensee, or preceded by the First Nation’s other licences only

However, 36% of First Nation licences are not first in priority on their nominated water source(s), because other parties (e.g. private landowners, government, other First Nations) hold earlier water entitlements (35% licences) or licences with an equal priority date¹⁰⁵ (1% licences). An additional 1.5% of First Nation licences have variable seniority across the nominated sources, where the licence is not first in priority on at least one source. Thus collectively, First Nations are not first in priority across all nominated sources for 37.5% of their current licences. In some of these cases, only one or two small licences grant earlier water entitlements than the First Nation, and the Nation's water use is unlikely to be curtailed in times of scarcity. In others, First Nations are junior licensees on a water source with many larger water users and may face frequent seasonal and long term shut-offs to protect senior settler licensees. For example, Bonaparte First Nation holds an irrigation licence on the Bonaparte River with a priority date of September 26th 1888 (granted according to the province's 'official filing' rule) that is fifth in line, preceded by irrigation licences issued to a company and several private landowners in the 1870s. It should be noted that not only 'recent' First Nation licences face priority issues – the Cook's Ferry Indian Band for example holds three of the oldest First Nation licences in the province (with 1863, 1865, 1867 priority dates) on Oregon Jack Creek, which are preceded by a large irrigation licence issued to Metro Vancouver in 1863, among others. Further, some First Nations are subject to greater uncertainty under prior allocation than others – 12 First Nations have no 'first in time' water licences (for example, all five licences held by Neskonlith Indian Band are subject to the water entitlements of senior licence holders) and many more are not first in time for the majority of their licences (two-thirds of the Okanagan Indian Band's 21 licences are junior licences). Thus, this study shows that many First Nations – and some in particular – face significant uncertainty in the exercise of their licensed water rights, with almost 2 in every 5 licences subject to the entitlements of other licensees. As the following section will further evidence, historical inequities in licensing processes have created substantial insecurity in water access and use among BC First Nations.

¹⁰⁵ Where two or more licences hold the same priority date, priority is determined by the water use purpose, with domestic use accorded higher priority than irrigation, industrial uses, etc. If the licences are for the same purpose, water is shared between licensees

6.4 Security of First Nations' surface water licences

Analysis of the historical summaries reveals that water shortages add a further source of uncertainty to the exercise of First Nations' surface water entitlements (as well as any unlicensed uses). While the historical summaries are now 15-20 years old, the scale and impacts of water shortages have likely only increased over time due to increases in the frequency and length of drought periods and resulting conflicts over water.

Under the Water Act, the provincial government placed allocation restrictions on waterbodies in BC by noting when they were experiencing a possible water shortage¹⁰⁶ or were fully recorded¹⁰⁷ (i.e. allocated) and using this information in subsequent licensing decisions. While these determinations were often made by engineers using incomplete information, and some may require updating, they provide an indication of the hydrological insecurity faced by First Nation licensees throughout the province. The historical summaries identify 36 First Nations with 'water courses of significance' that are fully recorded (for some or all of the year, for some or all purposes), for a total of 125 waterbodies, while 22 First Nations are noted to have a history of water shortages or possible water shortage on their water course(s) of significance. In many cases 'water courses of significance' are waterbodies that First Nations hold current water licences on, but in some cases they are waterbodies that the First Nation previously held entitlements on or holds unrecognised entitlements on (e.g. an Order-in-Council that did not result in licenced rights). The designation of 'fully recorded' waterbodies or 'water shortages' can therefore identify a source of insecurity for current licensed rights, or a barrier to the realisation of First Nations' entitlements on historically significant waterbodies. The following excerpts present two examples of First Nations whose current (junior) licensed entitlements and restoration of past entitlements, respectively, are affected by the fully recorded status of a water course of significance:

¹⁰⁶ A 'possible water shortage' identifies waterbodies that are nearing the 'fully recorded' stage and where there is potential for periods of insufficient water to meet all licensed allocations

¹⁰⁷ A 'fully recorded' designation indicates that no additional licences should be considered for this waterbody based on hydrologic data available at the last inspection

There has been a history of water shortages in Louis Creek and the creek is reported as fully recorded unless backed by storage. ...on September 8, 1992 the North Thompson First Nation was instructed by the Kamloops Water Allocation Section Head, not to divert water for the remainder of the 1992 irrigation season in order to maintain a minimum flow in the stream for the preservation of fish life. (A historical summary of the rights of the North Thompson First Nation, 2000, p.4)

Conditional Water Licence 12501 was abandoned by Indian Affairs, without consultation with the Band. It should be noted that it may be difficult to obtain a new licence on Palmer Creek as Salmon River and its tributaries are noted as fully recorded without storage. (A historical summary of the rights of the Neskonlith First Nation, 2001, p.14)

As these two examples highlight, the province often specifies that water courses are ‘fully recorded’ unless additional storage capacity (e.g. dams) is provided to support additional water uses. For First Nations that rely on federal and in-kind infrastructure funding, the requirement to create additional storage infrastructure is likely to be prohibitive.

Unsurprisingly, the number of water courses designated as fully recorded or experiencing water shortages differs by region due to geographic differences in water use pressures and hydrologic scarcity. For example, the whole Nicola River watershed has been identified as fully recorded without full backup storage, conferring significant uncertainty on the water entitlements of the Lower and Upper Nicola First Nations, among others. Collectively, it is concerning that at the turn of the century the provincial water licensing system identified 44 First Nations – or one in every three First Nations with licenced water rights – whose water sources and consequently water use entitlements are vulnerable to water scarcity and overuse.

7 Discussion

This chapter has so far examined the outcomes of colonial water licensing for BC First Nations through a detailed analysis of historical and current water rights data. Quantitative analysis of water licensing data has revealed that in general, First Nations’ licensed surface water entitlements are sparse, inadequate, and tenuous. While some First Nations may have plentiful, secure surface water licences that enable economic development of reserves, most do not. Analysis of historical summaries demonstrates that the impoverished state of First Nations’

surface water entitlements is the product of provincial-federal struggles for power, an indifferent and/or ineffective bureaucracy, and the inequitable operation of administrative law. This section builds on these insights, together with those of interviewees and Indigenous scholars, to critically interrogate the exclusion of Indigenous water rights from the WAM, and the relationship between water law and settler colonialism more generally. Specifically, it reflects on the value of historicising law reforms; the failure of water licensing to provide for Indigenous communities; the implications of embedding existing licensing regimes into the WSA; and this study's contribution to scholarship on settler colonial dispossession.

First, this chapter highlights the importance of historicising law reforms in order to trace their origins, policy trajectories, and exclusions, and therefore better evaluate their outcomes. Research on environmental law and governance reform often notes the importance of attending to equity dimensions, in recognition of the potential for reforms to contribute to environmental injustice (e.g. Ravnborg, 2016; Cosens et al., 2017; Grafton et al., 2019). Equity concerns are often targeted at the (prospective) outcomes of law reforms, in terms of the distribution of costs, benefits, and opportunities. However, the WAM experience highlights that environmental injustice can also result from omissions in law reforms – from those parts of legislation that remain unchanged, and from rights and concerns that are not addressed through the reform process. This analysis demonstrates that historicising law reforms can both help to reveal omissions and account for how they arose and why they matter. In BC, tracing the history of water allocation laws through their design and implementation highlights that the WSA is only the most recent act in a sequence of laws that have denied First Nations' water rights and jurisdiction, and sought to replace those rights with State-determined entitlements. Building on previous scholarship of settler colonialism (Harris, 2001; Verancini, 2011; Pasternak, 2014; Curley, 2019), I argue that the imposition of western water law formed an integral part of BC's attempt to erase Indigenous water rights, thereby securing settler use and development of water resources. This erasure was both legitimised¹⁰⁸ and obscured by the replacement of Indigenous

¹⁰⁸ Through claims to jurisdiction over Indigenous lands and resources on the basis that Indigenous peoples did not own them (*terra nullius*)

governance with a universalising western allocation regime. The logic of denial through replacement continues to be visible today in assumptions that the WSA provides BC First Nations with access to water in the form of licences and water reserves, and potentially devolved governance powers. Review of BC's water law history reminds us that all such water use rights and governance powers derive from province's appropriation of water resources and imposed jurisdiction, and are consequently dependent on the legal and decision-making frameworks of the settler State.

Historical analysis provides insight into how settler laws and administration have affected BC First Nations water access to date. Early on, the racist and bullish behaviour of several provincial officials (notably Joseph Trutch¹⁰⁹), discriminatory provincial legislation, jurisdictional wrangling between the dominion and provincial governments, and inaction of high-level dominion officials precluded the creation of First Nation water entitlements¹¹⁰ while enabling priority licences to be granted to settler users (see also Matsui, 2009). Later, First Nations' water rights were left to the dispassionate but discriminatory application of provincial legislation and the predatory actions of neighbouring water users. The historical summaries show that First Nations' water licence applications were subject to more stringent rules and evidentiary standards than settlers during the Board of Investigation proceedings, as well as numerous challenges and appeals by settler users (see also Bankes, 1991). New rules introduced by the Water Act were used to dispossess First Nations of the limited entitlements they had been granted, with the cancellation of 68 licences, abandonment of 69 licences, and substitution of 203 conditional licences with lesser entitlements. Requirements to build and maintain infrastructure¹¹¹ and make 'beneficial use' of the water within specified timeframes were frequently used as justification for the cancellation or abandonment of First Nation licences. According to the historical summaries First Nations had limited opportunities to protest reductions to their entitlements, as they were often not notified – let alone consulted – about

¹⁰⁹ Trutch described First Nations as "utter savages" who could not be relied upon to use land properly (Harris, 2002, p.88)

¹¹⁰ Section 5.1 revealed that more than one hundred IRC and Order-in-Council water records were refused or overlooked by the provincial government during the late 19th century

¹¹¹ Which typically relied on federal government assistance that was often delayed

proposed licence cancellations or abandonments. Tracing the outcomes of legal and administrative processes over time thus reveals that BC's water allocation regime has excluded, limited, and eroded First Nations' water use rights from its beginning, and that many of these colonial logics, arbitrary rules, and unjust outcomes remain in force today. Water allocation law and licensing are therefore revealed to be colonial in both their origins and effects (see also Curley, 2019), highlighting the fundamental injustice enacted by their retention in the BC WAM.

Second, this chapter reveals that the entitlements resulting from BC's water use allocation regime are inadequate and inappropriate for First Nation communities. Quantitative analysis of First Nations' current surface water licences shows that far too many (77/203) BC First Nations do not hold any surface water licences, leaving them reliant on groundwater sources,¹¹² agreements with neighbouring municipalities,¹¹³ and unlicensed (precarious) diversions. First Nations with water use entitlements also experience use restrictions, with the majority holding just 1-3 surface water licences to supply all their reserves or settlement lands. These licences, which are usually issued for irrigation, domestic use, or waterworks, provide limited opportunities for economic development of reserves and are in some cases manifestly inadequate to supply communities with water for household use. Furthermore, water use entitlements provided by these licences are often uncertain, with more than third of licences not providing first priority rights to First Nations despite their status as first occupiers and users of the water. The junior priority status of many First Nation licences is particularly concerning given that the water courses of more than a third of licensed First Nations have been identified as fully recorded or experiencing a possible water shortage.

In addition, First Nations and Indigenous scholars highlight the inappropriateness of provincial water use entitlements as a mechanism of regulating rights to water. Water use entitlements

¹¹² Not all of which are suitable as water sources, due to naturally occurring contaminants such as arsenic, salinity, and aquifer depth. A federal government interviewee noted that the construction of new wells is often an expensive (and sometimes non-viable) option for water-scarce First Nation communities

¹¹³ Municipal supply agreements are not practical for all reserve communities (especially those that are small, remote, and poor), while some communities with such agreements have experienced issues with funding and governance (see Lipka and Deaton, 2015). It is noteworthy that a Cowichan Tribes community was on a drinking water advisory for 7 years before they were finally connected to the nearby Duncan system

derive from a liberal property rights logic, where the crown grants the user the right to exclusive use of a defined quantity of water for a specified purpose (Brandes & Curran, 2017). Within this property framing, economic values are pervasive – almost all purposes (apart from domestic and conservation uses) provide for economic use and all licences require the ‘beneficial use’ of water, colloquially described as the ‘use it or lose it’ rule. Water is thus framed as a defined volume of H₂O, devoid of meaning apart from its use value (Linton, 2010), where unused water is viewed as ‘wasted’ (see Cantor, 2017). This private rights, use-driven framing contrasts fundamentally with the way First Nations relate to water:

We believe water is sacred, water is our life source, and creator gave us the inherent responsibilities to care for everything. We have our water ceremonies, we have our songs and our dances, and our relationship with water, our sacred relationship. So there's more than just - it's not a commodity to us - it's a relationship with water being our life source is the underscore for us. The province doesn't manage it that way, so they'll make a big mess of it. (Chief Judy Wilson, interview October 2017)

This quote highlights the multifaceted nature of dispossession enacted through the imposition of western water law, encompassing not just a loss of use rights but also the erosion of meanings, values, and relationships through the legal and physical separation of First Nations from their traditional waters (see also Todd, 2016; Yates et al., 2017; Daigle, 2018; Sepulveda, 2018). As licensing regimes were established and refined over time, enabling the allocation of all available water to domestic and economic activities, the commoditisation of water and consequent exclusion of non-use values became more firmly entrenched. Today, BC still does not provide any legal mechanism for the protection of First Nations’ cultural, spiritual, or relational values for waterbodies (Curran, 2017). As described by another interviewee, First Nations’ displacement from their traditional water sources and replacement of those integral relationships with economic use rights severely impacted First Nation communities:

The people who originally lived there before contact, they got water from springs, natural springs. They didn't take the water from ditches or creeks, rivers or lakes, but from natural springs where it just comes out of the earth. And the higher the quantity, the more people lived in that area. ... And when contact was made, people were moved by the government onto

reserves. I guess the thought behind it was to make First Nations into farmers. So they had ditches built, and ... the water was brought to the reserve for irrigation of crops I guess. And along with these ditches came sickness. The people got sick from drinking the water because animals had walked through or laid in it or played in it, whatever they did, in that water wherever it came from a river or stream to the reserve. (Jim Brown, interview July 2018)

The interviewee describes how the colonial government's substitution of abstract water supply volumes for longstanding, intimate relationships with specific waters disrupted the legal orders and knowledge systems governing First Nations' use of water. In doing so, water allocation regimes both undermined the intrinsic, flexible relationships First Nations had established with their environments and exposed their communities to disease. His narrative emphasises how the province's prioritisation of economic development of water resources jeopardised other water values and uses, including human health.

The imposition of water allocation law also reformatted relationships between First Nations' lands and waters according to settler legal principles of appurtenancy and prior appropriation. Under the doctrine of appurtenance, water use entitlements in BC are attached to a specified parcel of land or an undertaking (e.g. power project). Thus, First Nations whose land reserves were not recorded or recognised by the province – and who were legally prohibited from owning land themselves (Harris, 2002) – were also prevented from acquiring water licences (Matsui, 2009). It is likely that this lack of land reserves, combined with the doctrine of appurtenance, partly explains why so many First Nations do not hold water licences today. Further, revisions to BC's Indigenous land policy in the 1850s-1930s, which significantly reduced the size and number of First Nations' reserves (Harris, 2002), also resulted in the dispossession of appurtenant water rights. The historical summaries document numerous instances in which water use licences were denied to a First Nation, reduced in volume, or transferred to a third party due to changes in reserve allotments. Conversely, the doctrine of prior appropriation linked the productive capacity of First Nations' land reserves to the order in which they were granted water licences. Together, the historical summaries and licensing data highlight that delays in granting water entitlements to First Nations (due to discriminatory laws, jurisdictional conflicts between the provincial and federal governments, and poor record

keeping) prevented many from acquiring senior rights to their water sources. Legal barriers to senior and sufficient water entitlements in turn contributed to the loss of productive land and economic opportunities on reserves, further displacing First Nation communities (Matsui, 2009). Thus, this chapter highlights that the province's failure to recognise Indigenous water rights, and substitution of those rights with water licences, legally connected water to land in a way that facilitated the erosion of both First Nations' land and water entitlements (see also Schmidt, 2017a).

Together, these examples demonstrate the inappropriateness of BC's water allocation laws, and water licensing in general, as a mechanism for governing First Nations' relationships to their water sources. When Indigenous nations' rights to water are determined through a quantitative, reductionist, economically-driven regime, they are dispossessed of their creator-given rights and responsibilities to their traditional waters; their governance systems; their culturally significant water uses, meanings, and values; and in some cases, use of their (already limited) land entitlements (cf. Curley, 2019).

Third, these findings reinforce existing critiques of the exclusion of Indigenous water rights from the WSA, which both embeds and is likely to exacerbate existing injustice. This chapter has described in detail the inequitable history and state of BC First Nations' water use entitlements. By retaining the status quo water licensing system and existing surface water licences, the WSA is embedding these past injustices into First Nations' present and future without any remedy. First Nations with reserves in fully allocated watersheds have no current recourse to obtain surface water entitlements, and there are no options to retroactively recognise the senior priority rights of any BC First Nation (as even water reservations are dated according to the final agreement). These concerns with current as well as future water rights under the WSA were clearly articulated by the interviewee quoted earlier, who stated "*the old [regulations] we still had outstanding issues with as well, and those caused past infringements... so those have to be sorted out and addressed.*" (Chief Judy Wilson, interview October 2017). While unlicensed water use may accommodate increased demand in the present, there is no guarantee that they will do so into the future with improvements in monitoring and reporting, climate

change, and added water use pressures. The WSA's failure to provide remedies for First Nations' uncertain and inequitable water supply consequently appears as institutionalised neglect.

Furthermore, First Nations' current water licences largely operate under the same arbitrary terms and conditions, and therefore the same limitations and uncertainties, as contributed to the dispossession of First Nation licences in the past. Specifically, requirements for beneficial use and infrastructure maintenance pose ongoing threats of licence cancellation or abandonment for First Nations. As occurred in the past, the loss of First Nation water entitlements may occur at the prompting of interested neighbours:

I'm afraid for my people back home now... one of the landowners along [name] Creek, he doesn't have a water licence, because the water licences are full for that creek. ...he says how come First Nations aren't repairing their [irrigation] ditch? I told him well they are trying to repair it, but a forest fire actually damaged it to a point where it needs a lot of repairs. But I think what that fellow was getting at was for me to say 'oh they're not going to use that ditch'. That's what he wanted to hear, so then he'll go back to the water branch and say 'oh these First Nations aren't going to use that water allotment', you see? ...and that'll free up an allotment on the creek so that he can make an application to it. ... its amazing you know, I think now that I heard this guy say that, that he will probably be continuously looking for alternatives to get his water licence by cancelling out other people's. And to me I found that sort of disturbing, but realistically it could happen. (Jim Brown, interview July 2018)

The WSA has in fact created new opportunities for restriction of existing water entitlements, through the introduction of a 30-year review of terms and conditions for all licences. While this provision was presumably not created with First Nations in mind, there is no reason why it could not be applied to their licences, instituting greater surveillance of First Nations' water use and further opportunities to reduce their water use entitlements.

Finally, the WSA creates the potential for new inequalities in water entitlements through its extension of water licensing to groundwater. The WSA requires all existing and new

groundwater users (except domestic users) to acquire a licence within a fixed timeframe¹¹⁴ to maintain their right to use groundwater. Licence precedence will be established based on date of first use, as evidenced by well construction records, well maintenance records, environmental assessment certificates, photographs, or other corroborating information. While these rules are nothing like BC's earlier discriminatory policies, there is still concern that the arbitrary nature of the new rules may adversely affect First Nations' groundwater entitlements and use. In particular, provincial and federal government interviewees expressed concern that very few First Nations have so far applied for groundwater licences, and that many may not apply within the transition period, therefore losing their licence precedence. Lack of understanding of the licensing process and requirements, which an interviewee noted was not as easy as the province implied, was identified as one reason why so few First Nations have applied to date. Other interviewees suggested that capacity limitations may be inhibiting licence applications, particularly among smaller First Nations with few administrative staff. Observation of meetings also highlighted that some First Nations are not willing to apply for groundwater licences, as they do not recognise the province's jurisdiction over groundwater. Whichever the reason, the implications are the same: First Nations may not be grandfathered into the licensing system, thereby losing their priority status or right to use groundwater. As a federal government interviewee (May 2018) stated, this is an artificial problem; by creating a fixed deadline the province is potentially denying senior licences to thousands of groundwater users whose use is not causing problems.

One interviewee with significant experience of First Nations' drinking water systems provided examples of other ways in which the priority status of First Nations' groundwater wells may be adversely affected. First, he suggested that requirements to provide evidence of a well's date of first use could be complicated by poor record-keeping. He noted that his community had wells that were unregistered and currently dormant but could be used for irrigation based on where they were situated. Licensing such wells would likely prove difficult due to lack of evidence of first use and requirements to make beneficial use of water; his community is thus likely to end

¹¹⁴ Originally within three years of the Act coming into force, now extended to March 1st, 2022

up with junior licences for these wells, should they ever apply. And as he explained, even where wells are registered, provision of evidence may still be problematic:

I went to this one First Nation and I took pictures of their wells and the numbers on their wells. And I pulled it up on the government website, and none of their numbers corresponded with the well numbers, which I found quite odd. ...so I don't know what consequences that would have if let's say somebody in future wanted to drill a well, and we don't have the proper documentation in place for the First Nation. (Jim Brown, interview July 2018)

These examples collectively serve to demonstrate that arbitrary licence application rules may result in First Nations being granted fewer and lower priority groundwater licences under the WSA than their existing groundwater use – let alone their unextinguished Aboriginal title and rights – should provide. As summarised by one interviewee:

if BC continues to not deal with Indigenous territories, Indigenous legal traditions, Indigenous laws, customary laws, Indigenous rights to water and stuff like that, then it will continue to allocate water disregarding Indigenous people. And that is very, very bad, very wrong. (First Nation organisation interviewee, February 2018)

Finally, and in summary, this chapter contributes to expanding scholarship on the geographies of settler colonial dispossession. Research to date has highlighted the central role of law as a mechanism and justification for dispossession of Indigenous lands and resources (Harris, 2001; Harris, 2002; Pasternak, 2014; Hoogeveen, 2015; Curley, 2019) and revealed the impacts of settler colonialism on Indigenous rights and relationships to water (Sam, 2013; Daigle, 2018; Sepulveda, 2018). This chapter draws these two areas of scholarship together to explicate how settler colonial water law has sustained and deepened the dispossession of Indigenous waters, with consequences for Indigenous communities' access to (safe) water, use of their lands, and traditional governance systems. Specifically, through its unique mixed methods approach, this chapter was able to trace in detail how settler water laws erased and replaced Indigenous water rights, and then incrementally eroded Indigenous communities' access to water. The combined analysis of historical records, current licensing data, and interviews provides rich insight into

the specific laws, institutions, and decisions through which dispossession were and are still enacted, and the ongoing consequences of dispossession for communities.

Further, by examining historical and current water rights data for all BC First Nations, this chapter was able to illustrate how processes of dispossession played out differently across space, dependent on varying biophysical conditions, socio-economic dynamics, and the actions of government officials. These findings support arguments by Curley (2019), Goldstein (2014), and others that while colonialism may be a structure, it requires events to reproduce this structure, contributing to heterogeneous geographies of settler colonialism within a jurisdiction. Future research could explore similar heterogeneity in how BC First Nations are responding to the continued imposition of settler water allocation law in their territories (see Sam & Armstrong, 2013; Joe et al., 2016; Napoleon & Friedland, 2016). In particular, this chapter suggests a need to consider how various Indigenous pathways to decolonising water rights and jurisdiction in BC will interact with existing settler water laws, licensing systems, and allocations. This chapter highlights the existing overallocation of water sources and unjust distributions of water use rights, and the laws that sustain them, as key barriers to First Nations water security that must be addressed, whether through recognition of Aboriginal title, the revitalisation of Indigenous legal orders, co-governance partnerships, or other self-determining initiatives.

8 Conclusion

This chapter has examined the provincial government's allocation of surface water licences to BC First Nations from its earliest water legislation to the present in the context of the government's recent decision to retain this system of licensing and extend it to groundwater into the future. As my analyses and the insights of several First Nation organisation representatives has demonstrated, this system of allocation has adversely affected the water use rights and access of First Nation communities across BC. These communities will continue to rely on precarious, often insufficient water use entitlements and other diversions until the provincial government starts managing its water resources with a view to respecting and protecting First Nations' title and rights to water. While the WSA made forward progress in

managing water use for the environment, it failed to similarly recognise and respond to the inherent rights of BC's Indigenous peoples. In response, BC First Nations are asserting their jurisdiction and rights to water through their laws and governance systems, partnerships with provincial and other government agencies, water studies within their territories, treaty negotiations, and ongoing court cases. I hope that my account of the history, operation, and outcomes of BC's water allocation system with respect to First Nations will help to resource their efforts. Where case studies of individual First Nation's experiences of water licensing have portrayed the unjust outcomes and consequences of this system, this province-wide account should highlight how common but also variable these experiences and outcomes are.

In addition, this chapter contributes to academic research on Indigenous water rights and settler colonial dispossession by attempting to characterise and specify the dispossession of First Nations water use entitlements, and examine temporal and spatial trends in this dispossession. Such analysis adds to existing water rights histories by highlighting that the dispossession of First Nations' water use entitlements occurred not only through the denial of reserve water records, as is often the focus of historical accounts, but also through the reduction and termination of provincial water licences. As such, hydrologic dispossession has occurred as an incremental and cumulative process of loss through a range of legal and bureaucratic mechanisms. The variable operation of these mechanisms – together with BC's geography, diverse waterscapes, and the varying efforts of federal and provincial officials – has resulted in significant spatial variability and distributional inequality in the entitlements allocated to and taken from BC First Nations.

This work also contributes to broader accounts of settler colonial dispossession by providing insights into the institutions, officials, rules, discourses, and actions through which water was dispossessed. Whereas the loss of water rights is largely discussed as secondary to the dispossession of land and other natural resource rights, this analysis highlights how central water rights were to the negotiation of provincial jurisdiction and Indigenous land policies in the 19th and 20th century, as well as the resulting geography of Indigenous land use. Just as changes in land and reserve policies are observed to have resulted in the loss of Indigenous

water rights, the allocation of water entitlements is shown to have integrally shaped the use and value of Indigenous lands. This chapter therefore contributes to understanding the multi-faceted and interconnected processes of settler colonial dispossession in western Canada. It also joins with other works (Harris, 2001; Blomley, 2003; Harris, 2004; Pasternak, 2014; Hoogeveen, 2015; Schmidt, 2017a; Curley, 2019) in highlighting the central role of colonial law, bureaucracy, and property ideologies in the dispossession of Indigenous peoples. I will only add that First Nations' stated concerns regarding the implications of WSA for their communities demonstrate how pertinent the critical analysis of systems of settler colonial dispossession remains today.

Chapter 4. Embedded indeterminacy in the modernisation of British Columbia's water law

1 Introduction

Evidence of growing pressures on water resources and ecosystems has resulted in significant changes in water legislation globally in the last two decades. Changes to water law have introduced new requirements to manage water on a watershed basis (e.g. Alberta), protect drinking water sources (e.g. Ontario), consider environmental flow needs (e.g. Murray-Darling Basin), embed rights of the environment (e.g. New Zealand), and ensure equitable access to water resources (e.g. South Africa). These changes reflect a growing awareness that the water management and governance approaches of the past are not fit for the future, particularly in the context of climate change (Adler et al., 2013; Benidickson, 2017; Cosens & Gunderson, 2018).

These changes in water law mirror the re-evaluation and revision of environmental laws more generally. Environmental law¹¹⁵ is widely recognised as a relatively modern field of law – even immature – that has built on the philosophical underpinnings and practices of property and administrative law (Coyle & Morrow, 2004; Fisher et al., 2009). Environmental laws and legal frameworks are thus subject to iterative cycles of reform as new approaches to environmental management and governance are devised, implemented, evaluated, and revised (Fisher et al., 2009). Such reform processes are in part driven by an awareness that previous approaches to environmental law have failed to protect ecosystems and communities, and distribute resources, costs, and benefits equitably (Ruhl, 1997; Wood & Richardson, 2006). For example, Canadian environmental lawyer David Boyd states that “from every perspective, the Canadian environmental laws and policies intended to protect human health lag behind those of other wealthy industrialised nations” (2015, p.16).

In particular, there is increasing emphasis on the need for revision of environmental laws in line with ecological principles, based on increased awareness of the rate and scale of environmental

¹¹⁵ For simplicity, I use the term ‘environmental law’ to refer to both environmental and natural resource law, which can be distinct, overlapping, or synonymous fields of law in different jurisdictions

changes, and changes in our understanding of environmental systems (Platjouw, 2016; Cosens et al., 2017). Scholars highlight that current systems of environmental law are based on assumptions of ecological stationarity and determinacy, with legal mechanisms directed towards preservation, sustainable development, and protection of rights (Wood & Richardson, 2006; Craig, 2010; Benson & Craig, 2014). Climate change has fundamentally challenged these assumptions, highlighting that current and future environmental systems will be characterised by non-linear processes, non-stationarity, feedbacks loops, and cumulative and threshold effects, and consequently uncertainty and indeterminacy in environmental outcomes (Milly et al., 2008; Craig, 2013). It is argued that current reliance on rigid and prescriptive forms of environmental policy is a barrier to managing for uncertain environmental futures, and that environmental law must therefore change to become more adaptive, flexible, and responsive to place-specific issues:

If law is so rigid that it presents barriers to the adaptation necessary to sustain society as change accelerates because of the intersection of population growth, climate change, and other factors driving change, then the law itself must also change to allow adaptation within the longer term goal of stability (Cosens et al., 2017, p.1)

Environmental law critics have variously argued for greater application of precautionary regulation (Craig, 2010), flexibility in administrative decision-making (Ebbesson, 2010), translation of resilience thinking (Benson & Craig, 2014), and institutionalisation of adaptive governance (Cosens et al., 2017). They argue that by incorporating flexibility and adaptation within the law itself, laws can better deliver the adaptive management and governance of environments in the face of changing environmental conditions and knowledge. However, scholars also highlight a tension between the need to secure basic environmental protections and rights, and the introduction of flexibility to enable adaptive responses (e.g. Craig, 2010; Platjouw, 2016). This chapter explores how this tension between the competing aims of certainty and flexibility played out in the modernisation of British Columbia's (BC) Water Act, where the provincial government explicitly sought to provide certainty for existing water users and ecosystems while enabling flexible, place-based approaches to water management. British Columbia's history of water law reform provides a cautionary tale of how liberal emphasis on

the protection of property rights can undermine efforts to modernise the administrative functions of environmental law (see also Pardy & Stoehr, 2011; M'Gonigle & Takeda, 2013).

This study builds on the work of legal geographers who have critically examined systems of environmental law and governance in light of their political-economic underpinnings and socio-ecological outcomes (Jepson, 2012; Perramond, 2013; Roa-García et al., 2015; Schmidt, 2017a). Specifically, the chapter demonstrates how policy makers seeking to address socio-ecological uncertainties arising from environmental change and knowledge deficits can end up re-embedding this uncertainty through the process and substance of environmental law reform. British Columbia's new Water Sustainability Act (WSA) has been widely celebrated as a significant step forward for water management and governance in the province (e.g. Brandes et al., 2015). However, as this chapter will demonstrate, significant uncertainty remains regarding how the Act will be implemented and resourced. This study, which has taken place during the regulation development and early implementation phase of the law's development, cannot provide definitive insight into the outcomes of the law reform. Rather, it examines current pathways for implementing the Act in the context of BC's history of water reforms and governance arrangements to identify areas of uncertainty and tension in the delivery of promised outcomes. While opportunities still exist to build upon and implement the law reforms in ways that are consistent with the vision of sustainable, adaptive management advocated by sustainability scholars, realising these opportunities will take significant long-term investment by government and non-government actors.

The following section of this chapter provides an overview of key arguments for adaptive environmental law in the academic literature, summarising the legal principles and reforms advocated by environmental law and sustainability scholars. Subsequent sections summarise the incorporation of adaptation and flexibility in BC's water law reform, and the methods employed in this study. The results highlight that while many water experts in BC are cautiously optimistic about the new Act, they also express significant uncertainty over its outcomes. Three key legislative sources of uncertainty are explored in depth, before the chapter

concludes with some reflections on the implications of this uncertainty for BC and efforts to modernise environmental law more generally.

2 The reform imperative: Adaptation and environmental law

Environmental law and governance scholars largely agree that modern environmental law is out of step with current understandings of environmental systems and management practices (Ruhl, 1997; Wood & Richardson, 2006; Brunner & Lynch, 2010; Boyd, 2015; Cosens et al., 2017). Whereas environmental science and management scholars have been arguing that environmental systems are characterised by complexity, non-linear dynamics, and uncertainty for decades, environmental law has typically continued to operate within paradigms of predictability, stability, and reductionism (Cosens et al., 2017). Traditional command and control regulation (as is common in conservation and pollution legislation) assumes predictable socio-ecological responses to human intervention, and the ability to preserve present (or restore past) ecosystem form and function (Wood & Richardson, 2006). More recent market-based approaches (e.g. cap and trade) also assume stable environmental baselines, seek to manage discrete ecosystem components, and create property interests that deter revision of baselines and standards (Craig & Ruhl, 2014). Following the publication of Ruhl's 1996 paper 'Complexity Theory as a Paradigm for the Dynamical Law-and-Society System', a growing body of environmental law and governance scholars have sought to lay out arguments and frameworks for the application of adaptive management and governance through environmental law.¹¹⁶ Increasingly, these recommendations are being taken up within environmental law reforms, including the BC Water Act Modernisation (WAM); an appreciation of these arguments is therefore important to understand and critically evaluate the reforms enacted through the WAM. This section reviews existing work on adaptation and environmental law, identifying core arguments for legal and governance reform and situating these arguments in broader trends in the environmental governance literature.

¹¹⁶ Prominent authors in this group include Barbara Cosens, Robin Craig, Melinda Benson, Ahjond Garmestani, J Ruhl, Brian Chaffin, Hannah Gosnell, Craig Arnold, Craig Allen, Daniel DeCaro, and Lance Gunderson

2.1 Environmental law and adaptive management

In the first instance, authors argue that current forms of environmental and administrative law pose a barrier to the uptake of adaptive management practices and must be revised accordingly (Ruhl & Fischman, 2010; Benson & Garmestani, 2011a; Benson & Stone, 2013; Craig & Ruhl, 2014). Adaptive management broadly refers to structured, iterative processes of policy experimentation and learning that seek to refine environmental management over time in conditions of uncertainty or insufficient knowledge (Ruhl, 2011). Adaptive management theory arose to prominence in the 1970s and 80s,¹¹⁷ and has since been taken up (at least rhetorically) by environmental management authorities worldwide. It is argued to be particularly pertinent to the management of resources affected by climate change, due to knowledge limitations, complexity, and continuing uncertainty in socio-ecological responses (Craig, 2010; Ruhl, 2010). However, advocates acknowledge that neither the implementation nor outcomes of adaptive management have lived up to expectations (Ruhl & Fischman, 2010; Allen & Gunderson, 2011; Benson & Stone, 2013). Instead, most agencies practice what Ruhl and Fischman (2010, p.426) term 'A/M-lite': "a watered-down version of the theory that resembles ad hoc contingency planning more than it does planned 'learning while doing.'"

Legal scholars attribute this failure, in part, to current legal requirements for environmental decision-making and planning, which can make it difficult to obtain the institutional support, resources, and flexibility needed to implement adaptive management (Garmestani et al., 2008; Allen & Gunderson, 2011; Benson & Stone, 2013; Craig & Ruhl, 2014). Benson and Stone's (2013) survey of US adaptive management practitioners found that more than 70% of respondents felt hampered by legal and institutional constraints, and could identify specific legal requirements that inhibit their use of adaptive management. Documented legal impediments include judicial scrutiny in the courts (Ruhl & Fischman, 2010), consultation and evaluation requirements (Benson & Stone, 2013), the procedural emphasis of environmental law (Benson & Garmestani, 2011b), the reductionist and preservationist logics of conservation law (Benson, 2012), and legal culture (Benson & Garmestani, 2011a; Brinkman, 2017). Importantly, Craig and Ruhl (2014)

¹¹⁷ Due to influential works by Holling (1978) and Walters (1986)

highlight that many legal impediments originate from the administrative laws that set procedural requirements for the operation of environmental law (e.g. planning and decision-making processes). For example, they identify US requirements for “hyperdetailed pre-decisional impact assessments, intense public participation during the decision-making process, and post-decision hard look judicial review” as encouraging natural resource agencies to invest in up-front comprehensiveness in order to “steamroll their decisions through public-comment scrutiny and judicial review litigation and then never look back” (*ibid*, p.4-5). The resulting agency emphasis upon demonstrating efficiency and certainty in management outcomes in order to achieve ‘final’ decisions is poorly aligned with the uncertainty, flexibility, and iterative learning process that characterise adaptive management of resources (Ruhl, 2011).

In light of critiques of the adaptive capacity of environmental and administrative law, legal scholars have made a range of recommendations. First, adaptive management is not appropriate for all regulatory contexts, and should only be legislated for environmental management problems that meet certain conditions¹¹⁸ (Craig & Ruhl, 2014). According to Allen and Gunderson (2011), appropriate problems are those for which system uncertainty and controllability are high, and the level of risk associated with experimentation is low (e.g. stream minimum flows).

Second, environmental and administrative laws should be reformed (where appropriate) to better accommodate adaptive management. Recommended reforms include: revisions to legal requirements for public participation, evaluation, and judicial review to promote iterative rather than ‘front-end’, final decision-making (Craig & Ruhl, 2014); requirements to monitor system variables and adapt management in response (Benson & Stone, 2013); greater flexibility in defining management goals and options (Craig, 2010); greater discretion in plan implementation (Ruhl, 2002); an enforceable regulatory framework (Benson & Garmestani, 2011a); and coordination across legal frameworks (Craig, 2010).

¹¹⁸ Craig and Ruhl (2014) state that criteria defining the types of management problems that qualify for adaptive management should be embedded into any legislative reform

Third, institutional changes are needed to support the uptake and implementation of adaptive management. Substantial up-front investments and ongoing resourcing are necessary for the public engagement, monitoring, and iterative planning processes that underpin adaptive management (Craig & Ruhl, 2014). Such resourcing requires political and management support to shift agencies beyond rhetoric into implementation, and sustain approaches that do not produce immediate positive results (Benson & Stone, 2013). Gaining support for adaptive management is likely to entail more collaborative and frequent stakeholder engagement; improved transparency in implementation; recognising and addressing the influence of vested interests; enforcement of standards; and changes in legal culture (Allen & Gunderson, 2011; Benson & Garmestani, 2011a; Craig & Ruhl, 2014; Brinkman, 2017).

2.2 Institutionalising adaptive governance through environmental law

Growing recognition of the social and institutional dimensions of adaptive management gave rise to the concept of adaptive governance (Folke et al., 2005), which has become the focus of the environmental law and adaptation literature in the last 6-7 years (see Cosens & Williams, 2012; Garmestani & Benson, 2013; Cosens et al., 2014b; Cosens et al., 2017; Craig et al., 2017; DeCaro et al., 2017b; Cosens & Gunderson, 2018). As with adaptive management, it is argued that

as past perceptions of relative stationarity are rapidly eroded by forces such as climate change and globalization, old governance mechanisms that emphasize stabilization are no longer tenable and are likely to exacerbate destabilization through inadvertent feedbacks. As a result, we require governance mechanisms that strategically maintain stability while flexibly accommodating, rather than rigidly repressing, unknown variability sure to arise on a rapidly changing planet. (Craig et al., 2017, p.2)

‘Old’ governance systems are critiqued for being too narrow and rigid in their approach to environmental problem-solving; lacking meaningful citizen engagement; fragmentating authority and responsibilities; placing too much emphasis on stability; and employing prescriptive, one-size-fits-all governance solutions (DeCaro et al., 2017b). While these critiques are mostly levied at government-centred, ‘command and control’ type approaches to environmental governance (e.g. Brunner, 2010), market-based approaches have also come under

fire for their focus on economic stability, displacement of democratic engagement, and general disregard for social-ecological system (SES) dynamics (Craig & Ruhl, 2014). Scholars have drawn on SES thinking and ‘good governance’ principles to argue for new environmental governance arrangements that are “capable of confronting landscape-scale problems in a manner both flexible enough to address highly contextualised SESs and dynamic and responsive enough to adjust to complex, unpredictable feedbacks between social and ecological system components” (Chaffin et al., 2014, p.1). Such work has resulted in numerous lists and frameworks describing key features of adaptive governance (Brunner, 2010; Green et al., 2013; Cosens & Chaffin, 2016; Cosens et al., 2017; Craig et al., 2017; DeCaro et al., 2017b). Across these lists, commonly identified attributes of adaptive governance include:

Structure	polycentricity (distribution of authority across multiple, overlapping entities); coordination at the SES scale; integration across jurisdictions and sectors;
Agency	shared decision-making; inclusive public/stakeholder participation (supported by capacity building);
Adaptive management	capacity to reflect, learn, and adapt; system monitoring and feedback; authority to respond to change; enforcement;
Process legitimacy	transparent decision-making and reporting; fairness; procedural justice; (popular) accountability; conflict resolution.

Emphasis on procedural, institutional, and legal design within the adaptive governance literature underscores the earlier call for legal reform to support adaptive management. However, rather than identifying the limitations and barriers posed by existing legislation, the adaptive governance literature focuses on the development of legislation to enable (and formalise) new forms of governance and empower these actors to practice adaptive management. As Cosens et al. (2017, p.1) state “it is our view that the law can and, in fact, must be made adaptive to facilitate and even trigger the emergence of adaptive governance and to aid in institutionalizing adaptive governance as it emerges.” Recommendations for legal reform generally focus on balancing flexibility and stability while assuring the legitimacy of polycentric adaptive governance.

While championing greater flexibility in environmental laws and governance to enable adaptation to socio-ecological change, scholars also recognise that stability and consistency are

important for upholding values of equal treatment, due process, and procedural fairness in the rule of law (Craig, 2010; Ruhl, 2012; Green et al., 2013; Craig et al., 2017; Gosnell et al., 2017; Craig et al., 2018). Stable laws and institutional arrangements are claimed to foster familiarity, predictability, and trust in governance systems, providing certainty for investors and improving compliance with rules. Achieving a balance between flexibility and stability is argued to require a combination of clear legal frameworks and procedures for adaptation (including a mix of rules, standards, and procedural requirements), and adherence to good governance principles to foster the perceived legitimacy of adaptation strategies. For example, Craig (2010) advocates for the uptake of ‘principled flexibility’, wherein the law would embrace flexibility in implementation (through comprehensive adaptive management requirements and procedures), while limiting the ability of implementing agencies to deviate from regulatory goals and principles. She elaborates “the specific means of adaptation can reflect local circumstances and needs, but the fact of adaptation and the general goals and policies climate change adaptation law seeks to effectuate should not be subject to local veto or avoidance.” (2010, p.17). Similarly, Green et al. (2013) recommend reforming the excessive discretion permitted by the EU Water Framework Directive through institutionalisation of monitoring feedback and enforcement, while still allowing for place-specific approaches to achieve good status objectives.

Other articles detail a range of legal design principles and mechanisms to enable flexibility in adaptation while ensuring the stability and legitimacy of adaptive governance regimes (Craig & Ruhl, 2014; Cosens et al., 2017; Craig et al., 2017; DeCaro et al., 2017b). For example, legal standards, priorities, and procedures are advocated as a more reflexive alternative to static rules (e.g. fixed water allocations), empowering regulators to apply environmental principles across a broad and changing array of socio-ecological conditions and circumstances (Craig et al., 2017; DeCaro et al., 2017b). However, given that adaptive governance involves the delegation of authority and responsibility across multiple agencies and scales, Cosens et al. (2017) also emphasise the importance of substantive boundaries and procedural requirements to assure agency accountability and achievement of objectives. For example, legal floors (e.g. minimum standards), ceilings (i.e. upper limits on requirements), and principles are suggested as mechanisms for enabling discretion within set boundaries in devolved decision-making (Craig

et al., 2017). Finally, procedural requirements for public participation, evidentiary standards, and scheduled evaluation are identified as effective mechanisms for constraining flexibility within politically- and socially-acceptable limits (Craig & Ruhl, 2014; DeCaro et al., 2017b).

Cosens et al. (2017, p.7) note that

in administrative law, legitimacy is enhanced through requirements of open meetings, availability of agency documents to the public, notice and public comment, promulgation of rules to assure that management and regulation are implemented in a consistent manner, and review of final agency action.

Indeed legitimacy has emerged as a core theme within the adaptive governance literature, in response to concerns raised over reduced constraints on governmental authority, devolution of authority and/or responsibility, and potential arbitrariness as a result of greater decision-maker discretion (Cosens et al., 2017; Craig et al., 2017; DeCaro et al., 2017a). Scholars have argued for broad changes to the legal system to improve the legitimacy of adaptive governance. Such reforms include the institutionalisation of polycentric governance through legally binding changes in authority and responsibility, and the provision of tangible support for delegated authorities to meet their legal responsibilities, including financial, technical, informational, and human resources (Cosens et al., 2017; DeCaro et al., 2017b). In polycentric systems of governance, a plurality of local and/or ecoregional agencies undertake decision-making and implementation, coordinated and supported by a larger government framework. This distributed form of governance is intended to provide opportunities for shared decision-making that builds on local knowledge and networks, thus improving capacity and support for adaptation (Craig & Ruhl, 2014; Cosens et al., 2017).

However, unlike early depictions of adaptive governance as emergent and self-organising, recent work emphasises the need for a coherent governmental framework that provides legal boundaries, institutions, procedural norms, and resources for polycentric governance arrangements (Ruhl, 2011; Chaffin et al., 2014; Cosens & Chaffin, 2016; Craig et al., 2017; DeCaro et al., 2017b). Cosens and Chaffin (2016) in particular emphasise the role of law in ‘setting the stage’ for the emergence of flexible, local governance initiatives, and enhancing their adaptive

capacity. They highlight five ways in which law has facilitated collaborative governance with Indigenous peoples: legal forums for the assertion of Indigenous water rights; formal support for Indigenous capacity-building; legally mandated transparent decision-making processes; systematic government processes; and legal mechanisms to institutionalise collective decisions. They conclude that while processes may “appear self-organizing, locally driven by stakeholders with close ties to the water resources... In reality, none would emerge without a legal and institutional framework capable of re-balancing interests and thus triggering dialog, providing support and a forum for local adaptive capacity building, and institutionalization of solutions” (Cosens & Chaffin, 2016, p.2). In addition, scholars highlight law’s role in promoting transparency, accountability, and procedural justice in adaptive governance, such as through reporting requirements or rules governing the election of representatives (Green et al., 2013; Cosens et al., 2017; Craig et al., 2017; DeCaro et al., 2017b).

Finally, it is worth noting that adaptation and law scholars do not merely see law as facilitating adaptation on the ground; instead Ruhl (1997), Craig (2013), Cosens et al. (2017), and others argue that law itself is a complex adaptive system. In this view, law and legal systems must become more adaptive to cope with the uncertainty, unpredictability, and dynamism that characterises socio-ecological systems. As Craig (2013) notes, this requires a theoretical reconstruction of environmental law as a complex system, as well as concrete changes in legal and judicial processes, products, and operations. For instance, DeCaro et al. (2017b) suggest opportunities for both inherently adaptive *law* (e.g. through legal sunset clauses), and a more adaptive *legal system* through incorporation of quasi-legal processes (e.g. citizen juries). Collectively, these articles suggest the need for far-reaching legal reforms, demanding consideration of the nature and role of legal adaptive capacity.

2.3 Critical responses to the adaptation imperative

Research on adaptation and environmental law has thus provided valuable insights into how existing laws hinder the uptake of ‘full’ adaptive management and could be reformed to enable (and even promote) the adaptive management and governance of SES. While such insights

generally have been well-received,¹¹⁹ the broader adaptive (co)management and governance literatures have been critiqued for their simplistic representation of ‘the social’ and prescriptive approach to governance reform (see Nadasdy, 2007; Armitage, 2008; Huitema et al., 2009; Vink et al., 2013; Chaffin et al., 2014; Cleaver & Whaley, 2018). In particular, critics argue that insufficient attention is paid to power and politics in environmental governance, limiting the successful uptake of adaptive approaches and raising the potential for unintended and unjust consequences. Further, the predominance of criteria, guidelines, and principles in the adaptation literature are argued to perpetuate simplified concepts of social and political change that are abstracted from the context in which such criteria were developed (Brunner, 2010; Cleaver & Whaley, 2018). Building on these critiques, I briefly identify four concerns regarding the literature’s recommendations for environmental law reform.

First, articles provide only cursory attention to the nature and role of power in environmental law and governance. Authors do note the need to design for fairness and procedural justice (Cosens et al., 2017), issues of representation in participatory processes (DeCaro et al., 2017a), and that vested interests are likely to oppose changes to the status quo (Craig et al., 2017). However, none of the articles reviewed provide any theorisation of power or environmental politics, and most give the impression that issues of power can be resolved through better laws, institutions, and processes (i.e. ‘good governance’). As stated by Cleaver and Whaley (2018, p.3), “the adaptive governance model appears inherently optimistic about the possibility of developing common understandings, trust, and collaboration between different interests and interest groups.” By obviating power and politics through a simplistic emphasis on common interests and fairness, while also arguing for state-centric, legally driven approaches to adaptation, authors contribute to the popularisation of technocratic environmental governance and idealistic prescriptions for environmental law reform. The lack of attention to how powerful actors obstruct, redirect, and use reforms to their own advantage is perhaps best exemplified by Cosens et al.’s (2017) description of the Flint water crisis as a failure of

¹¹⁹ Articles on the relationship between law and adaptive management/governance are well cited, with few explicitly critical citations or responses

adaptation,¹²⁰ rather than a product of political corruption and institutionalised racism (see Pulido, 2016; Ranganathan, 2016). In light of such omissions, many authors argue for the need for more explicit theorisations of power, and attention to how power relations shape the emergence, implementation, and outcomes of adaptive governance (Armitage, 2008; Vink et al., 2013; Cleaver & Whaley, 2018). Law reforms provide a clear opportunity to examine whose interests are advanced and what actions are undertaken (or not) under the banner of adaptive governance.

Second, arguments put forward regarding the balance between flexibility and stability pay insufficient attention to how this trade-off is framed within dominant political-economic narratives of neoliberal capitalism. Where the literature does make mention of powerful, vested interests, they are framed as individualised and separate to the operations of the State (e.g. Craig et al., 2017). In this view, political-economic power can be managed through appropriate processes and institutional design.¹²¹ Authors are thus able to discuss the need to maintain wider social and economic stability while adapting for climate change without irony, as though most modern nation-States were not built on the deliberate omission of externalities now contributing to unprecedented environmental change. By moulding adaptive governance to fit within existing political-economic institutions and processes, and failing to challenge (or even contextualise) narratives of stability, the adaptation and environmental law literature appears to buy in to the status quo, reducing the likelihood of meaningful change (see also M'Gonigle & Takeda, 2013). Similarly, while authors acknowledge that increased flexibility and discretion in implementation create the potential for arbitrariness and even inaction (e.g. Green et al., 2013), they pay less attention to opportunities for powerful interests to use legal flexibility for their own ends. This is despite substantial work demonstrating how actors navigate regulatory flexibility to advance economic growth agendas at the expense of socio-ecological objectives

¹²⁰ On page 7 they state “At times, policy makers, regulators, and managers will need to give special and rapid attention to the feedback being provided by the public, including marginalised communities, and adapt governance actions quickly, as suggested by the recent example of slow government response to public complaints about the municipal water supply in Flint, Michigan.”

¹²¹ For example, Cosens et al. (2017, p.9) state that “law may be used to alter the distribution of power: the presence of new voices in environmental management and the consequences of a shift in power among resource users and interests may lead to emergent processes...”

(McCarthy & Prudham, 2004; Lockie & Higgins, 2007; Castree, 2008b; Lockwood & Davidson, 2010; Ioris, 2015). Overall, the literature seems to underestimate “the contextual forces that make entrenched, top-down management systems resilient to change” (Armitage, 2008, p.7), rendering some of their recommendations politically naïve. Consequently, more empirical research into transformations for adaptive governance is needed, to examine how contextual drivers influence the institutionalisation of stability and/or flexibility through environmental law, with what consequences for environmental change.

Third, and building on the last two points, the adaptation and environmental law literature pays inadequate attention to difference, equity, and justice. As described earlier, scholars have embraced ‘good governance’ principles of fairness and procedural justice (Cosens et al., 2017); incorporated participatory democracy mechanisms into their recommendations for law reform (e.g. Craig & Ruhl, 2014); and begun to consider implications for Indigenous rights (Cosens & Chaffin, 2016). However, manifestations of social, economic, and cultural difference in environmental governance are not attended to in any depth, limiting scholars’ ability to grapple with the procedural and distributive consequences of adaptation. For example, Cosens and Chaffin (2016) did not include any Indigenous voices in their analysis of collaborative efforts to expand Indigenous rights, yet ascribe both collaborative opportunities and outcomes to western law,¹²² thus reasserting colonial power dynamics. Difference is largely reduced to demographic representation and due process, eliding the larger socio-economic, cultural, and institutional processes through which participation, access to the law, and the burden of adaptation become unevenly distributed (see Young, 2000; Cornwall, 2004). These thin characterisations of difference and equity in scholarship on adaptation and environmental law risk conferring an aura of legitimacy to law reforms without actually identifying and addressing the (legal) drivers of environmental injustice. As argued by Chaffin et al. (2014, p.10)

researchers should pay careful attention to the politics of [adaptive governance (AG)] to define the roles of power, equity, and justice (social and environmental) in fostering or inhibiting AG

¹²²After describing the longstanding legal refusal of Aboriginal rights in Australia, and Aboriginal communities’ self-organisation to assert their rights and authority, Cosens and Chaffin (2016) still claim a victory for law because it helped to institutionalise that authority

for sustainable resource use. Who determines the desired state sought through a transformation toward AG and what voices are left unheard?

Finally, it should be noted that almost all authors and case studies in the environmental law and adaptation literature are from the US. As such, most legal critiques and recommendations have a distinctly US flavour, featuring discussions of the division of powers at the federal level, states' rights, Native American water allocations, the American judiciary, and legal paradigms such as prior appropriation. However, the principles and frameworks that adaptation scholars draw from these American analyses and case studies are intended to be relevant outside of the US context. For example Cosens et al. (2014a) develop a generalised framework based on large North American watersheds, claiming that by representing a range of climate change-related challenges they are maximising transferability to multiple settings. While the insights provided by the adaptive law literature may have broader relevance to environmental governance in Western democracies, this has not so far been demonstrated. Cleaver and Whaley (2018, p.3) raise concerns about the abstraction of adaptive governance principles beyond the context in which they were developed, such that "in the process of becoming normative, concepts uncouple from what originally made them meaningful". Consequently, more empirical research is required to examine whether and how arguments for environmental law reform translate to other contexts with different social norms, ecosystems, laws, and governance institutions (DeCaro et al., 2017b).

By drawing on experiences of law reform in BC, Canada, this dissertation seeks to contribute to such empirical diversification. Specifically, this chapter adds to existing critical research on adaptation and environmental law by examining how adaptation and flexibility are being institutionalised through substantive and procedural changes in environmental law. By exploring embedded actors' logics, hopes, and concerns for water law reform 'in the making', I seek to identify the stakes involved in these reforms, the range of implementation pathways reforms might follow, and the consequences of these pathways for realisation of key water objectives.

3 Adaptation in the BC Water Act Modernisation

In 2008, the BC government proposed to modernise its water laws to “improve the protection of ecological values, provide for more community involvement, and provide incentives to be water efficient” (Ministry of Environment, 2008, p.95). It argued that “a fresh and flexible approach is required to deal with competing demands and climate risks” (*ibid*, p.39) and later stated that “to be successful, a modernised Water Act must provide a degree of certainty for people, businesses and the environment and must also allow us to adapt over time to changing demands and priorities” (Ministry of Environment, 2009, p.4). The province’s emphasis on adaptation and flexibility to address the challenges of climate change and increasing water use pressures – while also providing certainty for water users and the environment – echo sustainability scholars’ recommendations for adaptive environmental law.

As advocated by sustainability scholars, the WAM sought to balance legal flexibility and certainty through a combination of clear legal rules and principles that establish a hierarchy of water allocation priorities, and procedures that enable flexibility in decision-making over time and space. Specifically, the new WSA retained the province’s longstanding prior allocation approach to water licensing, which sets out the priority of user rights and thereby provides legal certainty for users. Amendments to this approach, including protections for critical environmental flows and basic household use during times of scarcity, add new priorities to the ‘FITFIR’ hierarchy without undermining this legal certainty. The extension of prior allocation to groundwater and grandfathering in of existing users is also intended to provide certainty for water users and administrators. Conversely, the province incorporated a range of new policy tools in the WSA to improve flexibility in decision-making and enable place-specific solutions to water issues. These include options to establish water objectives, water sustainability plans, and alternative governance arrangements within specific areas, and requirements to consider environmental flows. The introduction of 30-year licence reviews also creates the potential to adapt water licences over time based on changing water availability, knowledge, and technologies.

As stated in Chapter 1, the WSA was enacted in 2016 along with priority regulations. Priority regulations were those that enabled the basic administrative functions of the Act – the allocation of water, drilling of wells, operation of dams, and charging fees and rentals – to take place. Thus, it is primarily those aspects of the WSA that provide for legal certainty that are in operation at present. The more adaptive, flexible components of the Act are expected to be enabled through ongoing regulation and policy development by the Ministry of Environment and Climate Change Strategy in coming years. Implementation of the WSA is primarily the responsibility of water staff in the BC Ministry of Forests, Lands, Natural Resources and Regional Development and the BC Oil and Gas Commission (with respect to water use by the oil and gas industry), unless alternative governance arrangements are enabled through regulation.

4 Methodology

This study utilises a combination of document analysis and semi-structured interviews with key informants to critically examine the potential for the WAM to advance the sustainable management and governance of freshwater in BC. Whereas document analysis was used to examine the policy approaches considered, debated, and adopted during the Act's development process, interviews provided insight into why specific approaches were adopted (or not), what their expected outcomes were, and their implementation requirements.

As stated in Chapter 1 (section 6.2), 51 semi-structured interviews with 55 individuals were completed between December 2016 and July 2018. Interviewees included representatives of the provincial government, local governments, First Nation organisations, industry organisations, and non-governmental organisations (NGOs). I used a semi-structured interview format to ask targeted questions based on my existing knowledge of the WAM (e.g. findings from document analysis), while retaining the flexibility to ask follow-on questions and explore unanticipated points of interest raised by interviewees. Interview questions typically explored core provisions the WSA; the implementation of the WSA; the WAM's implications for the interviewee and water governance in the province; and relevant local initiatives. Interview transcripts were initially coded according to these broad topic areas, with further codes added where specific

provisions, regulations, processes, or actors were discussed by interviewees. The initial coding process revealed themes and discourses running through the interviews (e.g. water rights, certainty, discretion), which were then used as a basis for further coding. In analysing this data, I was interested in comparing the situated perspectives of representatives of diverse sectors in BC, to identify points of agreement or commonality, and explore where and why perspectives diverged. These situated insights are intended to build a picture of how different actors in BC's water governance landscape perceive and are experiencing water law reform, and what concerns, interests, and assumptions underlie these perspectives.

Additional documentary analysis was undertaken later in the study as further policy documents and regulations were released, and on the basis of recommendations by interviewees. These documents were analysed as further evidence of policy directions being adopted in the province, to examine claims made by interviewees, and to gain further insight into issues they highlighted. Relevant policies and documents are included in this analysis where they evidence or add detail to the stories told by interview participants.

5 Results & discussion

Earlier analysis of organisations' submissions on the WAM had highlighted a lot of negative feedback on the consultation process, and significant differences between the positions advocated by the majority of submitters and those adopted by the government in the WSA (see Chapter 2). I was therefore surprised to find that many interview participants from across a range of organisations expressed positive views of the Act, albeit often cautiously. Participants frequently stated that the Act was a significant step forward and would enable better management of BC's water resources:

Drawing on knowledge of the wider USA and Canadian experience, I see what the province has done as a first cut, and its pretty good. It reflects the reality of differences in water availability and issues across the province. (Industry interviewee, November 2017)

We added a lot of tools that allow us to manage for a variety of situations. (Provincial government interviewee, July 2017)

It is an enabling piece of legislation, I mean if we can figure out how to stick with the program, we can turn it into a set of regulations that could be quite useful and enable some new processes like water sustainability plans that could solve some things. And the fact that it allowed legal objectives to be set was really significant. (Philanthropic organisation interviewee, October 2017)

I think that the Act – I guess we'll see when it's all said and done with regulations – but I think it's got huge potential. (Watershed organisation interviewee, December 2016)

In particular, interviewees highlighted the introduction of groundwater regulation and protection of environmental flow needs as needed – and often overdue – developments in water legislation. Despite this generally positive overall impression, when pressed to elaborate participants quickly noted significant uncertainty surrounding both the content of the Act and its outcomes for water management and governance in BC. This discourse of uncertainty – which pervaded interviews with representatives of the provincial government, local government, industry, watershed organisations, First Nation organisations, and NGOs – is a significant departure from the expected outcomes of adaptive environmental law. As highlighted in section 2, adaptive approaches to environmental law and governance are intended to improve governments' ability to manage freshwater in the context of hydrological uncertainty, thus providing for greater socio-ecological stability (Cosens et al., 2017; Craig et al., 2018). The hesitation interviewees expressed over the operationalisation and implications of the WSA suggests that legislative flexibility has instead added to uncertainty in freshwater outcomes – a finding that demands greater analysis. Over the remainder of this chapter I unpack this general discourse of uncertainty, beginning with an overview of the types and implications of uncertainty expressed by a range of actors. I then draw on policy analysis and interviewees' reflections to identify some of the legislative origins of this uncertainty, including the use of 1) enabling legislation and 2) policy instruments, and 3) reliance on decision maker discretion. In addition, participants highlight that BCs governance framework and histories of government have created significant uncertainty around the implementation and outcomes of law reform. The implications of these sources of legislative and governance uncertainty for the

sustainable and equitable management of freshwater in BC, and for adaptive environmental law more generally, are elaborated in the conclusion.

5.1 Discourses of uncertainty & indeterminacy

At the time this research was undertaken, the WAM remained incomplete. The BC government chose to develop the WSA through a staged legislative reform process, whereby the new Act was finalised and received royal assent in 2014, but did not enter into force until 2016 when priority regulations had been developed. Even then, existing groundwater users were given a three year ‘transition period’ within which to acquire a groundwater licence,¹²³ and the licence review provisions would not apply for another 30 years (i.e. until 2046), irrespective of the age of the licence. Other parts of the Act (including the creation of water objectives, improved measuring and reporting, and water planning) will come into effect with the development of further regulations, which is expected to occur in stages over a period of years.¹²⁴ Interviewees consequently stressed that the content and outcomes of the water law reform are as yet vague and uncertain:

The Act is evolving through the staged implementation and regulation development process.

Therefore, it is difficult to know the final outcome. (Local government interviewee, January 2018)

They also noted that this uncertainty largely applied to the more environmentally progressive portions of the WSA – the determination of environmental flow needs, creation of water objectives and water sustainability plans, reviews of existing water licences, and development of alternative governance arrangements. One interviewee, who had previously worked for the province, suggested that this uncertainty was the result of a deliberate political choice by the government not to further develop those provisions and/or their regulations at the time of the Act’s approval:

¹²³ This transition period has now been extended for a further three years, until March 2022

¹²⁴ The government is currently working on regulations for livestock watering and water objectives. Regulations for measuring and reporting have been identified as the next priority, and are expected to take years to complete. Regulations for water sustainability planning, environmental flows, and water governance will be developed over the longer term. <https://engage.gov.bc.ca/watersustainabilityact/regulations/>

For me it's still Water Act plus or Water Act with sustainability in between brackets... the fact that the sustainability part is still so vague and not really developed yet, I think that is also a political choice, it's not only a capacity choice. (Provincial government interviewee, October 2017)

Indeed, review of the WSA highlights that it provides very little detail on many of these 'sustainability' elements, with much of the content of these policy promises to be worked out through regulation development. The provision for alternative governance arrangements – potentially a huge reset in BC's water governance landscape – is the starkest example of this indeterminacy, comprising just one open-ended statement described by an interviewee as “pretty vague”:

s126 The Lieutenant Governor in Council may make regulations as follows:
... (d) *providing specified powers and duties of the comptroller, a water manager, an engineer or an officer to another person or entity who is to exercise those powers and perform those duties instead of the comptroller, water manager, engineer or officer in relation to persons, areas or circumstances specified in the regulation*, subject to the terms and conditions the Lieutenant Governor in Council considers advisable... (WSA, 2014 emphasis added)

Interviews with provincial government staff confirmed that there is significant work to be done in identifying the general approaches, specific practices, rules, and resources through which these new legal instruments would be enacted, and that the development of these regulations and/or policies would take years. For example, in response to questions regarding the water objectives regulation that is currently under development, staff members were not yet able to confirm the spatial scale at which objectives would be set and guide decision-making.

While some uncertainty is inevitable at this stage in the reform process, it is nevertheless remarkable that directly-engaged participants in the WAM still express so much hesitation over an Act that was developed over six years and is more than 120 pages long. Details may still

need to be determined, but the basic implications of such a comprehensive act¹²⁵ should surely be more clear at this point. Several interviewees suggested that even the existing content of the Act should be treated with caution, as it is likely that components of the new Act would have to be reworked in coming years:

There are pieces of the new act that are again identical [to the original] and probably will see some work in the next few years just because there are some pieces that probably need to be rethought or redrafted. (Provincial government interviewee, December 2017)

Interviews with rights-holders and stakeholders suggest that the implications of this uncertainty and indeterminacy are significant. Without clear direction on the nature, timing, and scope of water law reforms, actors are not investing in new approaches, delaying the uptake of sustainable water resource management. Industry interviewees in particular stressed the value of regulatory certainty, stating that ‘good’ regulation creates a structure that is clear to work with and fair, and increases business confidence in making specific changes in practice. These statements align with emphasis on maintaining legal certainty and socio-economic stability in the adaptation literature (e.g. Craig et al., 2017). While the law reform has so far provided certainty around water user rights, it has not yet provided a clear framework for water resource planning, conservation, monitoring, etc. It is therefore perhaps unsurprising that more than a year after the WSA had been enacted, most industry interviewees reported small to no changes in their water use practices. Across the water bottling, hydroelectricity, forestry, mining, and oil and gas industries, interviewees reported that not much had changed because their previous water management activities already complied with the new terms of the WSA:

We can easily comply with the new Act already, because we do so much monitoring, reporting and good stakeholder engagement. (Interview, November 2017)

From a forest sector perspective, it really didn’t change the way we do things in the sense we were already doing a lot of the requirements around water and water quality and fish and wildlife. (Interview, September 2017)

¹²⁵ The product of significant investments of time, resources, and expertise by the province, consultants, and other participants in the WAM

The oil and gas industry is already subject to administering water use... So it wasn't much of a change for the industry, because groundwater use et cetera was already being regulated.

(Interview, October 2017)

The agricultural sector was the only exception, as many agricultural users rely on groundwater and are now required to apply for groundwater licences/permits. Yet even among these users the changes described by interviewees were largely administrative, involving licence applications and increased reporting requirements in the future. While they acknowledged that growing pressures on water resources require improvements in technology and water use, they also argued that many of these changes had already taken place, and that agricultural best practices should be subject to the authority of the Ministry of Agriculture, not Environment. Thus stakeholder interviews highlight that despite the nominal sustainability focus of the WSA, some of BC's largest water users and polluters do not currently anticipate significant changes in their water use and management. These findings raise serious questions around the potential for the WSA to advance the sustainable, equitable management of freshwater in the province. Finally, interviews with government and First Nation organisation representatives reveal that the discourse of uncertainty was even stronger for First Nations, with environmental justice consequences. Interviewees noted that many First Nations are struggling to understand the implications of the new Act for their communities, including whether they need to apply for a groundwater licence, or from whom. Indeed this uncertainty extends to some government employees, who gave conflicting answers regarding the types of wells that must now be licensed,¹²⁶ and federal and provincial governments' jurisdiction over water on First Nation reserves. As Chapter 3 revealed, this uncertainty originates from a history of contested and fragmented jurisdiction over First Nations' lands and resources. Further, interviewees highlight administrative capacity limitations and competing demands on staff time as a key constraint on the ability of some First Nations to inquire about the WSA's implications for their community, or apply for licences. As a senior government interviewee noted, even if a First Nation wants to

¹²⁶ In particular, there was some confusion over whether multi-household reserve wells should be classified under domestic purposes (which do not require licences) or waterworks purposes (which do)

apply for a licence, it is often at the bottom of their task list. Similar concerns were expressed regarding the capacity of First Nations to respond to forthcoming referrals for third-party groundwater licences. In the past, such jurisdictional uncertainty and capacity constraints have contributed to the delayed provision and loss of First Nations water use rights (see Chapter 3). Thus, whereas uncertainty regarding the WAM may be to the advantage of water users who are not currently required to alter their practices, it places a significant burden on those entities seeking to protect their water resources and use rights.

5.2 Legislative origins of uncertainty

The following subsections explore some of the legislative origins of the uncertainty surrounding the outcomes of the WSA, identified through my analysis of interviews, policy documents, and the Act itself. I highlight three ways in which the provincial government built flexibility and adaptation into the WSA's legislative framework, contributing to uncertainty in the interpretation and implementation of the Act: 1) inclusion of 'enabling' legislative tools; 2) use of policies rather than regulations; and 3) reliance on decision maker discretion.

5.2.1 Enabling legislation

The BC provincial government explicitly adopted an enabling approach to water law reform. Beyond its basic licensing provisions, many novel elements in the WSA *enable* the creation of regulations or application of regulatory tools, but do not *require* their creation or use. The WSA therefore provides the legal framework for a potentially wide-ranging and comprehensive set of water management and governance approaches, while retaining the flexibility to identify, construct, and modify appropriate approaches for diverse water challenges. Lawmakers describe the Act as providing a 'toolbox' of approaches, and highlight that this was a very deliberate attempt to create legislation that would be fit for purpose into the future:

We also were very cognizant of making a statute that contains a variety of tools that are scalable to time, to geography, to hydrology, to the kinds of issues that we might encounter in the next 50 years. ... You try and kind of anticipate all the kinds of things you're going to need, and then build tools to respond to that. ... And so if you're looking at a particular situation, and you

want to design tools for it, you may take tools from 4 or 5 different sections of the Act.
(Provincial government interviewee, July 2017)

We want[ed] to build something that, you know, served today but also looked to the future. So there was stuff that we put in there that we knew that we weren't probably going to pull out of the toolbox for quite some time. ... with the reg[ulation] making authority you have the ability to craft a tool or a machine for some future purpose. (Provincial government interviewee, August 2017)

The WSA identifies a range of regulations that can be created to implement the Act (many of which are listed in Figure 14). A few of these regulations have already been created (e.g. fees, rentals and charges) or are currently under development (e.g. livestock watering). But as interviewees highlight, the majority are expected to be developed at some point in the future – as needs arise. Some regulations will have broad application (e.g. rules for measuring, testing, and reporting) whereas others may be developed for specific settings under significant stress (e.g. restricting access to a water source). Indeed many provisions (and prospective regulations) are only intended to enable the use of water management tools in specific situations at the discretion of senior decision makers. For example, water sustainability plans – the primary tool for renegotiating existing water allocations on watershed basis in the new Act – are expected by lawmakers to apply to just a few particularly stressed watersheds across the province. In all cases, regulations will only be passed (and in some cases implemented) with the approval of the minister or Lieutenant Governor in Council, and are thus subject to the political priorities and procedures of the government of the day.

Part 6 – Regulations

Division 1 – General Regulation-Making Powers

124 General regulation-making powers

Division 2 – Lieutenant Governor in Council Regulations

125 Fees, rentals and charges

126 Regulations respecting administration and governance

127 Regulations respecting licensing, diversion and use of water and related matters

128 Regulations respecting sensitive streams

129 Regulations respecting streams and stream protection

130 Regulations respecting groundwater and groundwater works

131 Regulations respecting measuring, testing and reporting

132 Regulations respecting water sustainability plans

133 Regulations respecting administrative penalties

134 Regulations respecting compensation

135 Regulations closing or restricting access to water source

136 Regulations requiring authorizations for domestic use of groundwater

Division 3 – Minister's Regulations

137 Minister's regulations restricting groundwater activities

Figure 14 Screenshot of the table of contents for Part 6 of the Water Sustainability Act (2014), which specifies regulation-making powers under the Act

The use of enabling legislation is not often discussed in the environmental law literature, and yet may have significant implications for the management of natural resources and protection of ecosystems. An ‘enabling’ approach to environmental regulation appears to uphold many of the principles of adaptive, responsive environmental legislation advocated by Craig (2010) and Cosens et al. (2017) among others: it allows for the development of appropriate regulatory solutions to specific water management situations, which vary across space and time, and the targeting of government action and resources to those areas in most need of support. It also ensures the longevity of legislation by retaining the flexibility to adapt regulatory approaches over time, as government’s understanding of environmental issues and the effectiveness of solutions changes. Such longevity is important for sustainable environmental management; provincial government interviewees stressed the difficulties involved in passing new legislation, and their awareness that opportunities to reform environmental law do not come about often – “a once in 25 year kind of thing” (interview, August 2017). Creating opportunities for future changes in regulations, which do not have to go through the same lengthy and

politicised review process as legislation, is therefore widely accepted as an efficient approach to law reform:

from a change perspective, if you do need change, the regulation route is the key piece. In the sense you can only change an act through the legislature, which is very slow. Depending on government and government interest. And actually even the opposition interest. I mean, you could get into a huge bun fight in the legislature, depending on what it is. Whereas the regulation, if a change is needed, can be done a heck of a lot quicker through cabinet. And less consultation on a regulation too. (Industry interviewee, September 2017)

While this enabling, open-ended approach to water law reform may be viewed as an opportunity by some, interviews revealed that others saw it as contributing significantly to the uncertainty and indeterminacy of the WSA. Water governance experts stressed the large amount of policy and political work that must be completed before various enabling provisions come into force, delaying the time before the Act might be expected to have an effect ‘on the ground’:

I think time will tell. This is an act for the 21st century. It takes 10 years to build it, 10 years to get it in the flow of implementing. I think it lays the groundwork for some really exciting approaches to water sustainability and water management over the next decades. (Provincial government interviewee, August 2017)

While changes in water governance and management ‘over the next decades’ may be sufficient for some water-rich areas, other watersheds and aquifers in BC are already facing significant scarcity and water use pressures.¹²⁷ The spatial extent and duration of scarcity issues is expected to continue to grow in the next two decades due to decreases in snowpack and a longer, warmer dry season (Ministry of Environment, 2016). And while regulations to enable objective-setting, local decision-making, land and water planning, and stream protections are under development, water licences and permits continue to be approved according to largely

¹²⁷ Areas such as the Cowichan region on eastern Vancouver Island, Kelowna in interior BC, and the gulf islands have experienced increased frequency and severity of droughts in the last ~15 years, and are now subject to annual imposition of summer water restrictions

unchanged regulatory criteria.¹²⁸ The challenges ahead in addressing unsustainable water use thus continue to grow, with more water users and rights to be negotiated once tools become available to do so.

Indeed, interviewees suggest that the costs of changing the status quo and need for political support are significant barriers to enabling these more sustainability-driven components of the Act. Gaining cabinet approval may be a lower bar than passing through the legislature, but it still requires the support of the minister and government of the day. Senior provincial staff state that new policies are always competing for political priority, and that it will take significant public interest for the government to move forward on water given the rival demands of forest fires, pipeline projects, etc. Several interviewees noted for example that regulations for the Fish Protection Act were not approved by cabinet following a change in government. Similarly, others stated that progress on the WSA had stalled following a change in minister, and was only reignited following a broad public interest campaign that led the government to include water law reform in their 2013 election campaign. The outcomes of the WSA therefore remain heavily dependent on the interest and actions of future ministers and governments, as well as the political salience of water regulation in the province.

Furthermore, BC has a history of not implementing water law reforms. Under previous governments, revisions to the Water Act (including the introduction of groundwater regulation in 1960 and water management planning in 2004) as well as planning provisions in the BC Drinking Water Protection Act were never enacted. While explanations for these failures to enact new provisions vary, it was certainly not due to lack of opportunity or interest. For example, in 2006 the provincial government, in collaboration with the Township of Langley, initiated a water management planning process in response to concerns about aquifer depletion and contamination. Three years later, after significant work and investment to develop a plan that had widespread community, stakeholder, local government, and ministry support, the provincial government did not approve the plan. Ten years later, the Township of Langley is

¹²⁸ The main exception being a requirement for decision makers to consider environmental flow needs, an area of ongoing policy development

still awaiting government support to address their water management challenges. These prior failures to enact previous reforms and support local planning processes were often mentioned by interviewees, and resulted in a level of scepticism and even cynicism toward the WAM among policy-makers and stakeholders:

Certainly, from our experience, there was some disappointment in some of the things that came out of the Water Sustainability Act that we had hoped would be addressed but weren't. ... And, as you described earlier, there are enabling components to allow them to be addressed in the future, but we'll see if those are acted upon. (Industry interviewee, August 2017)

I mean it's a placeholder, it's enabled, but there are... there is a lot of legislation out there that enables things that never come forward, so I don't know. (Provincial government interviewee, December 2017)

It's a classic government move, right, you're going to create enabling space, you just will choose never to enable it if you don't want to. So it does take the pressure, the heat off, because then people like me do back off a little bit. (NGO interviewee, July 2017)

Interviewer: "Looking to the future... how likely is that [these tools] will actually hit the ground over the next 10 years?" Provincial government interviewee: "It's possible that there won't be any used. I mean there may be an intention to use some, and then during the process you find out you don't need them." (July 2017)

British Columbia's history of water legislation therefore provides a cautionary tale of the possible shortcomings of enabling legislation, and highlights the need for sustained public interest and ongoing investment in regulation development and implementation to realise the promised outcomes of BC's WAM. Environmental NGOs and foundations in BC are well aware of this, and are investing significant effort and resources to ensure that the water law reforms remain in the public eye and on the new government's agenda:

There is a lot of potential in the Act. But I think with this government, like many governments, there is a political will issue... there's a lot of tools that exist but then aren't enforced or implemented, or not resourced. So we're trying to build a constituency to put that pressure on

government to develop the Act to the fullest of its potential in terms of environmental protections and the public. (NGO interviewee, May 2017)

5.2.2 *Use of policy rather than regulatory instruments*

Provincial government staff have expressed a preference for using policy instruments – which do not have the force of law – instead of regulations to implement some provisions in the new WSA. These policies will be prepared by ministry staff to guide the actions of government decision-makers and/or stakeholders in implementing a specific provision, and stand in place of a regulation.¹²⁹ While the opportunity to develop regulations under the WSA will continue to exist, at present lawmakers are not pursuing the development of regulations to enact some provisions, expressing a preference for policy development:

Some of the governance stuff, we had never – we had committed to doing more policy work on that, but we weren't really planning to develop regulations on governance. (Provincial government interviewee, July 2017)

Well we actually don't need regulations to do water sustainability plans, so it's more a matter of what are best practices, where are we going to pilot some of that kind of stuff? (Provincial government interviewee, July 2017)

This preference for using non-statutory policy instruments to implement the WSA appears to follow a similar logic to the use of enabling legislation; namely, that policies can be revised or updated more readily than regulations, and therefore are a more appropriate mechanism for evolving fields of water management. Furthermore, some interviewees suggest that the faster pace of policy development could mean that new approaches can be implemented more quickly than if they relied on passing regulations. Many regulations will take time to develop, and policies can provide guidance for decision-makers in the interim, while also enabling lawmakers to trial novel regulatory approaches:

¹²⁹ In contrast to the numerous operational policies that are developed in addition to regulations or prescriptive legislation, and are intended to support decision-makers and others in interpreting specific provisions and applying them across a range of contexts

And sometimes those regulations are difficult to negotiate and get pushed through. ...particularly in this initial phase when you're trying to get things not just delivered but sort of, you're tweaking it through this series of iterative feedback processes, I suspect that you'd want to have it as a policy and then have it sort of revisited a number of times, do some training, have that policy shined up and strengthened. (Provincial government interviewee, July 2017)

Often when a regulation is developed, there's a policy or policy direction provided first, and then it's like, okay, do we want entrench this in a regulation? (Provincial government interviewee, October 2017)

This 'early implementation' logic certainly applies to BC's environmental flow needs policy, which was first published in 2014 and updated in 2016 to align with the WSA.¹³⁰ Interviewees have suggested that the flow needs policy could be formalised through regulation at a future date, but that this is not planned at present. Similarly, government interviewees have stated that regulations are not needed to develop water sustainability plans,¹³¹ and that development of pilot projects is a more appropriate approach to advancing water planning in the province.

As with enabling legislation, these arguments align with discourses of adaptation and flexibility in the environmental law literature, and suggest policy as a possible mechanism for securing environmental protections without locking governments into untested regulatory models. While policy may indeed be a useful intermediary step in regulation development, history demonstrates that policy development does not necessarily advance regulations:

There was some key bits that never came out around, you know environmental flow needs and how you define sensitive streams under the Fish Protection Act – a lot of those sorts of things were supposed to come subsequently in regulation and they never did. (Provincial government interviewee, July 2017)

While initial regulations had been developed for the Fish Protection Act, a change in government in 2001 resulted in these regulations being shelved, and not raised again until the

¹³⁰ https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/water-rights/efn_policy_mar-2016_signed.pdf

¹³¹ Although a plan may require a regulation to be enacted

development of the WSA in 2014. During this time, BC fish stocks suffered in the absence of strong provincial or federal fish protection regulations,¹³² evidenced by the closure of the Fraser River sockeye salmon fishery for three consecutive years.¹³³ Furthermore, while policy may be helpful in providing guidance for decision-makers and encouraging best practice among applicants, interviewees note that it is not legally enforceable, contributing to inconsistency in its application:

Policy doesn't have regulatory status. Policy, we have found, leaves it up to the individual statutory decision-makers on how they will apply it. Even though they're supposed to be consistent application of policies across the province... we find there is not consistency in the interpretation of policies and how it's applied. (Industry interviewee, August 2017)

A provincial government interviewee explained that while policies are intended to guide the decision-maker and applicant towards the environmental information and considerations necessary to make a licensing decision, decision-makers are not beholden to require that information. And due to variability in the technical expertise and views of decision-makers, as well as wider differences in organisational cultures, some decision-makers are less prone to follow policy guidelines than others (discussed further in the following section). A reliance on policy rather than regulations is consequently contributing to uncertainty around the implementation and outcomes of the Act, a concern expressed by both industry and NGO interviewees. This uncertainty applies not only to the implementation of policies by decision-makers, but also to whether decisions made based on policy guidance would be enforceable in court. In particular, there has been significant pushback against the use of policy for implementing environmental flow needs, as evidenced by this statement of expectations¹³⁴ signed by a coalition of environmental NGOS and academics:

I. EFNs must be addressed in binding regulations: The permissive language and non-binding nature of a policy is not appropriate as it can only provide guidelines. The current Environmental

¹³² <https://thetyee.ca/Opinion/2013/04/13/Fish-Protection/>

¹³³ <http://cohencommission.ca/about/>

¹³⁴ The statement emerged out of an environmental sector workshop, and was endorsed by West Coast Environmental Law, POLIS Project on Ecological Governance, WWF-Canada, BCWF, Ecojustice, University of Victoria Environmental Law Centre, and Freshwater Alliance, among others

Flow Needs Policy is not sufficient to ensure the protection of B.C.'s aquatic ecosystems. A specific regulation is needed to ensure that this critical issue is managed in a transparent, enforceable and effective way. In order to have an effective environmental flows program, we need clear legal authorities set out. A regulation is required to set out the rules, procedures, and standards as to how to define, set and manage EFNs and CEF thresholds. A regulation is also required to set out how EFNs will be included in water licencing decisions. (Muter & Nowlan, 2015, p.1)

Therefore, while policy instruments may be an appropriate intermediary step in regulation development and promote the implementation of 'enabling provisions' such as water sustainability plans, this study suggests that policies are inappropriate for the long-term implementation of core provisions that are intended to secure bottom-line environmental protections. Similar arguments have been articulated in the adaptation literature, highlighting the need for stringent precautionary regulation of polluting or otherwise impactful activities alongside more flexible, enabling provisions (Craig, 2010; Green et al., 2013).

5.2.3 Decision-maker and ministerial discretion

The third source of legislative uncertainty identified by interviewees is the WSA's reliance on discretionary decision-making. Discretion has been incorporated into the Act in two main ways: 1) statutory decision-makers are given discretion to include a range of considerations in their decisions on water licence and permit applications (e.g. environmental flow needs); and 2) the minister or Lieutenant Governor in Council has discretion over the application of enabling provisions in the Act (e.g. declaration of a significant water shortage or approval of a water sustainability plan). The former has been described by interviewees as an attempt to 'unfetter' decision-makers, empowering them to consider a wide range of factors that may be pertinent to a specific decision-making context, from Indigenous values to ecosystem needs, to other users. Similarly, the latter is intended to enable senior decision-makers to identify and apply the specific regulatory tools that are most appropriate to a particular problem and context. As such, discretionary decision-making is a fundamental mechanism through which flexible, adaptive legislation is envisioned to respond to the particularities of place, space, and time:

I think the benefits or the need to have the discretion comes back to the nature of the water resource. You know, I spoke about the variability of British Columbia and there's so many combinations, permutations, situations that arise that deviate from the one size fits all. That you have to have flexibility or the discretion to fit the solution to the problem or fit the answer to the question. (Provincial government interviewee, August 2017)

Interviewees highlight that discretionary decision-making is not unique to the WSA, but rife throughout Canadian environmental law:

So much of Canadian environmental law, it doesn't require things to happen. It allows them to happen. It's discretionary. ...all too often there's an ability for a regulator or a decision-maker to do something, but they don't have to do it, and so it's hard to hold those decision-makers accountable. (NGO Interviewee, August 2017)

Indeed Canadian environmental law scholars such as Collins (2007), Pardy and Stoehr (2011), Boyd (2015), and Stacey (2015) have frequently critiqued Canada's discretionary approach to environmental decision-making, arguing that it has generally favoured resource development at the expense of environmental protection. However, provincial government interviewees and some adaptive management scholars (Craig et al., 2017; DeCaro et al., 2017b) contend that decision-maker discretion can be a powerful tool when properly guided and supported. Specifically, the WSA's specification of new factors that statutory decision-makers can or must consider in their allocation decisions is argued to embolden them to require more information of applicants, and thus make better-informed and holistic decisions. Decision-makers now have a stronger legislative basis with which to refuse or modify licences that are likely to result in significant environmental effects, or to specify licence terms and conditions. Government and NGO interviewees expressed particular satisfaction that the statement 'the decision maker *must* consider the environmental flow needs of a stream' was included in the WSA (S15(1)), instead of the softer '*may* consider'.

However, interviewees also voiced concerns about the current application of decision-maker discretion in the context of decentralised governance and inadequate training and resourcing. Resource decisions on water use licences and permits, well-drilling permits, and works in and around a stream are made by statutory decision makers within the Ministry of Forests, Lands,

Natural Resources and Regional Development (MFLNRORD). This ministry was described as a ‘mega ministry’ by interviewees, housing thousands of staff involved in almost all resource development sectors in BC, of which water only forms a small part. It is consequently a struggle to secure adequate attention and resourcing for water management, and address longstanding structural issues: “All the sorts of employment and staffing decisions are made not necessarily for what water needs, but for what the MFLNRO[RD] needs” (Provincial government interviewee, July 2017).

Interviewees voiced two related concerns around the application of discretionary decision-making by MFLNRORD staff: regional differences in decision-making, and inadequate expertise. Statutory decision makers and other MFLNRORD staff are divided into regional offices which are responsible for decisions over water licences and permits in their regional areas. Over the years, these regional offices have developed different internal structures and administrative processes, as well as different organisational cultures. For example, in some offices ground and surface water decisions are managed by different teams of staff, while in others they are managed by the same staff and decisions are divided by sub-regions or industry sectors. These differences then translate to differences in the types of staff hired and expertise of decision makers (who may be biologists, engineers, etc.), and consequently to the priorities and interests represented in decision-making. There may be valid reasons for some of these structural differences, as various regions in BC are dominated by different types of water use and development, and consequently face different water management challenges. Nevertheless, provincial government staff highlight that these regional differences have resulted in unjustified differences in the interpretation and application of policies across the province:

And, you know, it does concern me a little bit, the degree of variability within the MFLNRO[RD] organisation, which leads to some areas doing things differently than other areas without a logical rationale. (Interview, August 2017)

For example, one interviewee spoke about some statutory decision makers “feel[ing] more confident making decisions in the absence of information than others”, and explained that this was in part due to differences in the expertise and training of decision makers across regional offices:

so if there's a statutory decision maker in some regional office, you know pick your favourite small town, who decides that they don't want to ask for that much information, because they don't think it's important, or they don't want to have to – maybe they don't have the technical expertise to understand it, or they don't have the staff to interpret it – they don't want to ask for it. ...So, they won't. (Provincial government interviewee, July 2017)

Thus, while discretion to consider a range of factors in making licensing decisions may be empowering for (some) decision makers, it also permits a status-quo inclination to approve water use applications where decision makers do not have the expertise to evaluate new factors and information. This is particularly a problem for decision makers' consideration of environmental flows and hydrological connectivity between groundwater and surface water resources, which are complex areas of eco-hydrology. Interviewees observe that MFLNRORD has difficulty hiring skilled staff in general, as government salaries are significantly lower than in the private sector, and that remote regional offices in particular are often staffed by older, less qualified employees:

when you talk to some statutory decision makers in other regions you realise that, particularly some of the more remote regions, they don't necessarily have a background in hydrology or any natural sciences, they might not – they probably don't have a graduate degree, they might not even have a bachelors degree. (Provincial government interviewee, July 2017)

Without the necessary training and skilled support staff, such decision makers are now faced with the challenging task of making discretionary decisions on technical issues they may not understand. Staffing cuts within MFLNRORD over the last twenty years (under a conservative government) have also meant that an increasingly small number of staff are responsible for vast swathes of inland BC, where some of the most intensive resource extraction industries are located. Such staffing pressures affect not only the quality of discretionary decision-making in BC, but also the enforcement of those decisions, with one interviewee noting that staff inevitably had to focus on 'big' issues with health and safety, not small issues like dumping. The government is consequently less able to identify and address licensing decisions that are resulting in negative environmental impacts – a key limitation on 'learning while doing'

(Doremus, 2007). Thus, as this interviewee argues, while discretion can be a powerful force for sustainability, it is undermined by the current structure and level of expertise within government:

The Water Sustainability Act leaves a great deal of discretion to the Statutory Decision Maker. Which is incredibly powerful, [but] it remains to be seen how consistency will be achieved... How do you achieve consistency when you've got a decentralised system of a number of SDMs in a number of regional offices and there isn't a regular sort of program of ongoing training? (Provincial Government Interviewee, July 2017)

Finally, the discretionary application of enabling provisions is also observed to create significant uncertainty around the WSA's environmental outcomes. As noted in the section on 'enabling legislation', the Lieutenant Governor in Council (effectively the cabinet) or minister have the power to approve new regulations under the WSA. In addition, they are the decision maker for a range of operational decisions enabled by the Act, including: the creation or cancellation of a water reservation; initiation and acceptance of a water sustainability plan; creation of regulations to implement the plan; declaration of a significant water shortage; and devolution of powers and duties to other governance actors. As such, political appointees have discretion over whether and how to implement some of the most environmentally progressive components of the WSA. These discretionary components of the Act are therefore susceptible to changes in governments and politicians, jeopardising the reliability of legislative outcomes (see also Stacey, 2015). For example, while there has been significant excitement among environmental NGOs, local governments, and others about the potential for water sustainability plans to address chronic water shortages, the creation of these plans and their ability to make changes to existing water allocations and uses will depend on the interests of the government of the day. And since planning for areas experiencing critical water issues will necessarily impinge on existing water rights, these will always be politically contentious processes. As highlighted earlier, cabinet has in the past decided not to approve the very water management plan that their government initiated, despite three years of investment into the process. Any excitement around the transformative potential of water sustainability plans and other regulatory tools

should therefore be tempered by the realisation that regulatory outcomes are subject to the vagaries of political processes, and the interests and commitments of politicians.

6 Conclusion: A tale of two laws

The analysis presented in this chapter suggests two possible narrations of the BC WAM, and adaptive environmental law more generally. In the first narrative, environmental laws require reform to become more flexible and adaptive to varying socio-ecologies, thereby enabling improved management and governance in the context of environmental change and uncertainty. The adaptation literature has championed this narrative (see Ruhl, 1997; Cosens et al., 2017; Craig et al., 2017), arguing that environmental law must catch up with changing scientific understandings of environmental systems (characterised by non-stationarity and complexity) as well as the changing scale of human impacts on ecosystems (typified by climate change). Adaptive environmental law is therefore advocated in service of “increasing the resilience and adaptive capacity of socio-ecological systems” (Craig, 2010, p.9). This narrative has dominated public discussion of the WSA, emphasising the new law’s protection of groundwater and environmental flow needs, and opportunities for innovative responses to specific local issues. The WSA has been sold as a ‘fresh and flexible’ approach to water management for the 21st century, that will empower the government to address environmental variability, hydrological uncertainty, and competing water uses now and into the future. In this narrative, the legislative uncertainties identified in Section 5.2 will help to provide the regulatory flexibility and responsiveness to local social and environmental conditions needed for the sustainable management of water resources across the province.

However, this chapter also reveals a second narrative of environmental law reform, dominated by significant uncertainty and even cynicism surrounding its regulatory and governance outcomes. This narrative highlights that the primary components of BC’s water law, which allocate water for resource use, have remained largely unchanged, while its more socially and environmentally progressive aspects have been deferred for future implementation.

Specifically, the province’s reliance on enabling provisions, policy instruments, and political discretion all contribute to pushing the hard choices and systemic changes that will be required

for sustainable water management further into the future. Protection of property-like interests in water has if anything been strengthened under the new Act¹³⁵, and it will require strong political and policy support to introduce regulations or plans that curtail those use rights. In this narrative, adaptive environmental law does not seriously threaten the prevailing political-economic system, predicated on the ongoing exploitation of natural resources for capital accumulation (see also Pardy & Stoehr, 2011). Instead, legislative uncertainties operate in service of water users and governments who can use this flexibility to avoid making changes to the status quo until it becomes strictly necessary or desirable (cf. 'principled flexibility', Craig, 2010). British Columbia's history of water law demonstrates that governments have too often failed to enact new regulations or approve water management activities, even in areas facing significant water challenges. The tension in authorising future ministers and cabinets to realise sustainable freshwater governance in a province largely reliant on natural resource development is clearly expressed by M'Gonigle and Takeda (2013): "The field of environmental law embodies a deep contradiction – it is a product of the state, yet the state is the primary agent of development" (p.1005).

At the time of writing, it is not clear which of these two narratives will eventuate. As with perspectives on the WSA, recent signals on implementation are mixed. In March 2018 the province signed a memorandum of understanding¹³⁶ with five Nicola Valley First Nations, agreeing to "work together in a government to government partnership to develop and pilot a governance structure to sustainably manage water resources within the Nicola watershed." For a government with a poor record of First Nations engagement, this is a significant step forward in developing respectful water governance arrangements, as well as an opportunity to pilot new tools in the WSA. On the other hand, there has been very little news regarding regulation development in the last 18 months. After issuing an intentions paper on livestock watering in January 2018, which stated that "pending government review and approval, the proposed

¹³⁵ Through the creation of new rights for groundwater users

¹³⁶ https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/consulting-with-first-nations/agreements/nicola_watershed_pilot_mou_-_signed_2018.pdf

policies would be incorporated into new regulations later this year”,¹³⁷ no further details have been forthcoming. Progress on groundwater licensing has also been delayed, with only 4737 applications made and 462 licences issued (out of an estimated 20,000 wells) in the last 3 years.¹³⁸ Consequently, in February 2019 the province stated that it would be deferring its groundwater licensing deadline by another three years (until March 2022). The government’s investment in and ability to operationalise a progressive version of the WSA therefore remains unclear at present. I have referred to this uncertainty over the outcomes of the WAM as ‘embedded indeterminacy’, in that the *potential* but not *requirements* to make change have been incorporated into legislation.

This indeterminacy means that there are still significant legislative opportunities for transforming water management in BC through the WSA. However, implementation of reforms is significantly hampered by the BC governance context. As highlighted by provincial government employees in their comments on decision maker discretion, environmental governance in BC was subject to large-scale defunding and under-staffing under the recent centre-right government.¹³⁹ While the WAM has resulted in new groundwater staff and small increases in funding, interviewees agree that it is not sufficient to fully implement the new Act. Government interviewees spoke of colleagues going on stress leave due to high workloads and chronic staff shortfalls, while none were able to identify where funding for water sustainability plans and increased environmental monitoring would come from. As a provincial government interviewee stated:

Show me the money! ... Good legislation is an important foundation, no doubt. WSA – love it, so awesome. Hundred years in the making. But if it’s not well resourced, it cannot succeed. It cannot do anything except continue to allocate water. (November 2017)

As such, realising the legislative opportunities in the WSA will require a combination of policy and governance investments, including: the timely development of regulations and operational

¹³⁷ <https://engage.gov.bc.ca/watersustainabilityact/2018/01/12/blog-post-24-proposed-livestock-watering-regulations-what-do-you-think/>

¹³⁸ <https://www.countrylifeinbc.com/groundwater-application-deadline-extended/>

¹³⁹ In power from 2001-2017

policy; the recognition of Indigenous water rights on a nation to nation basis; hiring more and better qualified operational staff; the creation of new training opportunities and guidelines for decision makers; the creation of new funding mechanisms at provincial and local scales; eliminating corporate donations to politicians; and revising jurisdiction to empower local governments and communities. Such changes will further need strong leadership at the political level, an engaged public, and significant investment by NGOs, philanthropists, and local governments and watershed organisations. The current disproportionate burden of effort on non-State actors to realise environmental law reforms and secure socio-ecological protections is arguably inequitable. Law reforms such as the BC WAM secure protections for existing user rights, but have increased the effort required of current and future generations to protect ecosystems and restore water rights to the environment and Indigenous nations (see also Pardy & Stoehr, 2011; von der Porten & de Loë, 2014).

More generally, the two tales of adaptive environmental law identified by this chapter – and long list of requirements to realise a progressive narrative of ‘modern’ water law – speak to tensions and connections between the rise of adaptive management and neoliberal environmental governance. As noted in Section 2, the adaptive governance literature features a thin conceptualisation of power, focused on issues of representation and vested interests in participatory or polycentric governance arrangements (see Pahl-Wostl et al., 2012; Cosens et al., 2017; Craig et al., 2017; DeCaro et al., 2017a). Scholars’ emphasis on legitimacy highlights a further concern with (perceptions of) the redistribution of decision-making power. By locating power within governing arrangements and processes, adaptive governance scholars have become focused on the principles and frameworks that will enable fair, legitimate adaptive governance, while overlooking the broader structures of power that environmental governance operates within (Vink et al., 2013; Cleaver & Whaley, 2018). In particular, there is almost no mention of the role of neoliberal environmental governance in shaping adaptive governance reforms or their implementation. This is despite a multitude of studies by political economists, political ecologists, and governance scholars that have documented the rise of neoliberal environmental policies and governance arrangements worldwide (Mansfield, 2004; McCarthy & Prudham, 2004; Heynen et al., 2007; Castree, 2008b; Harris, 2009; Cohen & McCarthy, 2015;

Collard et al., 2016; Loftus & Budds, 2016; Yates & Harris, 2018). As McCarthy (2012, p.186) states

central elements of neoliberalism – a faith in self regulating markets, the commodification of ever-widening classes of goods and services, the extension of market logics to domains previously regarded as public or collective goods, scepticism and hostility towards the state's capacity and legitimacy to govern, a focus on voluntary action by rational, responsible individuals, faith in civil society and communities rather than the state to redress any failures of markets or governance that may occur – have played prominent, if not absolutely central, roles in the evolution of environmental governance regimes, norms, and techniques over the past several decades.

Given that concepts of adaptive management, governance, and law have all arisen in the context of pervasive (though heterogeneous and variegated) neoliberal environmental governance, greater analysis of how neoliberal logics and associated power dynamics shape the demand for, manifestation, and outcomes of adaptive environmental governance is clearly needed. The WAM for example highlights at least three neoliberal trends that are influencing the development and implementation of adaptive water law in BC – austerity-driven defunding of natural resource departments, devolution of water planning and governance activities, and minimal regulation (with a reliance on private and collective interests as a basis for voluntary management). Indeed a provincial government interviewee noted that the WAM arose in the context of neoliberal austerity measures. While water law reform was only one of the many commitments outlined in Living Water Smart, the global financial crisis peaked around the same time as its release, resulting in cuts to staffing and resources across the provincial government. According to the interviewee (September 2017), water law reform was the one commitment that they could move forward with their constrained resources. Policy ideas for the WAM were therefore developed in a context of under-resourced water management and governance, and were undoubtedly influenced by that resourcing. For instance, enthusiasm for alternative governance arrangements arose in large part due to concerns regarding the provincial government's ineffectiveness at enforcing regulations and addressing local issues. Neoliberal logics have thus been embedded into the Act – although in partial and potentially

contradictory ways – so that while the economic and even political¹⁴⁰ context of environmental governance in BC may have changed, assumptions regarding the role of governments and citizens, property rights, and regulations and voluntary initiatives are likely to continue to shape its implementation.

The suggested influence of neoliberal rationalities on the development and implementation of the WSA thus highlights the need for greater attention to the broader political-economic processes and power relations shaping the rise of adaptive environmental governance. In particular, I argue that the adaptive governance literature needs to develop a critical reflexivity towards its origins and recommendations, examining how these recommendations intersect with predominant political-economic forms of power. While I do not wish to argue that adaptive governance is inherently neoliberal, it is important to attend to the congruencies between its recommendations and market-driven, devolved, and de/re-regulated modes of governing if adaptive governance is to avoid being co-opted by neoliberal logics and interests. Scholars of neoliberalism would also do well to attend to the increasing popularity of adaptive environmental governance and law by examining how these concepts are intersecting with existing neoliberal governance arrangements. In keeping with descriptions of neoliberalism as heterogenous, variegated, and incomplete (see McCarthy, 2012), it would be useful to examine how the rhetoric of adaptation is taken up or resisted within different neoliberal contexts, and whether and how existing arrangements are (re)formatted through implementation of adaptive governance. Further, in examining the intersection of neoliberal and adaptive forms of governance, this chapter suggests the need to explore their uneven and often unequal outcomes (see also Yates & Harris, 2018). In particular, inequalities in the effort and resources required to enact adaptive governance, and unevenness in its implementation are highlighted as two potential consequences of embedding indeterminacy through adaptive law.

In conclusion, the BC WAM indicates that modernising environmental law to be more flexible and adaptive can embed indeterminacy into legal structures, undermining their promised

¹⁴⁰ The longstanding centre-right BC Liberal government was replaced by a left-leaning coalition led by the New Democratic Party in the 2017 election

environmental protections. While environmental law reforms may be undertaken with the best of intentions towards enabling the adaptive management of changing environmental systems, this indeterminacy remains open to capture by neoliberal forms of government and private interests. Therefore, in modernising environmental laws, great care must be taken to ensuring baseline environmental protections, and not rely on enabling tools alone (see Craig, 2010; Stacey, 2015; Platjouw, 2016; Brinkman, 2017). The exercise of precaution and strong environmental objectives in decision-making is likely to be particularly important in the context of environmental laws that are designed to create and protect property rights, such as the WSA.

Chapter 5. Conclusion

In June 2018, at the beginning of another long, dry summer in British Columbia (BC), I interviewed a Cowichan organisation representative on progress on water issues in the Cowichan region since the introduction of the Water Sustainability Act (WSA). We had met several times in the last few years, and as always, he was enthusiastic and hopeful about developments in the region. The Cowichan Valley Regional District's (CVRD) regional ground and surface water management and governance study (which formed my introduction to the region) and related efforts to develop a regional water governance structure had largely fizzled out,¹⁴¹ and yet significant progress *had* been made in the intervening four years. The CVRD partnered with Cowichan Tribes, the Cowichan Watershed Board (CWB), and a major industry partner to undertake a public planning process to explore future water use needs and potential water supply and storage options. Despite a high degree of landowner resistance to changes in lake storage,¹⁴² the process produced consensus recommendations on changes in water use, infrastructure, and weir operations. As an interim solution, large pumps have been installed in Cowichan Lake, enabling temporary pumping of water downstream during severe droughts. In addition, the CVRD has succeeded in gaining public support and funding for a regional water service that will provide a dedicated focus on water monitoring, planning, and the protection of water sources and supply across the region. Following months of advocacy, the water service bylaw and associated property tax was approved by 65% of Cowichan voters in the 2018 referendum – a significant victory for the regional district, and testament to public support for improvements in freshwater management and governance in the region. The CVRD is currently working to coordinate water information and develop watershed plans across the region, to improve management of all water resources, rather than just priority areas.¹⁴³

¹⁴¹ In 2015, at the conclusion of the study – comprising three stakeholder workshops and meetings with First Nations, the province, local governments, and key industry representatives – a report was presented to the CVRD board recommending a multi-level regional water governance arrangement. While there was strong interest in improving regional governance capacity, dissension remained over whether a regional authority was appropriate for the Cowichan region. Following changes in executives and elected representatives, the CVRD board decided to pursue other options for empowering and coordinating local water governance

¹⁴² I was told that at a previous public meeting, an irate landowner had threatened to come back with his gun

¹⁴³ See <https://www.cvrld.bc.ca/2160/Watershed-Planning>

At the same time, Cowichan Tribes and the CWB have secured funding to support water management and governance workstreams in the Cowichan valley. Initially, the CWB (with the support of Cowichan Tribes and the CVRD) had submitted a proposal to the province to develop a water governance pilot for the WSA. However, their proposal was turned down after the province chose another community pilot¹⁴⁴ – according to my interviewee, the province viewed the CWB governance model as ‘too advanced’ and wanted to focus on communities at an earlier stage in their process. The CWB therefore applied for funding from the newly established BC Freshwater Legacy Initiative, which provided resources and support to Cowichan Tribes and the CWB to engage in a facilitated process to re-evaluate their widely celebrated co-governance structure. This process has strengthened the partnership between Cowichan Tribes and the CVRD by providing an opportunity to renew their joint commitment to reconciliation and working together to improve watershed health.

Notably, these developments in the Cowichan region all resulted from strong regional leadership and partnerships, together with public and non-governmental organisation (NGO) support. While the province often participated in and informally supported Cowichan initiatives, it did not provide resourcing or leadership on these issues (despite multiple requests). Nor has the WSA provided policy openings or tools to support water management or governance in the Cowichan region; given the WSA’s ongoing development, local leaders improvised with existing policy levers (e.g. bylaws) and alternative resourcing (e.g. tax and NGO funding). Over the same time period, the province has been largely occupied with the development of operational policy and regulations, and challenges in administering groundwater licensing.¹⁴⁵ This contrast highlights the enormous potential of local water management and governance initiatives – while the province struggled to convince groundwater users to apply for licences (to protect their use rights), a fractious group of Cowichan stakeholders agreed to raise the lake level (in some cases at the expense of potential

¹⁴⁴ The province signed a memorandum of understanding with five Nicola Valley First Nations to sustainably manage water resources in the region

¹⁴⁵ In February 2019 the province extended the deadline for groundwater licence applications by three years, after receiving only 4,737 of the expected 20,000 applications, and issuing just 462 licences
<https://www.countrylifeinbc.com/groundwater-application-deadline-extended/>

flooding on their lands) and Cowichan residents voted to pay additional taxes for water governance. Not only did these developments not rely on law reform, they exceeded the remit of water law reforms to date. As such, the Cowichan region continues to provide a hopeful case study of the potential to transform water management and governance in BC, and to an extent validates the WSA's focus on place-based management and governance interventions. However, it should be noted that these changes only came about as a result of long-term investments in local water governance by regional district and First Nation representatives, NGO leadership and volunteer hours, external funding, and broad public support (in the context of significant water insecurity). The Cowichan experience thus highlights that success in local water governance is hard won and requires substantial resources.

While the Cowichan region did not end up being an explicit case study for this dissertation, my experiences and insights from recent Cowichan governance initiatives have inflected my research on the Water Act Modernisation (WAM) and the conclusions I have drawn on water law and governance in BC. I have therefore reflected on the Cowichan' journey here and at other points in this conclusion as an illustration of the water governance challenges and opportunities the province faces in the years to come.

* * * * *

In this dissertation, I set out to critically examine the potential for water law reform to advance the equitable and sustainable management and governance of freshwater, using the case study of BC's WAM. Whereas existing research has explored the institutions, practices, and outcomes of existing water laws (e.g. Mustafa, 2001; Perramond, 2013; Borgias, 2018) or the evolution of case law on an issue (e.g. Jepson, 2012; Cantor, 2016), this study focused on the development of new water legislation and regulations. More specifically, I explored how the transformative potential of BC's new water law has been shaped through its historical antecedents, contemporary law reform processes, and future-oriented legislative reforms. I have demonstrated that the WAM's progressive potential was limited by its adherence (in process and law) to a settler colonial water rights regime, and deference to existing entitlement holders. While the new Act has created opportunities for the protection of environmental flows,

empowerment of local governance entities, and resolution of water conflicts, these opportunities are all delimited by the institutionalised power of existing licensees, denial of Indigenous rights, and lack of governance capacity created by the Act. At the same time, attention to the processes of law reform has highlighted the growing political capability of BC First Nations and NGOs, and their efforts to use a range of State and non-State mechanisms to realise their objectives. In particular, First Nations' ongoing work to assert their Indigenous rights to water through both Indigenous law and aboriginal law is a potent reminder of the contingency and future possibilities of environmental law.

In the remainder of this chapter, I draw together the insights developed through my three analytical lenses to identify the key contributions of this dissertation to critical scholarship on water law reform. I argue for a geographically situated analysis of water law reforms, in which the potential and limitations of reforms are interpreted through historical developments in water law, embedded power relations, legal and institutional cultures, and local aspirations and capacity. I then provide some reflections on my methodological choices in this study and how it progressed, identifying limitations of my research to date. Based on the research contributions and limitations described, I articulate a set of future research opportunities and directions through which critical geographers might advance understanding of water law reform.

1 Key findings and implications

This dissertation utilised three analytical lenses to critically examine how the transformative potential of water law reform is configured through historical and contemporary processes. By focusing on three distinct aspects of law reform – *processes* of legislation development, the *scope* and exclusions of the new law, and *implementation pathways* for law and governance reforms – this research has explicated how a range of actors, processes, and institutional logics have shaped the potential for legislative reform to advance the equitable and sustainable governance of freshwater in BC. This section briefly summarises key insights generated through each lens, before reflecting on the dissertation's overall contributions to theorising the transformative potential of law reform.

1.1 The transformative potential of law reform may be limited by the democratic shortcomings of policy-making processes

The first lens examined how the scope and substance of water law reform came to be defined through participatory policy development processes. Critical analysis of BC's multi-stage public consultation process revealed that while the process was extensive, innovative, and well intentioned, it provided uneven opportunities for interest groups to influence policy development. In particular, it is evident that the BC government made concerted efforts to create opportunities for industry and stakeholder feedback on the evolving legislative reforms, while rejecting government-to-government consultation with BC First Nations as too difficult. This contrast is reflected in the outcomes of law reform, wherein existing users' water entitlements have been largely protected from changes in policy, while First Nations' water rights and governance concerns remain unresolved. Similarly, the highly visible online public consultation process contrasts with unpublicised meetings and contact with industry and other organisational leaders. Such partial transparency creates an appearance of democratic participation that obfuscates submitters' uneven access to governmental decision-making, and their variable financial, informational, and human resources to support participation. Analysis of submissions revealed distinct differences in policy preferences between industry and non-industry submitters, and that industry preferences aligned most closely with key legislative outcomes in the WSA. These findings suggest that uneven influence on law reform outcomes may arise as a result of procedural design decisions as well as economic power in State policy-making. Through its innovative mixed methods approach, this study provided evidence for the oft-stated claim that public consultation approaches are subject to both greater access and influence by economic interests (see Cheeseman & Smith, 2001; Rowe & Frewer, 2005; Fishkin, 2009; Carvalho et al., 2016).

Whereas public participation is often advocated as a progressive, transformative mechanism for water law reform (e.g. Cosens et al., 2017; Grafton et al., 2019), this research shows that such processes can (inadvertently or not) create public platforms for the expression and circulation of conservative interests that seek to maintain the status quo, and new channels for State influence that powerful economic actors are disproportionately able to exploit. My analysis of successive

policy proposals in the BC WAM contributes to existing work on inclusive governance by revealing that such conservative influence operates by both limiting the scope of potential reforms, and scaling back the extent of proposed changes to protect economic interests. By tracing the evolution of policy proposals and decision-making over time, I was able to highlight the actors and motivations driving legislation in particular directions, as well as policy pathways not taken, and issues excluded from consideration. Viewing law reforms as a trajectory of change influenced by powerful interests also facilitated critical consideration of the changes in management likely to result from law reforms (see Chapter 4). In this instance, the BC government's continued protection of existing user entitlements through retention of prior allocation and infrequent (yet limited) licence review suggests that property-like interests in water will continue to impede transformative changes in water management into the future (see also Curran, 2019).

Critical engagement with policy-making processes also directs attention to the procedural decisions that enable, promote, or resist undue influence on law reforms. As noted in Chapter 1, legal geography research demands "fine-grained, detailed attention to the complex processes of legal constitutivity" (Delaney, 2015, p.98). This study identifies participation as an important set of legal processes worthy of analysis in legal geography research, and demonstrates the importance of critically examining publicly visible spaces of consultation together with shadow spaces of stakeholder engagement and State decision-making. I argue that attention to the design, operation, and outcomes of participatory processes provides insight into the ways in which State and non-State actors influence legislation development, and dominant power relations at play (see also Carr, 2012; Brisbois & de Loë, 2016; Carvalho et al., 2016). In particular, the categorisation, evaluation, and incorporation of submitter feedback are highlighted as underexamined procedural considerations that can significantly influence whose voices and what types of information are included in decision-making.

Equally, critical analysis of the design and operation of participatory processes may help to identify those practices that resist dominant power relations and support more socio-ecologically progressive law reforms (Fung & Wright, 2001; Fishkin, 2009). This analysis

identified increased transparency in the information, rationales, and decision criteria shaping policy-making processes as key to promoting more democratic law reforms. Further, it argued that stakeholder-based consultation with First Nations must be replaced with meaningful government-to-government engagement that creates space to address First Nations' rights, values, and concerns, and therefore enables the development of more just settler law reforms (see also von der Porten & de Loë, 2014; Joe et al., 2016). These recommendations highlight a broader need for participatory policy-making processes to be guided by an explicitly democratic and justice-based rationale for soliciting input and incorporating feedback into reforms. Without such consideration of participatory logics and processes, the BC experience suggests that the transformative potential of law reform is likely to be limited by the democratic shortcomings of dominant policy-making processes.

1.2 The transformative potential of law reform is undermined by failures to address historical institutionalised injustice

The second lens situated recent law reforms within the settler colonial history of water allocation law and practice in BC. To understand the implications of the BC WAM for First Nation communities, this lens examined the water use entitlements which have been sustained by the reformed Act, as well as the historical laws and processes that contributed to the current distribution of water rights. Enumeration of BC First Nations' current water licences revealed that many BC's reserve communities hold no licensed water use rights, while those that do typically hold few licences (relative to their reserve land parcels) that provide for predominantly irrigation and domestic water use purposes. In many cases, First Nations water use entitlements are demonstrably insufficient for reserve populations and/or are subject to the priority rights of senior licensees, contributing to significant precarity in First Nation communities' access to water. It is also notable that BC First Nations' water use entitlements vary significantly across the province, with fewer licences allocated to communities in the northern and eastern regions of the province.

Analysis of historical water licensing records revealed how First Nations were first denied water use rights according to discriminatory provincial laws, then accorded minimal, often

junior licences through provincial adjudication processes, and subsequently experienced the erosion of their licensed rights through licence review and amendment processes. Each stage in this history involved different laws, decision makers, processes, and contextual factors. Nevertheless, the province's underlying interest in eliminating Indigenous rights and claiming ownership and jurisdiction over all water in BC – as well as its strategic disinterest in outcomes for First Nation communities – remained evident throughout (see also Matsui, 2009). Similarly, the federal government's failure to uphold First Nations' water rights and protect their water use entitlements persisted over time, despite the efforts of some individuals to advocate on First Nations' behalf. Indeed, interviews with representatives of provincial and First Nation organisations suggests that the same drivers and mechanisms of dispossession exist today, despite the recent 'modernisation' of water laws. The provincial government and many of its representatives continue to dissociate themselves from the issue of Indigenous title and rights to water, while the same erosive rules, forces, and logics are brought to bear on First Nations' existing water licences. If anything, requirements to make beneficial use of water, which resulted in the reduction and cancellation of many First Nation licences in the past,¹⁴⁶ have been strengthened under the new Act (Brandes & Curran, 2017). There is consequently reason to believe that First Nations' existing water entitlements will continue to be eroded under the WSA, and that they could be denied groundwater entitlements in similar circumstances to those operating under the Water Act (e.g. non-recognition of First Nation records). Many First Nation representatives I spoke to were understandably worried about their communities' current and future access to water under the WSA.

This study therefore draws into question the province's claims to modernising its water laws, as well as normative assumptions about the transformative potential of water law reform.

Literature on water law and governance reform typically emphasises general environmental and social rationales for reform, and assumes that stronger regulations and local governance arrangements will benefit Indigenous peoples. Indigenous nations are consequently positioned

¹⁴⁶ Licences were reduced, cancelled, or declared to be abandoned where provincial engineers found that First Nations had not been making full use of their licensed water rights, often due to infrastructure issues

as stakeholders in environmental law and governance reforms, with few studies examining the consequences of reforms for Indigenous water rights and governance (see review by von der Porten & de Loë, 2014). There is very little recognition that settler water law in British (ex)colonies is not only responsible for, but premised upon, the denial of Indigenous water rights and relations (cf. Daigle, 2018; Sepulveda, 2018; Curley, 2019). As I have illustrated in this study, analyses of law and governance reform must engage with the colonial origins and logics of western water law in order to 1) appropriately situate and critique claims to reform, 2) resist State minimisation of Indigenous peoples' rights and authority through stakeholder classifications, and 3) reveal ongoing State practices of dispossession and enclosure of water resources. Other scholars have also highlighted the need to attend to the world-making practices of settler laws – in particular how they produce and institutionalise western constructs of Indigenous bodies, nations, and relations (Sepulveda, 2018; Todd, 2018; Curley, 2019).

The critique of settler colonial law reform presented in this dissertation also speaks to ongoing work at the intersection of Indigenous water governance and geographies of settler colonialism. By combining historical and contemporary analyses of BC's settler colonial water law, I was able to reveal some of the key policies and processes through which BC First Nations have been dispossessed of their water rights and use entitlements, and enumerate the consequences of continued reliance on colonial water allocation systems. This work adds to growing scholarship on the relationship between settler colonialism and water governance (Mcgregor, 2014; Simms et al., 2016; Todd, 2017a; Daigle, 2018; Sepulveda, 2018; Yazzie & Baldy, 2018; Curley, 2019; Wilson, 2019) by explicating the key role played by State water licensing practices in the settler colonial dispossession of both water and land. I describe how licensing processes first facilitated the denial of Indigenous water rights and replacement of Indigenous water governance with State laws, and then sustained and deepened this original dispossession by eroding First Nations' water use entitlements over time. I argue that identifying water licensing as a settler colonial technology of dispossession is important, because it can support critical consideration of both current law reforms and alternative approaches to securing Indigenous water rights (see Napoleon & Friedland, 2016; Jackson, 2018; Phare et al., 2018; Ruru, 2018; Wilson, 2019). Specifically, this analysis suggests that approaches based on State allocation logics (such as the

potential to create Indigenous water reserves in the WSA) or indeed settler laws and legal institutions (if recent treaties are any indication) are unlikely to resolve the historical injustices and ongoing dispossession experienced by First Nation communities. The province's actions during the BC WAM suggest the State's capacity to entrench settler colonial relations even when opportunities to work towards reconciliation arise. Thus, this dissertation serves to remind settler States and water law scholars that law reform cannot be socially transformative if it fails to address historical institutionalised injustice, and to reinforce calls by Indigenous scholars and activists for pathways grounded in the revitalisation of Indigenous water laws, governance, and practices (Simpson, 2011; McGregor, 2014; Todd, 2018; Yazzie, 2018; Curley, 2019).

1.3 'Enabling' approaches to law reform provide for uncertain transformations

The third analytical lens examined the transformative potential of water law reform through interrogation of reform logics and implementation pathways. In 2014 BC joined a host of other jurisdictions that have reformed their water laws to provide for the sustainable management of water resources, protect ecosystem health, and incorporate community interests. However, interviews with provincial officials and water experts highlighted disjunctures between the stated socio-ecological objectives of the BC WAM and its resulting provisions, implementation mechanisms, and institutional support. Specifically, critical analysis of the WSA revealed an 'enabling' logic to changes in water management and governance, wherein ministers and officials are given discretion to consider environmental and community values in decision-making, and make place-specific and temporary interventions in water management when specific needs arise. Other changes are to be enacted through policy mechanisms, which provide flexibility to adapt rules and guidance to changing circumstances but are not legally enforceable. This enabling approach is contrasted with the retention and extension of legal protections for existing users' water rights. I argue that the province's attempt to provide both legal *certainty* for existing users and legal *options* for ecosystem protection in the new Act creates significant uncertainty in the realisation of environmental and community objectives.

Interviews with provincial officials indicate that changes in water management or governance are likely to take place some years into the future, following development of regulations, planning, institutional capacity building, and phase-in periods. Indeed, some new management mechanisms are locked into long timeframes of change, such as the 30-year licence review period. Such slow progress on water management reforms will provide little relief for communities (like the Cowichan) that are currently struggling with overallocated watersheds, degrading waterways, and recurrent scarcity and contamination issues. Further, officials and experts highlight that legislative reforms are unlikely to be realised without significant improvements in governance capacity. While the WSA's enactment has resulted in some new staff and resources for groundwater regulation, a legacy of government retrenchment means that there are still insufficient staff, expertise, resources, and data to implement proposed changes. Indeed, review of the province's previous failures to implement water regulations, develop plans, and enforce rules suggests that interviewees' concerns regarding the under-fulfilment of the WSA's socio-ecological aspirations are warranted. History also suggests that the Province's implementation shortcomings are likely to be met by First Nation, local government, and NGO efforts to improve local water management, contributing to the unequal distribution of water governance responsibility.

This dissertation provides a cautionary tale of how the modernisation of environmental law in line with recommendations for more flexible, adaptive legislation (Ebbesson, 2010; Cosens et al., 2017; Craig et al., 2017) can contribute to embedded indeterminacy, wherein the outcomes of legislative reform remain uncertain, dependent on shifting political priorities and governance capacity. Such indeterminacy highlights that scholars cannot assume that legal adaptation and flexibility will contribute to improved socio-ecological outcomes (see also Doremus, 2010a; Green et al., 2013; Lukasiewicz et al., 2013; Biber & Eagle, 2016), and that more critical engagement with politics of adaptation is needed. Without emphasis on precautionary standards and requirements, strong socio-ecological objectives, and public accountability measures alongside more flexible provisions, it is possible that adaptive law could manifest as a new means for the devolution of responsibilities and State inaction. For example, water sustainability plans – perhaps the most promising adaptive governance tool in the WSA – not

only depend on political approval for their development and enforcement, but also require compensation for any significant (e.g. volumetric) changes in water licences. Such legislative hurdles effectively undermine prospective changes to existing water rights through planning (Curran, 2017).

However, this study's critical analysis of the (neo)liberal tendencies of adaptive law and governance (see also M'Gonigle & Takeda, 2013) is not intended to discredit or forestall efforts to develop more adaptive, responsive environmental law. Rigid, prescriptive environmental legislation has demonstrably failed to protect ecosystems, promoted ecological simplification, and created barriers to innovative environmental initiatives (Ruhl, 1997; Doremus, 2010b; Benson & Stone, 2013). Further, the intractable issues experienced by Cowichan communities – among others – highlight the need for legislation that promotes situated, adaptive planning and decision-making to support socio-ecological wellbeing in an uncertain future. What this analysis suggests is the necessity of deeper engagement with political-economic power in adaptive governance scholarship (see also Vink et al., 2013; Cleaver & Whaley, 2018) if law reform is to *enact* changes in environmental governance, rather than just *enable* them. In particular, power relations surrounding existing user rights (and especially those of major industry actors) are identified as a likely obstacle to the sustainable and equitable management of water resources (cf. Schutz, 2012; Tarlock, 2018). While the WSA is very clear that the crown holds all property in water and that licensees are only granted usufructuary rights, the provincial government has also demonstrated an unwillingness to alter licenced rights through legislation or regulation,¹⁴⁷ conferring a property-like status on them. Indeed consultation on the WSA, the roll-out of groundwater licensing, and earlier BC water planning processes¹⁴⁸ have revealed a strong water ownership culture among BC landowners. These longstanding power

¹⁴⁷ While alternative water allocation models were suggested at the beginning of the WAM, these were quickly ruled out as politically unfeasible. Further, the province opted to grandfather existing users into new groundwater and environmental flow needs provisions in the WSA, rather than subjecting them to the same requirements as new users. Indeed the province recently extended the deadline for existing groundwater users (which secure priority rights) after receiving fewer applications than expected. And as noted earlier, any water sustainability plans that propose 'significant' alterations to existing licence conditions are required to provide for compensation of licensees

¹⁴⁸ For example, the Township of Langley's Water Management Plan, where users blocked the introduction of water use metering

relations between (settler) water users and the provincial government suggests that the future implementation of ‘enabling’ management provisions (e.g. water sustainability plans) are likely to be limited by existing users’ willingness to revise their water use practices.

This analysis further suggests that discretionary and decentralised decision-making provide new openings for political-economic power to shape the implementation of environmental law. While these changes align with demands for more place-based, case-specific decision-making, they also create new opportunities and access for powerful interests to influence decisions (see also Boyd, 2003; Pardy & Stoehr, 2011; Stacey, 2015; Biber & Eagle, 2016). For example, while discretion to consider ecosystem flow needs is intended to empower decision makers (Ministry of Environment, 2013), this research suggests that it may have the opposite effect if allocation decisions are not adequately supported by policy directives, environmental data, human resources, and adjudication. Absent such support, Canadian history suggests that discretion is likely to favour applicant interests (Boyd, 2003; Pardy, 2005; Collins, 2007; Curran, 2017). Reliance on elected officials’ discretion was also highlighted as increasing uncertainty in the implementation of law reforms (see also Stacey, 2015), as it subjects environmental decision-making to broader political priorities, interests, and calculations. Further, decentralisation of decision-making to local offices and organisations can increase interest groups’ access to and influence over decision makers. Provincial government interviewees spoke of divergent decision-making cultures across BC’s regional offices, reflecting dominant industry and landowner interests as well as legacies of hiring practices. Without strong oversight, such regional differences in approaches to water governance are likely to result in the uneven implementation of new policies across space (Pardy & Stoehr, 2011; Cohen & Bakker, 2014). These findings highlight BC’s broader systems of environmental law and governance – characterised by administrator discretion, decentralised administration, and under-resourcing – as key barriers to the equitable and sustainable management of freshwater in BC. This dissertation therefore joins with earlier works in calling for radical, system-wide changes to BC’s political, judicial, and governance arrangements to support environmental law that prioritises protection of ecosystems and community values (Pardy, 2005; Boyd, 2012; Boyd, 2015; Stacey, 2015). Accordingly, it argues that adaptation and environmental law scholarship

must go beyond ‘good governance’ recommendations to critically examine the systemic power relations shaping the co-constitution of environmental law and governance reforms.

2 Transforming water law reform

Collectively, the three analyses presented in this dissertation highlight the limitations of relying upon water law reform alone to advance the equitable and sustainable governance of freshwater. Critical examination of law reform processes and outcomes reveals a tendency to embed existing rights, power relations, and governance logics into legislation, subverting the transformative potential of innovative new water management and governance tools. In the case of the BC WAM, this included entrenchment of settler colonial power and denial of Indigenous rights and jurisdiction; conservative changes to allocation regimes in line with protection of existing rights; and the deferral of management changes through enabling provisions and fixed timeframes for licence review. While the WSA has the potential to introduce management changes in specific places through water sustainability plans, water objectives, and alternative governance arrangements, such opportunities are likely to be constrained by the province’s under-resourcing of water governance and subservience to industry interests and existing user rights. Further, existing reforms are fundamentally inadequate to address the longstanding non-recognition of Indigenous water rights – or even under-provision of water entitlements to reserve communities – increasing the likelihood of legal action against the Act and need for further reforms in the future. This dissertation argues that these limitations to law reform’s transformative potential arose from the convergence of settler colonial and liberal-capitalist ideologies, the failure of democratic policy-making processes to overcome embedded power relations, and systemic weaknesses in prevailing environmental law and governance arrangements.

While these findings are all specific to the BC WAM, they also speak to questions and concerns raised in the water law reform literature and align with observations from other research on modern environmental law (in particular, Pardy & Stoehr, 2011; Stacey, 2015; Ravnborg, 2016; Schmidt, 2017a; Curley, 2019). British Columbia is just the latest government among many that have attempted to secure the sustainable, equitable use of water resources through legislation

(Burchi, 2012; 2019); insights from this research can inform the development and evaluation of similar reforms in other jurisdictions (see comparative analyses by Christensen & Brandes, 2015; Ohdedar, 2017; Curran, 2019). In particular, the WAM case study highlights a disconnect between the significant time, expertise, and creativity invested in law reform, and its more conservative legislative results. The WSA is the culmination of more than a decade's work to first cultivate the opportunity to reform BC's water law,¹⁴⁹ then undertake an innovative participatory process to develop policy tools that would be both effective and politically feasible, and finally maintain public and political support to get the bill through the legislature (despite changes in government). Interviewees emphasised what a challenging process this was, and that there were many times when it would have faltered if not for the leadership of Lynn Kriwoken and her team: "[they] will never get the credit they deserve for having the vision well before 2007 that this needed to happen... and being able to navigate the bureaucracy and the politics and just keep their eye on the prize year after year" (consultant interviewee, November 2017). Recognition should also go to those NGOs, funders, and water experts who supported the WSA's development throughout by contributing policy ideas, creating collaborative fora, and fostering political demand for progressive law reform.

At the same time, this analysis has argued that the changes in law and governance resulting from the WAM are limited in scope, uncertain, and too distant for ecosystems and communities experiencing water crises in the present. Even provincial officials acknowledge that the WSA is "a compromised Act, with lots of things [that] aren't perfect" (Interview, November 2017). One lesson that other jurisdictions might draw from this contrast is that they should not rely on allocation legislation – the purpose of which is to distribute use rights – to safeguard water ecosystems and non-economic values. Indeed, other critical scholarship has highlighted the liberal-capitalist underpinnings of water law as an inherent limitation on its ability to deliver environmental protections and social justice (see also M'Gonigle & Takeda, 2013; Schmidt, 2017a; Rawson & Mansfield, 2018; Curley, 2019). Historical analyses of water law highlight that allocation regimes were developed to create property-like rights and procedural rules that

¹⁴⁹ By creating the 'Living Water Smart' plan for BC, which included commitments to reform BC's water law

would enable the fair appropriation of water resources for economic development, and institute rights and responsibilities to other owners/users (Rose, 1994; Matsui, 2009; Schmidt, 2017b). As such, underlying liberal property ideologies mitigate against the protection of non-humans, non-economic values, and more holistic relationships to freshwater environments by reducing water to quantifiable use rights (Linton, 2014; Curley, 2019) and framing unused water as ‘waste’ (Cantor, 2017). A range of attempts to reform water allocation laws have tended to entrench existing use rights and power dynamics at the expense of the public, small-scale or in-stream users, and the environment (Budds, 2004; Jepson, 2012; Lukasiewicz et al., 2013; Daniell et al., 2014; Ravnborg, 2016; Schmidt, 2017a; Borgias, 2018; Feng & Li, 2019).

This dissertation therefore adds to work that questions whether water allocation reforms are a sufficient or appropriate mechanism to overcome systemic issues of water injustice and unsustainable use. First, it suggests that jurisdictions face pronounced challenges in passing strong allocation legislation that redistributes water rights to ecosystems, nonusers, and those without legal rights, given vested interests in existing allocation regimes. Analysis of BC’s participatory process highlights that existing rights holders exercise significant political influence on policy-making, engendering widespread resistance to any changes to allocations. Any democratic government that proposed to significantly revise allocation law would be unlikely to be voted back in at the next election. Second, it highlights that even revising water allocations is inadequate to address Indigenous water rights and jurisdiction or foster healthier relationships to ecosystems, as the basic paradigm of exclusive use rights remains intact.

Analysis of First Nations’ changing use entitlements over time highlights that allocation law is a fundamentally inappropriate tool for institutionalising Indigenous water rights, as 1) it does not recognise Indigenous people’s rights and jurisdiction over *all* waters within their territories, 2) it subjects Indigenous peoples’ water use to evaluation according to colonial-capitalist logics (e.g. beneficial use), and 3) the abstraction of water to use quantities does not align with Indigenous ontologies and legal orders (see also Ruru, 2010; Turner & Neale, 2015; Joe et al., 2016; Curley, 2019). Therefore, while better allocation laws and institutions can help to minimise harms, this study suggests a need for radically different forms of water law and governance that prioritise socio-ecological wellbeing and institutionalise new logics for resource use.

Other scholars and activists have suggested a range of such legal and governance innovations, including: legal protections for the rights of nature or specific waterbodies (e.g. O'Donnell & Talbot-Jones, 2018; Ruru, 2018); constitutional guarantees of the right to a healthy environment (Boyd, 2012); common law constitutionalism, which requires government officials to justify their decisions according to fundamental constitutional principles (Stacey, 2015); revitalisation of Indigenous legal systems and relations (e.g. McGregor, 2014; Napoleon & Friedland, 2016; Daigle, 2018); foundational environmental rules (e.g. Pardy, 2005); Indigenous co-governance (e.g. Phare et al., 2018); and water-centric governance arrangements (see de Loë, 2017). Indeed, during the WAM water experts advocated two radical governance reforms that would centre water values in decision-making – institutionalisation of the public trust doctrine, and creation of a ministry for water. This study cannot make any claims as to whether these innovations would be feasible or effective counters to – or replacements for – existing use-based environmental law and governance. However, these radical proposals collectively present a strong case for shifting the focus of reform *away from* amendments to allocation frameworks, *towards* alternative legislative frameworks founded on ecosystem protection, Indigenous self-determination, and democratic principles.

Finally, the BC experience highlights that innovations in water management and governance may exceed changes in formal laws and institutions. As the prologue to this dissertation illustrated, the WAM was a source of considerable opportunity and hope among water-stressed BC communities. Water leaders continue to cite the WSA and its enabling provisions as a source of optimism for water governance in the province, as well as a call to action to ensure its potential is realised.¹⁵⁰ The province's consultation process and related media and NGO campaigns also raised public awareness about systemic threats to water resources and the need for changes in water management and governance in BC. Law reform can thus create political openings – moments of change – that can be leveraged by astute leaders and organisations to cultivate support for broader changes in governance arrangements (see also Borgias, 2018). I

¹⁵⁰ See for example the reports, articles, op-eds, and webinars published by the POLIS Project on Ecological Governance on the WSA since 2014 <https://poliswaterproject.org/>

have highlighted law reform's inciting role in the Cowichan's journey, where it provided confidence that real changes in water management and governance were possible, as well as among Indigenous communities, for whom it is variously an opportunity for renewed governance relationships,¹⁵¹ a reason to call government to account,¹⁵² and motivation to invest in self-determining alternatives. Further, my research revealed that law reform process can foster the collective capacity of water governance actors by creating a focus for joint action, and spaces in which they can build their public profile and make connections to other organisations (see also Huitema & Meijerink, 2010; Daniell et al., 2014). Environmental NGOs across BC showed themselves to be politically adept at gaining entry into policy-making processes, creating their own policy spaces (e.g. workshops), working together to advocate for their shared interests, and even securing funding to resource their and others' water governance activities.¹⁵³ These developments in collective capacity over the course of the WAM suggest that even moderate law reforms can be a catalyst for broader transformations in water governance. Future publications from this research will explore these strategies and their outcomes in further detail.

This dissertation documented a range of water governance initiatives undertaken by local governments, First Nations, and NGOs that have exceeded the reforms instituted by the WSA. In the absence of clear provincial direction on alternative governance arrangements, local governments and community organisations are continuing to pursue other avenues to empower and coordinate watershed governance.¹⁵⁴ The Cowichan region provides a clear example of such improvisation – following several attempts to gain government support for a regional water governance pilot, the CVRD sought public authorisation for a new regional water protection service with dedicated tax funding. The CVRD also initiated water planning processes (using available tools) to improve understanding and identify management actions for key water

¹⁵¹ As in the five Nicola Valley First Nations who signed a memorandum of understanding with the province

¹⁵² See Union of BC Indian Chiefs Resolution no. 2015-21 RE: Aboriginal Title and the Water Sustainability Act

¹⁵³ During the development of the WSA, a group of non-governmental 'water leaders' was convened to provide policy advice to the BC government. Members of this group were active in generating public interest in the WAM and creating spaces in which to share and develop water policy ideas. Following the WSA's enactment they have published a range of freshwater policy statements directed at provincial policy makers, and helped establish the 'BC Freshwater Legacy Initiative', which invests in partnerships with local leaders to improve watershed health <https://www.bcwaterlegacy.ca/>

¹⁵⁴ See for example programs undertaken by the Fraser Basin Council and Okanagan Basin Water Board

issues in the region. First Nations have been particularly active in advancing community-based water governance initiatives, including community-based monitoring (see Wilson et al., 2018), revitalisation of Indigenous water laws and practices,¹⁵⁵ collaborations with neighbouring communities,¹⁵⁶ and resistance to government and industry environmental impacts in their territories.¹⁵⁷ These local efforts to tackle water issues left unaddressed by recent law reforms do not undercut the need for provincial policy, action, and resourcing on these issues – and should not be read as subsidising State inaction (see Borgias, 2018). Rather, these examples demonstrate 1) the enormous potential of local and Indigenous governments and community organisations to address water issues in their area when they have appropriate support and resourcing, and 2) the capacity to improvise within and across existing legal frameworks to develop innovative water governance solutions. These initiatives provide hope that significant changes in water management could be realised through enabling tools in the WSA *if* the province has the courage to use and properly resource them. However, selective deployment of enabling tools could contribute to uneven water governance arrangements and outcomes (see Hughes & Pincetl, 2014). Reflexive evaluation of funding and partnership arrangements is therefore needed to ensure that smaller, poorer, and less politically organised or active communities are also supported to pursue their water governance goals.

3 Reflections on research in real time

In this dissertation, I sought to study environmental law ‘in the making’ by tracing recent processes of consultation and legislative reform, and ongoing processes of regulation development and implementation. In doing so, I tackled some big questions on the prospects of environmental law reform, to which a doctoral study based on one case study can of course only provide partial answers. Nevertheless, I endeavoured to use a geographically situated, multi-scaled analysis to identify some trends and challenges in current law reform approaches that I believe to have broader relevance based on my engagement with research in other

¹⁵⁵ For example, through the RELAW project <https://www.wcel.org/program/relaw>

¹⁵⁶ As exemplified by Cowichan Tribe’s co-governance relationship through the Cowichan Watershed Board

¹⁵⁷ In particular, the proposed development of pipelines through First Nations’ traditional territories

contexts. In this section I reflect on some of the strengths and limitations of exploring larger trends in environmental law reform through a (still) evolving case study.

Processes of legislation development and implementation are very slow (at least in Canada), covering multiple years – if not decades. As such, gaining insights into policy experts' changing rationales, perceptions, actions, and experiences over the course of law reform is a real challenge; the nominally four-year PhD program is clearly inadequate to study law reforms throughout their constitution. Situating doctoral research somewhere during these processes is the best that can be hoped for – this provides access to interviewees' memories of recent events and expectations of future developments, as well as a plethora of online and documentary resources that may become increasingly difficult to access within a matter of years.¹⁵⁸ By starting my PhD research during the 'early implementation' stage of the WAM, I was also able to participate in a range of expert and interest group events focused on the new legislation and ongoing regulation development. My presence in these rooms and moments enabled me to witness provincial updates on WAM progress, and observe changes in what other actors were saying, doing, and advocating with regard to the new Act. These observations provided a strong ethnographic foundation on which to build my research questions and methodology, and to ensure that I understood recent developments in policy and implementation. Later events also enabled me to test the reception to some of my insights through brief presentations of my results.¹⁵⁹

However, studying environmental law 'in the making' is challenging and has limits. Despite starting my PhD mere months after the WSA had been passed into law, the length of the Act's development process still meant that interviewees told me that "that was a long time ago" when I asked about motivations for the law reform, or early stages of the Act's development. Interviewees' recall of the sequence of events, context for decisions, and procedural details was

¹⁵⁸ For example, I observed several reorganisations to WSA content on the Province and CVRD's websites, resulting in increased difficulty accessing older content. On other websites, links to documents and other content became corrupted or unavailable over time

¹⁵⁹ I presented the results of my second chapter at a public UBC water event, Canadian Freshwater Alliance webinar, and as a poster at Watersheds2016. I also presented the results of my third chapter at a Res'Eau-WaterNET AGM attended by a range of provincial, federal, and First Nation representatives

often understandably blurry, making it difficult to trace the co-constitution of laws with socio-political and environmental developments (e.g. droughts, elections, court cases). Further, I experienced difficulties tracking down some of the individuals involved in the WAM, highlighting that the availability of potential interviewees can change significantly over the course of and following law reform processes. A number of industry representatives and key experts on the WAM had moved organisations and countries, become sick, and in at least one case, sadly, had died. While leaving an organisation/country is not necessarily an insurmountable challenge, it often meant grappling with out of date contact details, phone based interviews, and – in the case of industry representatives – organisations’ confidentiality contracts.¹⁶⁰

I was also met with hesitation when I asked policy experts about future prospects for the Act’s development and outcomes, or those of other governance initiatives in the province. Provincial officials in particular were cautious about discussing future opportunities, challenges, timeframes, or expected outcomes of the Act. The indeterminacy of the law reforms – even from policy makers’ perspectives – was made particularly clear to me when I interviewed two senior provincial officials at the same time as the newly elected provincial government was giving its first throne speech.¹⁶¹ When I asked the officials about their expectations for water management and governance in the province in the next few years, they replied (a little pointedly) that they would have to read the throne speech to find out how water fitted with the new government’s priorities. Recent changes in the WSA’s implementation (in particular, the delay of deadlines for groundwater licensing) further underscores the limitations of inferring governance outcomes from current legislation and official statements. Such uncertainty in implementation and outcomes presents a serious challenge to researchers undertaking a critical analysis of the transformative potential of recently enacted legislation. While this uncertainty is significantly exacerbated by the enabling, adaptive character of BC’s law reforms, it is likely to affect most

¹⁶⁰ Several individuals I approached for interviews were unable to participate due to contractual obligations from their previous positions

¹⁶¹ A speech given by the premier at the opening of the legislature that outlines the government’s goals, policies, and legislative agenda for the forthcoming session

analyses of law reform in democratic States to some degree. My study thus suggests a trade-off between the ability to examine the consequences of law reforms and to undertake ethnographic research into the origins and development of the reforms.

Emerging from this research experience, I am convinced that my choice to examine the constitution of law in its making was justified, as it enabled me to trace the processes, policy decisions, and relations of power shaping the trajectory of water law and governance reforms in BC. I argue that such insights are valuable to other jurisdictions undertaking reforms to address systemic water issues, researchers and experts acting as critic and conscience for such reforms, and specifically for BC government staff, NGOs, First Nations, community leaders, and other water governance actors. Due to the ongoing nature of regulation development and implementation, there are still opportunities for critical analyses of the logics, omissions, and direction of the BC WAM to contribute to efforts to strengthen water governance in the province. Specifically, I hope that my second chapter supports provincial staff (and others) to examine the democratic consequences of procedural decisions when undertaking public consultation on WSA regulations. I hope that my third provides useful data for First Nations' and aligned organisations' efforts to hold the BC and Canadian governments accountable for their inaction on Indigenous water rights. And I hope that my fourth chapter provides a timely reflection of provincial water experts' expectations and fears for the implementation of the WSA, adding to existing pressure¹⁶² exerted on the province to realise the transformative opportunities created through the WAM.

4 Future research directions

My research to date suggests at least three directions for future research on environmental law reform and the BC WAM in particular. First, a key imperative arising from the above-stated limitations of this dissertation is to examine how flexible, enabling legislation is operationalised through regulation, policy, and decision-making institutions. The WSA is clearly a strong candidate for such research – further critical legal geographies could variously explore:

¹⁶² See for example Simms and Brandes' 2018 report *Taking the Pulse: B.C. Freshwater Policy Monitor*, which evaluates progress on the provincial government's promises relating to freshwater over the last decade

- the operationalisation and outcomes of discretionary consideration of environmental flow needs through regional offices, ongoing policy development, and the court of appeal;
- measures used by the provincial government to encourage existing groundwater users to apply for water licences before the deadline, and to enforce licensing on those who do not;
- attempts to realise place-based interventions enabled by legislation (water sustainability plans, alternative governance arrangements, and water objectives) – who initiates such attempts, how, where, according to what logics, and with what outcomes?; and
- the experience of various decision makers responsible for implementing the WSA, including logics that dominate decision-making, interactions with interest groups and politicians, support needed versus received, and other legal and governance challenges.

Given the projected timeframe of the WSA's implementation, it would be useful to explore these subjects through either a long-term study that tracks developments in policy and implementation over the next decade (or two), or a more intensive study at least 10 years after Act's enactment that examines progress to date and pathways forward. Any such research could use this dissertation as a baseline of early expectations for the Act's implementation, and revisit these to critically examine whether and how (or why not) concerns over enabling legislation were realised. For instance, were concerns over the dominant influence of existing user rights warranted?

More generally, I propose four key questions for research on the institutionalisation and implementation of adaptive, enabling legislation. First, what changes in policy and governance are enabled by enactment of case-specific, 'enabling' legislation? Second, who benefits from discretionary decision-making and enabling provisions? The colonial history of water licensing in BC demonstrates the importance of assessing the process and outcomes of adaptive legislation through an environmental justice lens, attending to the experiences of Indigenous, remote, and marginalised communities. Third, what governance logics/discourses are enacted through policy- and decision-making, and how do these compare with the stated objectives of

legislation? This question assumes that policies may take on different inflections based on the assemblage of actors and interests involved, and that flexible, adaptive legislation expands the political space of policy implementation. Fourth, what tools, resources, expertise, and institutional arrangements (e.g. oversight) do discretionary decision-makers require to operate effectively and equitably? Overall, this dissertation suggests that any analysis of adaptive law must be attentive to how power relations between resource users, non-users, policy experts, decision-makers, and politicians configure the operation and outcomes of adaptation.

Second, my research on the WAM so far indicates an opportunity to investigate the co-constitution of legislative reforms with broader changes in water management and governance in BC. Specifically, my research in the Cowichan region highlighted connections between community initiatives, environmental NGO strategies, and provincial policy-making. Further studies could explore how local and non-State actors leverage law reforms to pursue specific objectives, and how law reforms in turn are (re)constituted through the strategic actions of organisations during early implementation. Such research could build on previous work on multi-level or multi-scalar water governance (e.g. Bulkeley, 2005; Newig & Fritsch, 2009; Gregory et al., 2011) that demonstrates that local, provincial, and NGO scales are not discrete governance spheres, but rather networks of actors with varying capacity and spatial emphases. Accordingly, agency to enact changes in governance is dependent on relationships between actors across multiple scales (Cleaver, 2007; Allen, 2011; Cleaver & Whaley, 2018). Critical legal geographers could usefully study how law reforms are *constituted through* these networks of relationships – for example as policy ideas and governance models are tested and refined in specific places, scaled up from others, and translated across space – and *(re)constitute* governance relationships through the scaling of policy processes and specification of rights, responsibilities, and governance opportunities. Insights from such research could help to identify opportunities and strategies for small, under-resourced communities and NGOs to benefit from enabling legislation.

Third, this dissertation highlights additional considerations for the important work that Indigenous scholars and communities are undertaking to revitalise their water laws and

practices. Revitalisation of Indigenous legal orders draws attention to longstanding legal pluralism – the coexistence and interaction of multiple laws within the same territory – as well as the multiplicity of Indigenous legal orders within BC. Indigenous scholars argue that State recognition of Indigenous laws (alongside settler laws) is not sufficient for decolonisation, as “decolonizing law also means repudiating the doctrine of discovery and other racist narratives that drive the assertion of European legal orders” (Pasternak, 2014, p.147). In this light, it is not enough for the province to provide for the assertion of Indigenous jurisdiction and laws within provincially defined water reserves – the colonial assertion of ownership and jurisdiction over all waters in the province must be unsettled (see Curley, 2019). Indeed, my analysis of the colonial allocation regime and its inequitable distribution of water licences demonstrates that it cannot be left intact by the revitalisation of Indigenous laws, as it will continue to dispossess Indigenous communities of their water rights (whether they participate in it or not) and impact sacred waters and fisheries. What is less clear is what forms of water use, sharing, decision-making, and protections would both be consistent with Indigenous water laws and address dispossessions enacted over the last ~170 years. The question posed by this dissertation is therefore: how will Indigenous water laws interact with those of the provincial and Canadian governments in the context of historical dispossession? Given the multiplicity of Indigenous water laws and objectives, there can be no simple nor universally acceptable answer to this question. However, legal scholars could usefully seek to investigate alternative models of legal pluralism through examination of BC First Nations’ laws, existing assertions of Indigenous law in BC (e.g. Shíshálh Nation’s Self-Government Act, or the Nisga’a Final Agreement), colonial models of legal pluralism (e.g. federalism), and legal innovations in other jurisdictions (e.g. the personhood rights granted to New Zealand’s Whanganui River). Analysis of these models could seek to identify the scope and limits of Indigenous jurisdiction, how decisions are made over matters of shared concern, and how jurisdictional questions are resolved, as well as the Indigenous and settler colonial legal foundations on which each model was founded. Such insights could be generally useful in supporting BC First Nations to assert their Indigenous water laws and would be particularly important in preparing for a positive determination on Indigenous water title and rights.

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Appendices

Appendix I. Consent form for provincial representatives

Consent Form for Interview Participants:

Improving local water governance capacity for small and First Nations communities in British Columbia

Principal Investigator: Dr. Leila Harris | Associate Professor, Institute for Resources, Environment and Sustainability, UBC

Co-Investigator: Kiely McFarlane | Graduate Student, Institute for Resources, Environment and Sustainability, UBC

Who is funding this study?

The study is being funded by the Res'Eau-WaterNET, a multidisciplinary research network devoted to improving drinking water security for small, rural, and First Nations communities.

Why are we doing this study?

We want to learn more about opportunities for participatory, locally driven water governance in British Columbia as a result of the new Water Sustainability Act. In particular, we are interested in how the Act might enable small communities to take on new roles and responsibilities, and what implications this has for local water governance capacity.

To learn more about the governance potential and implications of the Water Sustainability Act, we are examining the processes through which the Act was developed and will be implemented. We are interested in the rationales surrounding the policy process, and how the Act is perceived by different interest groups across the province. You are being invited to take part in this research as a representative of an organization that was involved in the development of the Act, or that will be affected by its implementation.

This research forms part of a wider study on improving the water governance capacity of small and First Nations communities, and will contribute to the fulfillment of a graduate degree.

How is the study done?

This part of the study involves interviews with key informants on the development and early implementation of the Water Sustainability Act, including representatives of provincial government, First Nation organizations, industry, NGOs, and consultancies.

If you agree to be interviewed, you will participate in a thirty to sixty minute interview with one of the researchers, at a location of your choice. You will be asked to relate your experience of the development of the Water Sustainability Act and its regulations, and your perspective on its implications for water governance capacity in BC.

With your permission, the interview will be digitally recorded and then transcribed to ensure that views are accurately recorded. If you do not want the interview to be recorded, the interviewer will take written notes. Recordings will be transcribed by either the researcher, or a transcriber who has signed a confidentiality agreement.

The results of this study will be reported in a graduate thesis, and may also be published in journal articles, reports and books. The thesis and any resulting reports will be sent to interview participants via email, and will be available on UBC's Program on Water Governance website: <http://www.watergovernance.ca/>

Will participating in this study affect you in any way?

We do not think that taking part in this study will directly affect participants in any way. However, by interviewing individuals involved in the development and early implementation of the Water Sustainability Act, we hope to provide insights into the opportunities available for communities to change the way in which they manage or govern their water resources. These insights may also be useful for the provincial government, to inform future participatory policy-making and governance initiatives.

How will your identity be protected?

All hard copies of documents will be identified only by code number and kept in a locked filing cabinet in a co-investigator's office for five years. Electronic files (including recordings and transcripts) will be encrypted, coded and stored on password-protected hard drives in a locked office on UBC premises for five years, where only the research team will have access to them. After this time the documents and recordings may be destroyed.

You will not be identified by name in the recording, interview transcript, or any outputs of the completed study, unless you consent in writing to your name being used in outputs.

Who can you contact if you have questions about the study?

If you have any questions or concerns about what we are asking of you, please contact the co-investigator Kiely McFarlane or the study leader Dr. Leila Harris. Their telephone numbers and email addresses are listed at the top of the first page of this form.

Who can you contact if you have complaints or concerns about the study?

If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Services at 604-822-8598 or if long distance e-mail RSIL@ors.ubc.ca or call toll free 1-877-822-8598.

Participant Consent: Improving local water governance capacity for small and First Nations communities in British Columbia

Taking part in this study is entirely up to you. You have the right to refuse to participate in this study. If you decide to take part, you may choose to pull out of the study at any time without giving a reason and without any negative impact on your employment or membership of your organization.

- Your signature below indicates that you have received a copy of this consent form for your own records.
- Your signature indicates that you consent to participate in this study.

Participant Signature

Date

Printed Name of the Participant signing above

Consent to use your name in research outputs:

Should you prefer to have your name ***included*** in any outputs of this work at the time of or after the signing of this form, please waive your confidentiality below. If this decision has been made after the original signing of this form, please be sure to date the newly signed portion below. The inclusion of your name will apply only to those documents released after the date accompanying this waiver.

SIGN HERE IF WAIVING CONFIDENTIALITY:

Participant Signature

Date

Appendix II. Interview script for provincial representatives

Introduction

The purpose of these interviews is to hear a range of perspectives on the development and early implementation of the Water Sustainability Act. In particular, I would like to hear your perspective on the process through which the Act was developed, and its implications for water governance in British Columbia. I am interested in what you see as the rationales underlying the law change, and ongoing opportunities for improving water governance and management in the province, particularly with respect to small and First Nation communities.

Go over contents of consent form to ensure that participant has understood it.

Do you have any questions about this study or interview?

Are you still comfortable with undertaking this interview?

If the participant agrees to proceed with the interview, ask them to sign and date the consent form.

Are you comfortable with this interview being digitally recorded?

If necessary, explain purpose of recording the interview, how the recording will be used, who will have access to it, and how their identity will be protected.

As we continue with this interview, I would like to remind you that:

- you have the right to not answer any question
- you have the right to withdraw from this interview/study at any time.

Interviews will be semi-structured and therefore will not follow a strict interview script. Rather, researchers will ask participants a selection of the following questions, based on the questions that are most appropriate to the individual/group represented, and points that arise during the interview.

Prompting points and questions

Your background and role(s):

1. What is your current role, and how long have you worked for your organization in this capacity?
2. How was your organization involved in the Water Act Modernization, and what was your role in this process?
3. Do you have any ongoing involvement in the Water Act Modernization, or implementation of the new Act?

Development of the Water Sustainability Act:

4. I am interested in your experience of and perspective on the Water Act Modernization process. What did you think of the process used to develop the new Water Sustainability Act?

Prompt for further detail on relevant aspects:

- a. The public consultation process
 - b. Consultation with First Nations
 - c. Timeframe of the Act's development
 - d. Staged development of regulations
 - e. Public involvement in regulation development
5. *[government employees and contractors only]* I am interested in the rationales underlying the processes used to develop the WSA. Why do you think the ministry decided to:
- a. Undertake such an extensive public consultation process?
 - b. Engage First Nations through a public consultation process?
6. *[government employees and contractors only]* How are the WSA's regulations being developed? Specifically: Who is involved? How is consultation being used to inform the regulations? What advice or research is used to inform the regulations? How are decisions made on the regulations?
7. What do you think were the key motivations underlying the decision to modernize the Water Act? e.g. objectives, concerns, interests, specific actors
8. What, from your perspective, were the most important influences on the Act's development?

Prompt for further detail on relevant factors:

- a. Expert knowledge (scientific, legal, policy etc)
 - b. Policy research
 - c. Policy advice
 - d. Public opinion/input from consultation
 - e. Political considerations/pressure
 - f. Economic considerations/industry pressure
 - g. International/Canadian 'best practice'
9. *[representatives of consulted organizations only]* Do you think your organization influenced the Act at all?

Prompt for further detail:

- a. How did your organization seek to influence the Act?
 - b. Is there any evidence that you succeeded in influencing the Act?
 - c. Do you think any other organizations succeeded in influencing the Act's development?
 - d. Based on this experience, would you/your organization participate in consultation again? Would you do anything differently?
10. Do you think the objectives and content of the new Act changed over time? i.e. from its early inception, to the final wording, to its regulations. If so, why?

Implications for local water governance:

11. What do you think are the key outcomes or implications of the Act for water governance in British Columbia? (i.e. what are the most important provisions in the Act with respect to water governance)
12. How would you describe the Province's approach to water governance reform?

Prompt for further detail:

- a. Why do you think that this approach to water governance reform was adopted by the Province?
 - b. What do you think are the strengths and limitations of this approach to water governance reform?
13. Do you think these changes in legislation are likely to result in significant changes in water governance on the ground? Why/why not?
Prompt for further detail:
 - a. (How) are the new governance rules and regulations likely to affect your organization?
 - b. Will the WSA help local/regional organizations to address existing water issues?
 - c. How will the changes in legislation affect communities/community organizations involved in existing water governance initiatives?
 - d. What are the key limitations/barriers/constraints to improving local water governance and management through the WSA?
 - e. What are the likely implications for First Nations involved/interested in improving water governance in their territories?
 - f. What strategies do you think will best enable local groups to take advantage of opportunities in the WSA?
 14. Based on your experience, where/what are the key prospects for improvements in water management and governance in BC?

[relevant participants only] Implications for Cowichan region:

15. How were you involved in the regional water governance initiative that has taken place in the Cowichan Region over the last few years?
16. What is your perception of the initiative, and the proposal that was presented to government?
Prompt for strengths, limitations.
17. Will the government have any further role in water governance reforms in the region?
What/why not?
18. There have been suggestions from both the CVRD and the Cowichan Watershed Board that their initiative could be used as a 'pilot study' for future water governance arrangements. Is there any interest within the provincial government in using either organization as a pilot study? Why/why not?
19. (How) do you think the WSA is likely to affect water governance in the Cowichan region?

Implementation of the Water Sustainability Act:

20. What changes in institutions, administration, and resourcing are needed to successfully implement the new Act?
21. *[government employees only]* How will the governance provisions in the Act be implemented?
22. What do you think are the key challenges and opportunities with respect to the future implementation of the Act?
23. Is your organization likely to be involved in the implementation of the Act, or involved in any ongoing action related to the WSA? If so, how?

End of interview

Do you have any final comments to add?

Thank participant for their contribution to the study, and go over the next steps in the research and when the thesis is likely to be available.

Make sure that participant is aware of contact options if they have any questions, comments or concerns.

Appendix III. Consent form for workshop participants

Consent Form for Workshop Participants:

Improving local water governance capacity for small and First Nations communities in British Columbia

Principal Investigator: Dr. Leila Harris | Associate Professor, Institute for Resources, Environment and Sustainability, UBC

Co-Investigator: Dr. Karen Bakker | Professor, Department of Geography, UBC

Co-Investigator: Kiely McFarlane | Graduate Student, Institute for Resources, Environment and Sustainability, UBC

Who is funding this study?

The study is being funded by the Res'Eau-WaterNET, a multidisciplinary research network devoted to improving drinking water security for small, rural and First Nations communities.

Why are we doing this study?

We want to learn more about opportunities for participatory, locally driven water governance in British Columbia as a result of the new Water Sustainability Act. In particular, we are interested in how the Act might enable small communities to take on new roles and responsibilities, and what implications this has for local water governance capacity.

The Cowichan Region provides a case study of an early attempt to reform water governance through the provisions of the Act. You are being invited to take part in this research as a participant in the CVRD Regional Ground and Surface Water Management and Governance Study, who will be present at one of the CVRD workshops.

This research forms part of a wider study on improving the water governance capacity of small and First Nations communities, and will contribute to the fulfillment of a graduate degree.

How is the study done?

This part of the study involves observation of the CVRD Regional Ground and Surface Water Management and Governance Study (RGSWMG) workshops and meetings. We will be present in the meetings and take notes on the proceedings, including the key steps in the process, topics that are discussed, and questions that are raised. No person will be identified by name or quoted in this process.

If you wish to be included in this study, please fill out the attached form and hand it to the researcher before the workshop begins. If you wish to opt out of this study, please do not fill out a form, so that the researcher will know not to include your comments in their notes. Task force members will also be invited to participate in an interview following the workshop, to gain more insight into the objectives, process, and outcomes of the RGSWMG study. If you wish to take part in an interview, please contact co-investigator Kiely McFarlane.

The results of this study will be reported in a graduate thesis, and may also be published in journal articles, reports and books. The thesis and any resulting reports will be sent to the CVRD to be disseminated to task force members, and will be available on UBC's Program on Water Governance website: <http://www.watergovernance.ca/>

Will participating in this study affect you in any way?

We do not think that taking part in this study will directly affect task force members in any way. However, by documenting the RGSWMG study and interviewing task force members, we hope to provide insights for other communities attempting to change the way in which they manage or govern their water resources. These insights may also be useful for the CVRD, to inform future participatory governance initiatives.

How will your identity be protected?

All hard copies of documents will be identified only by code number and kept in a locked filing cabinet in a co-investigator's office for five years. Electronic files (including recordings and transcripts) will be encrypted, coded and stored on password-protected hard drives in a locked office on UBC premises for five years, where only the research team will have access to them. After this time the documents and recordings may be destroyed.

You will not be identified by name in the recording, interview transcript, or any reports of the completed study.

Who can you contact if you have questions about the study?

If you have any questions or concerns about what we are asking of you, please contact the co-investigator Kiely McFarlane or the study leader Dr. Leila Harris. Their telephone numbers and email addresses are listed at the top of the first page of this form.

Who can you contact if you have complaints or concerns about the study?

If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Services at 604-822-8598 or if long distance e-mail RSIL@ors.ubc.ca or call toll free 1-877-822-8598.

Participant Consent: Improving local water governance capacity for small and First Nations communities in British Columbia

Taking part in this study is entirely up to you. You have the right to refuse to participate in this study. If you decide to take part, you may choose to pull out of the study at any time without giving a reason and without any negative impact on your participation in the task force or RGSWMG Study.

- Your signature below indicates that you have received a copy of this consent form for your own records.
- Your signature indicates that you consent to participate in this study.

Participant Signature

Date

Printed Name of the Participant signing above

Appendix IV. Indigenous water rights methodology

This supplement provides further detail on the databases and methods used in Chapter 3.

i. Analysis of historical summaries of First Nations' water rights

In the late 1990s the BC Ministry of Environment, Lands and Parks completed a report series titled 'First Nations water rights in British Columbia' in collaboration with the Ministry of Aboriginal Affairs, University of Victoria, and Clover Point Cartographics Ltd. The report series resulted in 135 historical summaries that document the past and present water rights of a BC First Nation, from the late 1800s to ~2000. The reports share a common format:

- summary of the geography and demography of the First Nation
- summary of the government actions that have affected the Nation's water rights
- detailed description of the history, current status, and notes on water entitlements for each water course of significance to the First Nation
- summary of any information on other water sources (e.g. groundwater) or rights (e.g. fishing) of the First Nation
- tabulated summary of water records
- copies of all supporting documentation (e.g. licences, maps)

I downloaded pdf copies of the 135 historical summaries from the online J.T. Fyles Natural Resources Library¹⁶³, maintained by the BC government. I uploaded the pdfs to Nvivo 12 Pro and developed a coding framework that mirrored the structure of the historical summaries (up to the tabulated summary of water records). Codes captured the following data:

- number and size of reserves; number of reserves with water licences
- government actions that affected the First Nation's water rights
- history: allocation of water by the Indian Reserve Commission, Order-in-Council, or Comptroller
- current status: licence holders & priority of licences for source; restrictions on source

¹⁶³ <http://library.nrs.gov.bc.ca/uhtbin/cgisirsi.exe/?ps=R8f1zYWWCL/x/X/60/502/X> [Accessed May 26, 2018]

- notes: impacts on First Nation's allocated water entitlements (e.g. cancellation of water licence)
- use of groundwater wells or municipal water systems

Coding was split between myself and a research assistant; I coded the initial 15 percent of summaries, refined the coding framework, and coached the research assistant in utilising the framework. The assistant then completed the remainder of the coding, keeping notes on any issues or uncertainties in coding. Finally, I reviewed all coding and made adjustments to the coding framework as necessary. I analysed the resulting coded data using a combination of counts, matrix analyses, and qualitative analysis to identify themes, outliers, and examples.

ii. Analysis of BC First Nations' surface water licences

Up-to-date data on all water licences issued in BC is available via several online water rights databases¹⁶⁴. I used two of these databases, the Water Licence Search Tool and Water Licence Query, to obtain and verify data on the surface water licences of BC First Nations. As the two databases provide slightly different datasets and have different search functions, it was necessary to use both to produce a complete dataset.

I first created a spreadsheet of basic information on BC First Nations (including their preferred name, alternative names, region, reserve land area, and treaty or tribal association) from the British Columbia Assembly of First Nations (BCAFN) website¹⁶⁵. Despite stating that there are 203 First Nations in BC, the BCAFN website only contains community profiles for 201 First Nations. By comparing this list with the BC government's First Nations A-Z listing, I was able to identify the two remaining First Nations.

On May 8, 2018, I used the Water Licence Search Tool and searched for 'band' and 'nation' in the client name¹⁶⁶ (licence type = surface water), saving all results as excel files. 'Nation' produced 752 results, while 'band' resulted in 1893 entries. I reviewed the resulting

¹⁶⁴ <https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-licensing-rights/water-licences-approvals/water-rights-databases> [Accessed May 8, 2018]

¹⁶⁵ <http://bcafn.ca/community-profiles/> [Accessed March 7, 2018]

¹⁶⁶ I also searched for 'village' and 'tribe', which resulted in one relevant result that I added to the 'nation' spreadsheet

spreadsheets and removed all entries that did not list a First Nation or band government under client name; deleted entries included private citizens, government entities, and First Nation companies or corporations. I compared the client names against my spreadsheet of BC First Nation names, identifying which First Nations had water licence records, and then searched for the name(s) of any First Nation that had no water licence records in the database to ensure that this result was correct. As some First Nations were registered under several names/spelling variations, I identified and removed any duplicate entries across the 'nation' and 'band' spreadsheets before combining the two spreadsheets. The resulting spreadsheet contained 2457 unique entries that contained information on each licence's: status (current, cancelled, etc), status date, licence holder, purpose (irrigation, etc), quantity, appurtenancy, source name, and water district, among other information. As each licence was typically represented by more than one entry in the spreadsheet¹⁶⁷, I reorganised the data so that each licence number was represented by one entry, and created new fields to capture alternative source names, purposes, etc. associated with a licence. I was then able to analyse the licence data according to licence status, licence holder, purpose, quantity, and status date using basic summary statistics (counts, averages, etc).

As the Water Licence Search Tool did not provide information on licence priority dates, I used the Water Licence Query database to obtain the priority date and relative priority of each current First Nation licence. First, I searched for each licence number in the database, and entered the resulting priority date into my spreadsheet. Next, I searched for each source name listed against a First Nation's licence by entering the 'stream name' and selecting the relevant 'water district' (as there is repetition in stream names across the province). This produced a list of all the licences registered against the water source; I reviewed these licences and noted in the spreadsheet whether the First Nation is the only licensee, or one of several licensees for the water source. If one of several, I noted whether the First Nation licence is first in priority for the water source, or if not, who the earlier licence(s) is held by (the same First Nation or other

¹⁶⁷ A licence can have multiple purposes, source names, and points of diversion registered against it, each of which are entered as a separate record in the database. In one instance a single licence was entered as 26 distinct records in the database.

licensees). A research assistant contributed to this data collection process by entering priority dates and relative priority for almost half the First Nation licences. The collected data was reviewed and then analysed using histograms and basic summary statistics.

iii. Comparison of province wide and First Nation water use authorisations

In Chapter 3, Section 6 I provide a rough comparison of the number and volume of surface water licences allotted to First Nations and throughout British Columbia. This quantitative comparison is based on a summary table prepared by the provincial government and published on March 14th, 2006 at https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/water-rights/surface_allocation_volume_purpose.pdf

Regarding the data presented, the province states:

An analysis of surface water allocation by sector provides an estimate of how much surface water is allocated to different purposes in B.C. The analysis was conducted for 44,000 surface water licences. As each licence may authorize up to three water use purposes, roughly 49,000 allocations were considered in the analysis. The 49,000 allocations are broken down by sector... The figures in each graph are estimates only. Despite most water licences specifying the amount of water authorized for diversion, use or storage, several hundred licences have been issued for the total flow of a water source, without a volume rate.

The data provided by the province used different units and a narrower set of water use purposes than employed in my analysis. I grouped water use purposes into the narrower ‘sector’ categories used by the province according to purpose definitions provided by the province https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/water-rights/water_use_purpose_defns.pdf

I have also summarised my conversions in Table 11 to explicate how I conducted this comparison. The first column contains data provided by the province, the latter two are my conversions.

Table 11 Amount of surface water authorised to be used annually in British Columbia (based on data from March 2003-2006)

Sector	Annual Allocated Volume (cubic decametres)	Annual Allocated Volume (cubic metres)	Daily Allocated Volume (cubic metres)
agriculture	1,566,849	1,566,849,000	4,292,737
aquaculture	384,800	384,800,000	1,054,247
conservation and land improvement*	8,642,800	8,642,800,000	23,678,904
domestic	33,782	33,782,000	92,553
industrial and commercial*	2,101,111	2,101,111,000	5,756,468
mining and petroleum	125,332	125,332,000	343,375
waterpower commercial and general	592,587,400	592,587,400,000	1,623,527,123
waterpower individual residential	320,700	320,700,000	878,630
waterworks	1,796,019	1,796,019,000	4,920,600
storage	99,549,050	99,549,050,000	272,737,123
Total	707,107,842	707,107,842,000	1,937,281,759

*Conservation and Land Improvement also contains 525 authorisations for the total flow of the source of water supply; as these volumes are not recorded in the database they are not included in this estimate. Industrial and Commercial also contains 57 total flow authorisations which are not included in this estimate.

Appendix V. Historical and contemporary data on BC First Nations' water entitlements

First Nation name (BCAFN)	Name used in licence database	# current surface water licences	Name on historical summary of water rights
Adams Lake Indian Band	Adams Lake Indian Band	7	Adams Lake First Nation
Ahousaht First Nation	Ahousaht First Nations	2	Ahousaht First Nation
Aitchelitz First Nation	-		-
Alexis Creek First Nation	Alexis Creek Indian Band	9	Alexis Creek First Nation
Ashcroft First Nation	Ashcroft Indian Band	8	Ashcroft First Nation
Blueberry River First Nations	Blueberry River First Nation	1	Blueberry First Nation
Bonaparte First Nation	Bonaparte Indian Band	7	Bonaparte First Nation
Boothroyd First Nation	Boothroyd Indian Band	16	Boothroyd First Nation
Boston Bar First Nation	Boston Bar Indian Band	8	Boston Bar First Nation
Canim Lake Band	Canim Lake Indian Band	6	Canim Lake First Nation
Cayoose Creek Indian Band	Cayoose Creek Indian Band	7	Cayoose Creek First Nation
Chawathil First Nation	Chawathil Indian Band	0	Chawathil First Nation
Cheam First Nation	-		-
Cheslatta Carrier Nation	Cheslatta Carrier Nation Band Council	1	-
Coldwater First Nation	Coldwater Indian Band	9	Coldwater First Nation

Cook's Ferry Indian Band	Cooks Ferry Indian Band	38	Cooks Ferry First Nation
Cowichan Tribes	Cowichan Tribes	2	-
Da'naxda'xw First Nation	Da'naxda'xw/ Awaetlala First nation	5	-
Daylu Dena Council	-		-
Dease River First Nation	-		-
Ditidaht First Nation	Ditidaht First Nation	2	Ditidaht First Nation
Doig River First Nation	Doig River First Nation	1	Doig River First Nation
Dzawada'enuxw First Nation	Dzawada'enuxw (Tsawataineuk) Indian Band	2	Tsawataineuk First Nation
Ehatteshaht First Nation	Ehattesaht Indian Band	1	Ehattesaht First Nation
Esk'etemc	Esketemc First Nation	11	Alkali Lake First Nation
Esquimalt First Nation	-		Esquimalt First Nation
Fort Nelson First Nation	-		-
Gingolx Village Government	-		-
Gitanmaax Band	Gitanmaax First Nation	1	Gitanmaax First Nation
Gitanyow	Gitanyow First Nation	1	Gitanyow First Nation
Gitga'at Nation	Hartley Bay First Nation	1	Hartley Bay First Nation
Gitlaxt'aamix Village Government (New Aiyansh)	Gitlakdamix Indian Band	1	Gitlakdamix First Nation

Gitsegukla	Gitsegukla Indian Band	3	Gitsegukla First Nation
Gitwangak Band	-		-
Gitwinksihlkw	Gitwinksihlkw Indian Band	1	Gitwinksihlkw First Nation
Gitxaala Nation	-		-
Glen Vowell Band	Glen Vowell Indian Band	3	Glen Vowell First Nation
Gwa'sala-Nakwaxda'xw Band	-		-
Gwawaenuk Tribe	-		-
Hagwilget Village	-		-
Haisla Nation	Kitamaat First Nation	2	Kitamaatt First Nation
Halalt First Nation	-		-
Halfway River First Nation	Halfway River First Nation	1	Halfway River First Nation
Heiltsuk First Nation	Heiltsuk First Nation	6	Heiltsuk First Nation
Hesquiaht First Nation	Hesquiaht Indian Band	2	Hesquiaht First Nation
High Bar First Nation	High Bar First Nation	1	High Bar First Nation
Homalco First Nation	Xwemalhwu (Homalco) Indian Band	2	Homalco First Nation
HupaÇasath First Nation	Hupacasath First Nation	1	Opetchesaht First Nation
Huu-ay-aht First Nation	Huu-Ay-Aht First Nation	1	-
Iskut First Nation	Iskut First Nation	0	Iskut First Nation

K'ómoks First Nation	K'omoks (Comox) First Nations	1	Comox First Nation
Ka:'yu:'k't'h'/Che:k:tles7et'h' First Nations	Kyuquot Indian Band	1	Ka;'yu;'K't'h' Che K'tles7et'h' First Nation
Kanaka Bar Band	Kanaka Bar Indian Band	7	Kanaka Bar First Nation
Katzie First Nation	-		-
Kispiox Band	Kispiox Band Council	2	Kispiox First Nation
Kitasoo Band	Kitasoo Indian Band	3	Kitasoo First Nation
Kitselas First Nation	-		-
Kitsumkalum First Nation	Kitsumkalum Indian Band	2	Kitsumkalum First Nation
Klahoose First Nation	-		-
Kluskus First Nation	Lhoosk'uz Dene Government (Kluskus Band)	1	Kluskus First Nation
Kwadacha Nation	-		-
Kwakiutl First Nation	-		Kwakiutl First Nation
Kwantlen First Nation	-		-
Kwaw-kwaw-a-pilt First Nation	-		-
Kwiakah First Nation	Kwiakah First Nation	0	-
Kwikwasut'inuxw Haxwa'mis First Nation	-		-
Kwikwetlem First Nation	-		-

Lake Babine Nation	Lake Babine Nation	3	Lake Babine First Nation
Lake Cowichan First Nation	Cowichan Lake Indian Band	1	Cowichan Lake First Nation
Lax Kw'alaams Band	Lax Kw'alaams Indian Band	3	Lax-Kw'alaams First Nation
Laxgalts'ap Village Government	Lakalzap Indian Band	1	Laxqalts'ap First Nation
Leq'a: mel First Nation	Leq'A:Mel First Nation	1	Lakahahmen First Nation
Lheidli T'enneh First Nation	-		Fort George First Nation
Lhtako Dene Nation	Red Bluff Indian Band	0	Red Bluff First Nation
Lil'wat Nation	Mount Currie First Nation	2	Mount Currie First Nation
Little Shuswap Indian Band	Little Shuswap Lake First Nation	7	Little Shuswap First Nation
Lower Kootenay First Nation	Lower Kootenay Indian Band	7	Lower Kootenay First Nation
Lower Nicola Indian Band	Lower Nicola Indian Band	17	Lower Nicola First Nation
Lower Similkameen Indian Band	Lower Similkameen Indian Band	17	Lower Similkameen First Nation
Lyackson First Nation	Lyackson First Nation	1	Lyackson First Nation
Lytton First Nation	Lytton First Nation	63	Lytton First Nation
Malahat First Nation	Malahat Indian Band	1	Malahat First Nation
Mamalilikulla-Qwe'Qwa'Sot'Em Band	-		-
Matsqui First Nation	-		-
McLeod Lake Indian Band	-		-

Metlakatla First Nation	Metlakatla Indian Band	1	Metlakatla First Nation
Mowachaht/Muchalaht First Nation	-		-
Musqueam Nation	-		-
N'Quatqua First Nation	Anderson Lake Indian Band	8	Anderson First Nation
Nadleh Whuten First Nation	Nadleh Whuten Indian Band	2	Nadleh Whuten First Nation
Nak'azdli Whuten	Nak'Azdli First Nation	1	Nak'azdli First Nation
Namgis First Nation	-		Namgis First Nation
Nanoose First Nation	Snaw'Naw'As (Nanoose) First Nation	2	Nanoose First Nation
Nazko First Nation	Nazko First Nation	1	Nazko First Nation
Nee-Tahi-Buhn Band	Nee Tahi Bihn Indian Band	1	Nee-Tahi-Buhn First Nation
Neskonlith Indian Band	Neskonlith Indian Band	6	Neskonlith First Nation
Nicomen Indian Band	Nicomen Indian Band	6	Nicomen First Nation
Nisga'a Nation	Nisga'a Nation	1	-
Nooaitch First Nation	Nooaitch Indian Band	6	Nooaitch First Nation
Nuchatlaht First Nation	-		-
Nuxalk Nation	Nuxalk Nation	3	Bella Coola First Nation
Okanagan Indian Band	Okanagan Indian Band	21	Okanagan First Nation
Old Massett Village Council	Masset Indian Band	0	Masset First Nation

Oregon Jack Creek Band	Oregon Jack Creek Indian Band	6	Oregon Jack First Nation
Osoyoos Indian Band	Osoyoos Indian Band	12	Osoyoos First Nation
Pacheedaht First Nation	-		-
Pauquachin First Nation	-		-
Penelakut Tribe	-		-
Penticton Indian Band	Penticton Indian Band	11	Penticton First Nation
Peters First Nation	Peters Indian Band	2	-
Popkum First Nation	-		-
Prophet River First Nation	-		-
Qayqayt First Nation	-		-
Qualicum First Nation	-		-
Quatsino First Nation	Quatsino Indian Band	2	Quatsino First Nation
Saik'uz First Nation	Saik'uz First Nation	1	Stony Creek First Nation
Samahquam First Nation	-		-
Saulteau First Nations	-		-
Scia'new First Nation	Scia'new (Beecher Bay) Indian Band	3	Beecher Bay First Nation
Seabird Island Band	-		-
Semiahmoo First Nation	-		-

Shackan First Nation	Shackan Indian Band	5	Shackan First Nation
Shishalh First Nation	Sechelt Indian Band	2	Sechelt First Nation
Shuswap First Nation	Shuswap First Nation	4	Shuswap First Nation
Shxw'ow'hamel First Nation	Ohamil Indian Band	0	Ohamil First Nation
Shxwhá:y Village	-		-
Simpcw First Nation	Simpcw First Nation	6	North Thompson First Nation
Siska First Nation	Siska Indian Band	7	Siska First Nation
Skatin Nations (Skookumchuck)	-		-
Skawahlook First Nation	Skawahlook Indian Band	1	Skawahlook First Nation
Skeetchestn Indian Band	Skeetchestn First Nation	7	Skeetchestn First Nation
Skidegate Band Council	Skidegate Indian Band	4	Skidegate First Nation
Skin Tyee First Nation	-		-
Skowkale First Nation	-		Skowkale First Nation
Skuppah Indian Band	Skuppah Indian Band	9	Skuppah First Nation
Skwah First Nation	-		Skwah First Nation
Snuneymuxw First Nation	-		-
Songhees First Nation	-		-
Soowahlie First Nation	Soowahlie First Nation	1	Soowahlie First Nation

Splatsin First Nation	Spallumcheen First Nation	2	Spallumcheen First Nation
Spuzzum First Nation	Spuzzum First Nation	9	Spuzzum First Nation
Sq'ewlets First Nation	-		Scowlitz First Nation
Squamish Nation	Squamish Indian Band	1	Squamish First Nation
Squiala First Nation	-		-
Stellat'en First Nation	Stellaquo Indian Band	0	Stellaquo First Nation
Sts'ailes	Chehalis First Nation	2	Chehalis Lake First Nation
Stswecem'c Xgat'tem First Nation	Canoe Creek Indian Band	14	Canoe Creek First Nation
Stz'uminus First Nation	Stz'uminus (Chemainus)	3	Chemainus First Nation
Sumas First Nation	Sumas Indian Band	0	Sumas First Nation
T'it'q'et First Nation	T'It'Q'Et Indian Band	12	Lillooet First Nation
T'Sou-ke First Nation	-		-
Tahltan First Nation	Tahltan Band Council	2	Tahltan First Nation
Takla Lake First Nation	Takla Lake Band	2	-
Taku River Tlingit First Nation	Taku River Tlingit First Nation	2	-
Tk'emlups te Secwepe'mc	Tk'emlups Indian Band	31	Kamloops First Nation
Tl'azt'en Nation	Tl'Azt'En Nation	2	-
Tl'esqox First Nation	Toosey Indian Band	7	Toosey First Nation

Tl'etinqox-t'in Government	Anaham Indian Band	14	Anaham First Nation
Tla'amin Nation	Tla'amin Nation	5	Sliammon First Nation
Tla-o-qui-aht First Nations	Tla-O-Qui-Aht First Nations	2	Tla-o-qui-aht First Nation
Tlatlasikwala Nation	Tlatlasikwala Indian Band	2	Tlatlasikwala First Nation
Tlowitsis Tribe	Tlowitis-Mumtagila Indian Band	1	Tlowitsis-Mumtagila First Nation
Tobacco Plains Indian Band	Tobacco Plains Indian Band	5	Tobacco First Nation
Toquaht Nation	Toquaht Indian Band	2	Toquaht First Nation
Ts'il Kaz Koh (Burns Lake) First Nation	-		-
Ts'kw'aylaxw First Nation	Ts'Kw'Aylaxw First Nation	3	Pavilion First Nation
Tsal'ahl First Nation	Seton Lake Indian Band	10	Seton Lake First Nation
Tsartlip First Nation	-		-
Tsawout First Nation	-		-
Tsawwassen First Nation	-		Tsawwassen First Nation
Tsay Keh Dene First Nation	-		-
Tseshaht First Nation	Tseshaht First Nation	0	Tsheshaht First Nation
Tsetsaut/Skii km Lax Ha Nation	-		-
Tseycum First Nation	-		-
Tsleil Waututh Nation	-		-

Tzeachten First Nation	Tzeachten Indian Band	0	Tzeachten First Nation
Uchucklesaht Tribe	Uchucklesaht Nation	5	-
Ulkatcho First Nation	-		-
Union Bar First Nation	Union Bar Indian Band	0	Union Bar First Nation
Upper Nicola Indian Band	Upper Nicola Indian Band	15	Upper Nicola First Nation
Upper Similkameen Indian Band	Upper Similkameen Indian Band	8	Upper Similkameen First Nation
We Wai Kai Nation	Cape Mudge Indian Band	2	Cape Mudge First Nation
Wei Wai Kum First Nation	-		Campbell River First Nation
West Moberly First Nations	-		-
Westbank First Nation	Westbank First Nation	17	Westbank First Nation
Wet'suwet'en First Nation	-		Broman Lake First Nation
Whispering Pines/Clinton Indian Band	Whispering Pines Indian Band	1	Whispering Pines First Nation
Williams Lake Band	Williams Lake Indian Band	10	Williams Lake First Nation
Witset First Nation	Moricetown Indian Band	3	Moricetown First Nation
Wuikinuxv Nation	Wuikinuxv Nation	1	-
Xa'Xtsa First Nation	-		-
Xat'sull First Nation	Xats'ull First Nation (Soda Creek Indian Band)	6	Soda Creek First Nation

Xaxli'p First Nation (Fountain)	Xaxli'P First Nation	24	Xaxli'p First Nation
Xeni Gwet'in First Nations Government	Nemaiah Valley Indian Band	3	Nemaiah First Nation
Xwísten	Bridge River Indian Band	6	Bridge River First Nation
Yakwekwioose First Nation	-		-
Yale First Nation	Yale First Nation	4	Yale First Nation
Yekooche First Nation	-		-
Yunesit'in Government	Stone Indian Band	4	Stone First Nation
Yuulúʔiʔath Government	Ucluelet First Nation	1	Ucluelet First Nation
ʔAkisq'nuk First Nation	Akisqnuk First Nation	6	Columbia Lake First Nation
ʔaq'am	St Marys Indian Band	8	St Mary's First Nation
ʔEsdilagh First Nation	Alexandria Indian Band	3	Alexandria First Nation