

**Power, porous borders and polycentricity: The changing nature of transboundary
water governance**

by

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Bachelor of Social Science, University of Ottawa, 2007

Master of Science, London School of Economics and Political Science, 2009

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Supervisory Committee

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Abstract

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The challenges facing resource management, including transboundary river basins, have become increasingly complex, requiring more holistic readings of governance processes that encompass a range of formal and informal collaborations between diverse actors. Innovation and transformative governance changes hold potential for addressing the increased complexity and multi-scaled nature of the challenges facing the world's shared rivers. However, significant research gaps exist around this application in practice. This dissertation asks the following questions: Is governance of transboundary waters changing to integrate a more diverse set of actors beyond centralized governments? If so, what is the role of non-central state actors in contributing to innovations and transformative changes to transboundary water governance processes? In working towards answering these questions, the study explores the case of the Columbia River Treaty (North America) and the Lesotho Highlands Water Project (Southern Africa). This study has the following objectives: first, to determine the type of power, albeit conceived from a Euro-western perspective, that non-central state actors mobilize to engage in transboundary water governance processes, and assess if the power these actors mobilize is contributing to changes in governance. Second, to conceptualize the on-going bordering processes for transboundary water governance, and evaluate whether non-central state actors are shaping these processes. And, third, to identify which non-central state actors are involved in transboundary water governance, and examine whether and how these governance systems are becoming more polycentric. This dissertation is composed of five chapters,

three of which have been prepared as standalone articles for submission to academic journals. Broadly, the dissertation findings suggest that changes to governance of transboundary waters, away from state-centric processes, may be emerging in some areas, such as the ability of non-central state actors to exercise and mobilize different forms of power to shape water governance processes. Findings illustrate that a clear distinction between international and national processes is no longer sufficient to address transboundary water governance challenges and issues. Further, findings illustrate that some non-central state actors have power and influence in these transboundary water governance processes. However, these insights also highlight that centralized government authority for transboundary waters remains, and evidence of the emergence of polycentric governance systems at the international scale is limited.

Table of Contents

Supervisory Committee	ii
Abstract	iii
Table of Contents.....	v
List of Tables	viii
List of Figures	ix
List of Acronyms	x
Acknowledgements	xii
Dedication.....	xv
Chapter 1 – Introduction and Overview.....	1
1.1 Introduction.....	1
1.2 Introducing the issues	3
1.2.1 Water Governance	3
1.3 Theoretical Underpinnings	7
1.3.1 Power	7
1.3.2 Borders	10
1.3.3 Polycentric Governance.....	11
1.4 The Research Question and Objectives.....	13
1.4.1 Case study selection: conceptual and practical advantages	14
1.4.2 Case Study Descriptions	16
1.5 The Research Process.....	21
1.5.1 Grounded theory methodology.....	21
1.5.2 Data Collection	26
1.5.3 Data analysis.....	28
1.6 Positionality, Funding, and Potential Research Bias.....	30
1.6.1 Positionality.....	30
1.6.2 Funding.....	32
1.6.3 Potential research bias	33
1.7 Overview of dissertation	34
1.8 Summary	34
1.9 Literature Cited.....	36
Chapter 2 – Getting to ecosystem-based function: Exploring the power to influence Columbia River Treaty modernization towards ecosystem considerations.....	49
2.1 Introduction.....	50

2.2 Context: A history of the Columbia River.....	53
2.3 Methods	55
2.4 Power	56
2.5 Getting to ecosystem-based function: Influencing Columbia River Treaty modernization.....	59
2.5.1 Shifts in the legal landscape: Evolution of institutional power.....	59
2.5.2 Evolving societal values.....	61
2.5.3 Issue framing.....	63
2.5.4 Transboundary collaboration	65
2.6 Discussion.....	67
2.7 Conclusion	69
2.8 Literature Cited.....	71
Chapter 3 – Whose Border? Contested geographies and Columbia River Treaty modernization.....	78
3.1 Introduction.....	79
3.1.2 A brief history of colonial bordering processes.....	82
3.2 Borders as more than lines on maps.....	84
3.2.1 The Columbia River Treaty (CRT).....	85
3.3 Methods	87
3.4 Results.....	89
3.4.1 Seeing the river as shared between two nations only and reaffirmation of state- centric discourses.....	89
3.4.2 Legal obligations and Indigenous involvement in CRT modernization	91
3.4.3 Governance structures: Advisory committee and Indigenous nations at the negotiation table.....	93
3.5 Discussion.....	95
3.5.1 A new framework.....	97
3.6 Conclusion	99
3.7 Literature Cited.....	101
Chapter 4 – Polycentricity of international river basins: application to the Columbia River Treaty and Lesotho Highlands Water Project	107
4.1 Introduction.....	107
4.2 Introduction to polycentric governance systems.....	110
4.2.1 Advantages and limitations.....	111
4.3 Methods and case selection.....	113
4.3.1 Case study background	115
4.3.2 Data collection and analysis.....	118
4.4 Exploring emergence of polycentricity in governance of transboundary waters	119

4.4.1 “Stickiness” of authority arrangements.....	119
4.4.2 Existing and emerging flexibility	123
4.4.3 Coordination and novel collaboration of local activities.....	125
4.4.4 Information sharing across scales	128
4.5 Discussion	130
4.6 Conclusions	132
4.7 Literature Cited.....	134
Chapter 5 – Synthesis and Conclusion	144
5.1 Synthesis	144
5.1.1 Research Objectives	145
5.2 Insights and Implications.....	147
5.2.1 Power	148
5.2.2 Borders.....	152
5.2.3 Polycentricity.....	153
5.2.4 Practical and Policy Insights	155
5.2.5 Methodological Insights	158
5.3 Limitations and future research.....	160
5.3.1 Limitations	160
5.3.2 Future Research	162
5.4 Contribution and Conclusion	164
5.5 Literature Cited.....	167
Appendices	173
Appendix A – University of Victoria Human Research Ethics Approval.....	173
.....	173
Appendix B – List of workshops, conferences, and events on Columbia River Treaty modernization attended by principal author.....	174

List of Tables

Table 1: Strategies used by constructivist grounded theorists.....	23
Table 2: Case selection factors.....	114

List of Figures

Figure 1. Map of the Columbia River basin.....	17
Figure 2. Map of the Orange-Senqu River basin.....	20
Figure 3. Map of the Columbia River basin.....	86
Figure 4. Map of the Columbia River basin.....	116
Figure 5. Map of the Orange-Senqu River basin.....	117

List of Acronyms

BIG – Borders in Globalization
BPA – Bonneville Power Administration
CAPI – Centre for Asia-Pacific Initiatives
CBT – Columbia Basin Trust
CBRAC – Columbia Basin Regional Advisory Committee
CCRIFC – Canadian Columbia River Intertribal Fisheries Commission
CfGS – Centre for Global Studies
CMA – Catchment Management Agency
CRITFC – Columbia River Inter-Tribal Fish Commission
CRT – Columbia River Treaty
IJC – International Joint Commission
LGC – Local Governments Committee
LHDA – Lesotho Highlands Development Authority
LHWC – Lesotho Highlands Water Commission
LHWP – Lesotho Highlands Water Project
NAFTA – North American Free Trade Agreement
NGO – Non-governmental Organization
NPCC – Northwest Power and Conservation Council
ORASECOM – Orange-Senqu River Commission
PEB – Permanent Engineering Board
SADC – Southern Africa Development Community
SSHRC – Social Sciences and Humanities Research Council
SOF – Stakeholder Operating Forum
TCTA – Trans-Caledon Tunnel Authority
UNDRIP – United Nations Declaration on the Rights of Indigenous Peoples
UCUT – Upper Columbia United Tribes
USACE – United States Army Corps of Engineers
WEPGN – Water Economics, Policy and Governance Network
WUA – Water User Association

WUPs – Water Use Plans

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Dedication

To my parents, John and Linda Baltutis. Thank you for always being there to encourage, support, and believe in me.

Chapter 1 – Introduction and Overview

1.1 Introduction

Recent scholarly attention has been paid to more holistic readings of governance processes that encompass a range of formal and informal collaborations between actors and organizations at multiple levels. These include city networks engaged in global environmental governance (Bulkeley and Betsill 2003, Acuto 2010, Bouteligier 2013, Bulkeley and Broto 2013), Indigenous nations and transboundary water governance (Norman 2015, Norman and Bakker 2009, 2017), and private actors involved in global regulation (Djelic and Sahlin-Andersson 2006, Mattli and Wood 2009). Collectively, this literature points to an important and increasingly relevant role for non-central state actors¹ in international political arenas, from addressing climate change, to playing an active role in the governance of transboundary rivers.

Scholars have also noted the increasingly complex² social-ecological challenges to the sustainable governance of the world's transboundary freshwater resources (Pahl-Wostl et al. 2010, Vorosmarty et al. 2010, Akamani and Wilson 2011, Armitage et al. 2015). In response, there is growing consensus that changes are needed in how we govern freshwater resources between and across borders to include a wider diversity of interests and actors in decision-making processes beyond centralized governance regimes and state-based actors (Biswas and Tortajada 2010, Myint 2012, Chen et al. 2013, Norman and Bakker 2017).

¹ I use the term 'non-central state actor' to refer at a very general level to community-based organizations, municipal/regional governments, watershed authorities/boards, private sector actors, and interest groups whose activities are spatially defined in relation to the river basins of focus in this research. I also refer to Indigenous nations (First Nations in Canada, and Tribes in the U.S.) and Indigenous-led organizations working on specific issues related to water governance and management.

² Complexity here refers to complex systems that are "nonlinear, emergent, uncertain and self-organizing" (Moore & Westley 2011, p. 2), whereby parts of the system are independent and interacting, and variation is constantly being added to the system (Walker and Salt 2012).

Some scholars specifically call for changes that are not mere “tweaks” but transformative changes, referred to as governance innovations, in order to promote equity, sustainability, and “build capacity for learning and adaptation that will help meet current and future challenges” (Rubenstein et al. 2016, p. 82, see also Endter-Wada et al. 2009). Governance innovations or transformative change will be used interchangeably in this dissertation, and I refer to these terms as “governance arrangements in which changes have been made to the sites of authority, how financial resources flow, and the norms, beliefs or knowledge base” (Moore and Tjornbo 2012, p. 1). Transformations in governance systems include an expanding role of non-central state actors with the ability to shape a system to introduce “social, political, economic and behaviour change” (Moore et al. 2014, p. 264). Though the state still retains an important role, innovations in governance systems can include changes in authority regarding management and environmental protection that is “reassigned to hybrid, polycentric, problem-solving institutional constellations” (Karkkainen 2004, p. 75-76). Therefore, questions arise regarding the expanding role of non-central state actors in contributing to governance innovations for transboundary waters, which becomes the focus of this exploratory research, as I will discuss in more detail below.

This introductory chapter develops a roadmap of the thinking that led to and guided this research through: 1) providing a review of the literature on the changing context of water governance for transboundary rivers to understand the problem the research project will focus on, as well as the literature on polycentric governance systems, border scholarship, and conceptions of power that have provided a lens for the research, 2) introducing the central question and goals of the research, 3) justifying case selection and describing the context of the Columbia River basin and the Orange-Senqu River basin to orientate the reader, 4) providing an overview of the research process, 5) and finally, an overview of the empirical chapters of the thesis.

1.2 Introducing the issues

Interrelated issues emerged from a review of the scholarship on transboundary water governance that suggested a gap in empirical research and a need for this study: the expanding role of non-central state actors in contributing to innovations in governance processes for transboundary freshwater resources.

1.2.1 Water Governance

Simply put, water governance is broadly understood “to consist of all the decision-making processes through which water is managed” (de Loe and Kreutzwiser 2007, p. 87), and includes governments at multiple levels, local authorities, private sector and civil society actors in decision making processes that cover a range of issues connected to water use (e.g. power production, agriculture, industry and mining, urban demand) (Kranz and Vorwerk 2007). Transboundary water governance includes those processes and institutions³ established to make decisions, contribute to policy development and implementation, and provide for distribution of waters that flow between two or more countries (Pahl-Wostl et al. 2008). In recent history, transboundary water governance processes have been restricted to participation by state actors within state-centric frameworks primarily (Linton and Brooks 2011). These state-based processes have explicitly marginalized certain groups, including Indigenous nations who have traditional territory in many cross border basins and who have their own longstanding laws, governance arrangements, and traditions in these watersheds that have been entirely ignored in the creation of these transboundary processes. Indigenous nations – and others such as local communities, individuals, and organizations - are often the most impacted by these decisions but have historically been excluded from participating in formal governance processes (Earle and Neil 2017; Norman and Bakker 2017).

³ I understand institutions as “the humanly devised constraints that structure political, economic and social interactions. They consist of both informal constraints (sanctions, taboos, customs, traditions, and codes of conduct) and formal rules (constitutions, laws, property rights)” (North 1991, p. 97).

Water scholars have identified a number of shortcomings with traditional state-centric frameworks to cope with increasing and cumulative pressure and impacts on the world's rivers (Conca 2006). These include:

- in many basins, the systematic exclusion of Indigenous nations within decision making processes (Norman and Bakker 2017);
- challenges to adequately address the “increasingly complex web of institutions and interactions” involved in aspects of resource management (i.e. fisheries) found within shared basins (Blatter and Ingram 2000, p. 441, Reed and Bruyneel 2010, Akamani and Wilson 2011);
- often failing to provide the institutions for “good governance”⁴ of shared rivers (Blatter and Ingram 2000, p. 441);
- neglecting the scalar configurations of environmental challenges and how these are “created, constructed, regulated and contested between, across and among scales” (Bulkeley 2005, p. 876); and,
- lacking collaboration and adaptability required to effectively govern complex socio-ecological systems (Akamani and Wilson 2011).

Some of the most prevalent and complex types of challenges facing transboundary water governance include:

- water quality and quantity impacts from human activities (i.e. industrial pollution, agricultural runoff and the increasing rate of eutrophication in some shared bodies of freshwater);
- environmental and social consequences from infrastructure development (including flooded lands that support communities and economies, and forced displacement of livelihoods);

⁴ Successful water governance depends on characteristics commonly ascribed to “good governance”, including “accountability, transparency, legitimacy, public participation, justice, efficiency, the rule of law, and an absence of corruption” (Pahl-Wostl et al. 2008, p. 423).

- a changing climate that has impacts on the hydrological cycle and timing of water withdrawal and water-related services (i.e. increased electricity demand in warm temperatures);
- challenges related to fit between governance institutions and social-ecological systems; and,
- balancing trade offs between human-related activities (e.g. power production, transportation, agricultural activities) to maximize a narrow set of interests balanced with ecosystem health and function (Dore et al. 2012, Dellapenna 2013, Schmeier 2013, Epstein et al. 2015).

Given these recognized shortcomings and water-related challenges, attention is being placed on the need to shift from existing governance frameworks focused solely on a narrow set of interests and actors to emphasize innovation and transformative change in governance systems (Moore et al. 2014, Berkes 2017, Pahl-Wostl 2017). It is posited that innovations and transformative change to governance processes could introduce a diversity of non-central state actors in decision-making structures to address uncertainty and complexity inherent to transboundary waters, which would contribute to enhancing the social-ecological resilience of the system (Akamani and Wilson 2011, Suhardiman and Giordano 2012, Berkes 2017). Shifts from a state-based approach also allows for the partial de-coupling of water and state (which from a 'regime approach' is bounded and territorialized) (Conca 2006, Norman and Bakker 2009), and opens up notions of governance of transboundary basins as a "lived in social space" that is culturally, politically, spiritually, and socially diverse (Kranz and Mostert 2010, Jacobs 2012a, p. 189). Despite calls for shifts in governance, scholarship recognizes state actors still play an important role in water governance processes (Pahl-Wostl 2009, Mirumachi and van Wyk 2010, Brown 2015). This role includes creating the conditions through which an overarching set of rules can guide the actions of diverse actors, provide dispute resolution mechanisms, assist in shifting governance to different scales, enforce regulatory and allocation rules, and impose fines (Scholte 2005, Norman and Bakker 2009, Reed and Brunyeel 2010, Holley and Shearing 2017).

To explore whether and how non-central state actors might be contributing to change in transboundary water governance, this dissertation explores two transboundary river basins, namely, the Columbia River and the Orange-Senqu River basins (see rationale for these cases below). Existing evidence suggests windows of opportunity exist in each case where non-central state actors might have an opportunity to mobilize and contribute to governance changes. The outcomes of these processes, and whether and how they might be leading to innovation and transformative change for the governance systems in the two basins is still uncertain.

Despite the growing interest in moving from state-based systems of governance, and existing evidence that non-central state actors are increasingly playing a role in transboundary water governance, questions remain. First, despite some evidence of the emerging roles of non-central state actors, there are also critiques that centralized governments often do not devolve sufficient authority or resources to build capacity to engage in governance processes to these actors. Without sufficiently devolved or decentralized authority, the extent to which a system truly shifts or changes away from state-based institutional structures is questionable. An analysis of what forms of power are present and being mobilized by these actors in transboundary water governance systems is needed to understand the emergent role these actors have in policy formation and decision-making processes. Therefore, in chapter two I have analyzed the forms of power that non-central state actors possess using a framework from Barnett and Duvall (2005). I apply this framework of power to an analysis of the role of non-central state actors in Columbia River Treaty (CRT) modernization to include ecosystem considerations as a key feature of a modernized Treaty.

Second, state-centric governance processes for transboundary waters are defined primarily by nation-state boundaries and territories. Yet, Indigenous nations are reasserting autonomy and self-determination over their traditional territory, some of which is bifurcated by the international border between Canada and the U.S. Further, there is increasing attention to the legal rights of Indigenous nations to be meaningfully engaged

as full partners in resource management issues in both Canada and the U.S. Given these inter-linked issues, it is unclear if moving away from state-centric processes to include other actors, including Indigenous nations as a level of government, has implications for colonially imposed borders and transboundary water governance processes. Thus, in chapter three I examine the links between contemporary bordering processes, Indigenous traditional territories in the Columbia River basin, and transboundary water governance processes using the case of the Columbia River Treaty modernization process.

Third, with growing awareness of the limits of state-based governance of the world's rivers, polycentric governance systems provide one option for shifting to a system that emphasizes sharing of responsibilities and authority between different state and non-central state actors. Given that non-central state actors are increasingly important to transboundary water governance, shifts towards polycentric governance systems may be particularly fitting. Thus, I examine whether and how governance systems are becoming more polycentric for the Columbia River and the Orange-Senqu River. I use a specific point of focus in each case to explore these issues, namely the Columbia River Treaty (CRT) and the Lesotho Highlands Water Project (LHWP).

To seek insight into whether non-central state actors contribute to innovation and transformative change in governance systems, this study draws on diverse literatures on power, borders, and polycentric governance systems as referenced above. This scholarship has been covered extensively in each empirical chapter of this dissertation, and the following section will provide an abbreviated overview of each in turn.

1.3 Theoretical Underpinnings

1.3.1 Power

When attempting to explore whether others beyond state-based actors – specifically Indigenous nations and local actors - influence and engage in changing transboundary water governance, it is essential to understand the dynamics of power (Matthews 1997, Betsill and Corell 2008). Theories on power highlight different types of power exist, and

understanding these warrants further analysis to inform more socially and ecologically integrated approaches to governance (Moore and Tjornbo 2012, Boonstra 2016), including for water. As Foucault (2007, p. 17) suggests, analyses of power focus on “where and how, between whom, between what points, according to what processes, and with what effects, power is applied”. This perspective of power engages a deeper conversation regarding the practices and functions of power beyond a form of sovereign state power over a defined territory. A consideration of the practices of different types of power of Indigenous nations might result in new configurations of power relations between Indigenous peoples and state authorities (Tennberg 2010).

Scholars posit that to achieve socially and ecologically integrated approaches to water, emphasis must be placed on improved understanding of system dynamics through multi level and integrated processes (Folke et al. 2005). And, such processes include the “sharing of rights, responsibilities, and power between different levels and sectors of government and civil society” (Huitema et al. 2009, p. 1). As transformations in governance occur, power and authority is redistributed among new actors (Moore and Tjornbo 2012) who bring with them a diversity of knowledges and interests not necessarily aligned to existing institutions and organizations. Understanding who else possesses power beyond state-based actors and organizations, and the types of power involved, has advantages for understanding changes to water governance. Theories on power help reveal how other actors affect changes to water governance beyond a narrow set of state-based interests and actors. It also helps explain the emerging role of non-central state actors and their means of accessing power to create more socially and ecologically integrated approaches to transboundary water governance. This is an area in which literature from studies of political science and global governance can offer theoretical insight (see Bachrach and Baratz 1962, Arts 2003, Barnett and Duvall 2005, Hayward and Lukes 2008).

Barnett and Duvall (2005, p. 3) contend that power can be expressed as four interrelated yet distinct forms: compulsory (direct control over another), institutional (actors control over others in indirect ways), structural (direct and mutual constitution of the capacities of actors), and productive (socially diffused production of subjectivity in systems of meaning

and signification). Given the complexity of governance in practice, distinctions between the different types of power under Barnett and Duvall's typology are often analytical in nature, yet empirically interdependent.

But by giving consideration to these multiple forms of power, it is possible that local actors and Indigenous nations may exert different types of power to engage or participate in transboundary water governance processes as well. Understanding whether any or all of these forms are held by, and mobilized by local actors and Indigenous nations, along with the origins or sources of this power can illuminate the ways in which local actors and Indigenous nations engage in practices that shape transformations in governance processes for transboundary rivers. Barnett and Duvall (2005) explicitly favour a consideration of power and the co-constitutive nature of structures and processes *most relevant* to Euro-Western notions of power and international relations. In doing so, their framework arguably omits explicit considerations of Indigenous conceptions of power in relation to sovereignty. Yet, I contend that the framework of power from Barnett and Duvall is still useful to consider how, from one perspective, local actors and Indigenous nations are influencing Euro-Western state-based systems of governance (not vice versa), and achieves the goal of diversifying understandings of power. Exploring the history of relations between Indigenous nations and colonial powers broadens the understanding of how Indigenous nations have fought to have their voices counted and heard in dialogue with colonial governments regarding transboundary water governance. Arguably, the consideration of Indigenous power within these structures and relational processes continues to reinforce the idea of Indigenous power only being exerted in these spaces that have been created and controlled by colonial governments, when the ongoing struggle for sovereignty and governance transformation would require more than just "fitting into" colonial systems. That is, these state-based structures through which transboundary water governance occurs have been shaped, organized, and continue to conform to the interests of colonial/settler objectives (Alfred 2005). Considering the exertion of power in only these contexts then will continue to have limitations regarding how much it can inform true transformation of the governance system.

1.3.2 Borders

Since the formalization of the modern nation-state system with the Peace of Westphalia in 1648, international borders between sovereign nation-states have been a result of social and political processes, and have undergone changes that result in borders being redrawn (Newman 2003, Brunet-Jailly 2007). To illustrate the changing nature of international borders, one can look to the sharp increase in member states to the United Nations from its inception with 51 states in 1945 to 193 by 2017. As empires collapse (USSR, Yugoslavia), and old state borders relocate (Germany), bifurcate into new states (South Sudan), or are annexed into existing states (Crimea), borders change (Anderson and O'Dowd 1999). From this perspective, borders are neither inherent nor static; they are social, political, and discursive constructs, which act to produce and institutionalize "territory and territoriality" (Newman and Paasi 1998, p. 187, Singleton 2008). Borders can also be seen to represent an oversimplification of complex geographies between diverse political and cultural groups (Anderson and O'Dowd 1999). In essence, borders are no longer understood merely as naturalized and static delimitations of territoriality of nation-states but as "dynamic social processes" (Brambilla 2015, p. 15).

As meanings and perspectives of borders are contested or are redefined by contemporary global changes, recognitions of historical injustices, cultural and political initiatives of Indigenous groups, and shifts in power of different actors, one is challenged, then, to "unbound our thinking and practices" about the border as more than simply an object or material artefact, but as a belief or imagination creating a social reality (van Houtum et al. 2005, p. 3). Such considerations leads to questions regarding on-going processes of bordering – including renegotiation of international treaties between nation-states – and the role of Indigenous nations within these processes of bordering, whose traditional territories are bifurcated by borders of nation-states.

Questions remain regarding the role of non-central state actors, and specifically, Indigenous nations, in transboundary water governance processes to contest through political, cultural, spiritual practices and try to shape these on-going state-based bordering processes. Therefore, I use scholarship on borders as a lens to analyze the CRT

modernization process and the potential role Indigenous nations have in shaping renegotiation and implementation of this treaty. This case illuminates the emergence of multiple borders and multiple nations, and the potential changing nature of the social, cultural, and political construct of international borders as described by the literature. This analysis has implications for on-going and future negotiation and implementation of treaties for transboundary waters and the role of Indigenous nations in shaping changes to governance processes, as well as informing scholarship on the socially constructed and contested nature of international borders.

1.3.3 Polycentric Governance

Literature on polycentric governance provides a theoretical lens for how both private and public actors at multiple levels engaging in various aspects of governance and management (Scholte 2005, Pahl-Wostl et al. 2012, Carlisle and Gruby 2017, Morrison 2017, Morrison et al. 2017). Polycentricity is one form of governance that holds promise for integrating actors across multiple scales to enable shifts in authority and power from a state-based and ‘monocentric’ system of governance to one where multiple non-central state actors engage in governance functions (Andersson and Ostrom 2008, Huitema et al. 2009). Yet, scholars note that systems are rarely ‘monocentric’ in practice (Skelcher 2005), and polycentric systems can best be presented in degrees (e.g. of authority and/or coordination) (Carlisle and Gruby 2017). It is argued water management and governance will necessarily need to be multilevel and integrated (Pahl-Wostl et al. 2010, OECD 2011). Given that non-central state actors are already emerging as important to transboundary water governance, this movement towards multilevel and integrated forms of governance seems particularly fitting.

Polycentricity is also increasingly used to describe the collaborative and non-exclusive approaches to governance of linked human and natural systems, called complex social-ecological systems (Ostrom 1990, Berkes et al. 2003, Huitema et al. 2009, Pahl-Wostl 2009, Walker and Salt 2012). Polycentric governance systems involves dispersed governing authority to separate and formally independent bodies or governing units with overlapping jurisdictions that do not stand in hierarchical relationships to each other (Huitema et al.

2009, Ostrom 2009, Myint 2012). These ‘units’ can be organized geographically where they have an independent domain of authority, and linked horizontally on common issues with other independent units, while being nested within broader governance units vertically (Biggs et al. 2012, p. 437). The theory of polycentricity “allows analysts to treat the power of local citizens, local communities and industries... as a legitimate source of institutional transformation” (Myint 2012, p. 22). Institutional transformation, adaptation and learning through experimentation with diverse rules for use of a resource, as well as broader levels of participation are important traits of polycentric governance as well as central to discussions of resilience⁵ (Andersson and Ostrom 2008, Ostrom 2009, Biggs et al. 2012, Walker and Salt 2012). Scholars have argued polycentric governance systems can be well suited to respond to the growing number of complex and uncertain social-ecological issues emerging in river basins (Armitage 2008, Berkes 2010, Cosens 2010).⁶

Yet, despite the promise of polycentric governance systems in theory, scholars have indicated a number of challenges and critiques. These include: asymmetric power distribution between actors in a system (Biggs et al. 2012); a need to balance redundancy in the system with the reality of costs incurred by coordinating, consulting, and negotiating trade-offs between different interests and actors (Mostert 2012, Simonsen et al 2014); and, limited empirical evidence of the flexibility of polycentric systems compared to centralized and hierarchically organized systems (Huitema et al. 2009, Morrison 2017).

Considering the challenges and critiques mentioned, questions remain regarding the emergence of polycentric governance for transboundary rivers, including what counts as subsidiarity and in turn, polycentric authority, and how this is upheld across scales in transboundary basins with historically centralized institutional structures. Therefore, I use

⁵ At its most basic, resilience refers to “the ability of a system to absorb disturbance and still retain its basic function and structure” (Walker and Salt 2006, p. 1). This is generally a positive characteristic of a system, given the harmful impacts of complete system collapse, or change to an unwanted system (e.g. grassland change to desert conditions). An analytical focus of resilience theory has been on understanding processes of change and surprise, the capacity for renewal, re-organization and development within a system, and the capacity of individuals and organizations to learn and adapt to changing environments (Folke 2006, Duit et al. 2010, Tyler and Moench 2012).

⁶ A ‘watershed’, ‘river basin’, and ‘catchment’ are synonymous terms according to Wolf (2007, p. 245) and Cohen and Davidson (2011, p. 1). Yet this is contested by others, who define a watershed as a smaller spatial unit of analysis than the river basin, which is constituted by multiple watersheds (e.g. Milwaukee Riverkeeper, n.d.). For this dissertation, I will use the terms synonymously.

polycentric governance literature as a lens to examine evidence of whether and how state-centric governance are transforming towards this form of governance for a modernized CRT, and if authority and subsidiarity is dispersed to non-central state actors in the basin. I look farther afield to the Lesotho Highlands Water Project to test emerging theories on the role of non-central state actors in contributing to governance innovation and transformation towards a polycentric governance system. Elaboration on case study selection rationale is provided further on in this chapter.

Ultimately, exploring the questions outlined above regarding power, borders, and emerging forms of polycentric governance can help to advance understandings about whether and how non-central state actors are contributing to innovation and transformative changes to state-centric governance processes for transboundary waters. The next section outlines the research question and research objectives that emerged from an analysis of the literature, and which establishes the focus for each of the empirical chapters of the dissertation. Following this, I will discuss the methods and case selection criteria.

1.4 The Research Question and Objectives

This dissertation offers in-depth analysis of empirical evidence from the Columbia River and Orange-Senqu River basins for further theoretical development regarding whether and how non-central state actors are contributing to innovation and transformative changes to state-centric governance processes for transboundary waters. In doing so, this dissertation is guided by the following overarching question:

How are non-central state actors contributing to changes in transboundary water governance to integrate a more diverse set of actors beyond centralized governments?

In working towards answering this research question, the study has the following objectives:

- Determine the type of power that non-central state actors mobilize if engaging in transboundary water governance processes and assess if the power these actors mobilize are contributing to changes in governance;
- Conceptualize the ongoing bordering processes for transboundary water governance, and evaluate whether non-central state actors have shaped these; and,
- Identify which non-central state actors are involved in transboundary water governance, and examine whether and how these governance systems are becoming more polycentric.

1.4.1 Case study selection: conceptual and practical advantages

Methodological considerations for case selection include abiding by small-n case analysis (single or few cases), in which to generate a deeper understanding of each particular case (Blatter and Haverland 2012). The cases selected to explore the research questions are the Columbia River basin in the Pacific Northwest, with a second case of the LHWP used to provide further empirical grounding and theory saturation regarding the emergence of polycentricity in governance processes for transboundary rivers. The two cases share important conceptual and practical advantages for in-depth research, which I will discuss in turn.

Conceptual Advantages

The CRT and LHWP are illuminating cases to explore changes in transboundary water governance processes, and for what they can potentially expose about how we need to think differently about governance of transboundary waters in the future. Given that the initial study was designed to explore the role of non-central state actors, these two case studies were purposively selected (Seawright and Gerring 2008) for what it was expected they would contribute to an overall understanding of non-central state actor involvement in transboundary water governance. In this study, cases were not used to compare or contrast one another, so criteria were not based simply on extremely similar or polar opposite attributes, such as hydrological similarities. Instead, a number of criteria were used to select cases:

1) Cases were recognized as “textbook examples” of successful forms of transboundary water governance previously (albeit with success narrowly defined from colonial perspectives, and ignoring the oppression of Indigenous peoples), and therefore were expected to be most likely to continue to be at the forefront of changes to governance that respond to and consider complex social-ecological challenges faced in transboundary water governance today;

2) Some pre-existing evidence indicated the presence of non-central state actors engaging in water governance processes (Norman and Bakker 2005, Meissner 2015, Paisley et al. 2015) and were therefore expected to shed light on whether and how non-central state actors might be contributing to changes in transboundary water governance processes;

3) Engagement in water governance is politically possible across the two basins. Canada and the U.S. have strong civil society rights, protections, and freedom of speech. The transition to democratic political systems in South Africa and Lesotho (compared to when the LHWP Treaty was signed in 1986) has provided greater space for non-central state actors and civil society groups to voice critical opinions and engage in political processes. Therefore, the cases were expected to be instances where engagement of non-central state actors was politically possible; and,

4) Both cases are undergoing processes of change, which provide for a focus for non-central state actor mobilization and potential policy windows for governance change, especially given the contentiousness of dam development and displacement of communities experienced in both basins (historically and contemporarily). The CRT has undergone a review by the Province of B.C. Ministry of Energy and Mines and the U.S. Sovereign Review Team, whereby non-central state actors have engaged in this review process to voice their perspectives on what a modernized CRT should include. In Southern Africa, Phase 2 of the LHWP is being constructed in Lesotho, suggesting a possible point of focus for non-central state actors in Lesotho and South Africa to mobilize to try and shape elements of this transboundary water issue. Therefore, both cases were expected to provide opportunities to identify points of analysis in which non-central state actors contribute to changes in transboundary water governance processes.

Given the inductive approach used and the emergence of other issues that were not foreseen at the start of the research, discussions of power and the role and influence of Indigenous nations to mobilize and exert power, as well as the contested nature of the nation-state border as the only border that matters in governance, broadened the theoretical focus of the project. The LHWP case remained an illuminating case to explore if and how non-central state actors might be contributing to change for transboundary water governance, using the lens of polycentric governance as one form to help understand possible change. However, through the inductive research, coding, and emergence of themes on power and borders, the analysis revealed the most relevant and illuminating case in which to understand change was to explore issues of power and influence of Indigenous nations and the social and political construction of borders.⁷ The result is that the theoretical concepts in chapters two and three rely entirely on the Columbia River data, and therefore I made the decision to focus in on more detailed data from just the one case, while leaving the data from the LHWP for chapter four on polycentric governance.

1.4.2 Case Study Descriptions

Columbia River basin

From its origins in Columbia Lake near Canal Flats, B.C., the Columbia River travels approximately 2000 kilometers to its mouth on the Pacific Ocean, Near Astoria, Oregon.

The entire basin covers 672,000 km² within the Canadian province of British Columbia and seven U.S. states (Idaho, Oregon, Washington, Montana, Nevada, Utah and Wyoming)

⁷ Despite the parallels and high relevance in post-Apartheid South Africa, the issue of Indigenous people engaging in transboundary water governance processes did not explicitly emerge in the dataset from the Orange-Senqu. While that result in itself is interesting, I chose not to focus on a detailed discussion on the different colonial histories and concepts of Indigeneity that exist in both Southern Africa and North America, recognizing that it would not be well supported by the voices of the participants in the study (i.e. the empirical basis of the research). Part of this difference lies in the understanding and definition of "Indigenous." According to the UN, "Indigenous" broadly applies to peoples "[p]ractic[ing] unique traditions...[and] retain social, cultural, economic and political characteristics that are distinct from those of the dominant societies in which they live" (U.N. Permanent Forum on Indigenous Issues n.d.). This definition also includes basic criteria of Indigeneity—including self-identification, being a non-dominant culture that is often under threat or possible extinction, and historical experience as a colonized people (see: U.N. Division for Social Policy and Development Indigenous Peoples n.d.). While these criteria apply very clearly to Indigenous peoples in North America—and an explicit focus on Indigenous issues is a clear aspect of water governance discussions—they are less immediately relatable to the South African context. In legal discourse in South Africa, the majority black African population, though understood as being "Indigenous," forms the dominant sector of society (Mukundi 2009). Research participants did not self-identify as "Indigenous," nor did they frame transboundary water issues in terms of Indigenous rights and governance issues. It is important to note that the San peoples do self-identify as the 'first nation' of southern Africa, and remain in a subordinate and marginalized position (Mukundi 2009). However, this research and study area did not take place in San territories.

(Cosens and Williams 2012). Throughout its course from the headwaters in B.C. to its discharge into the Pacific, the Columbia's route is characterized by significant elevation differences, making it ideal for hydropower generation (Yu 2008, p. 28). Situated along the vast length of the mainstem of the river are 14 large multi-use dams (Northwest Power and Conservation Council n.d.) and many smaller hydropower dams, which provide critical base load power (upwards of 55 percent of the Pacific Northwest region's electricity) (Northwest Power and Conservation Council n.d.), and 49 percent of B.C. Hydro's total capacity (B.C. Hydro 2015).

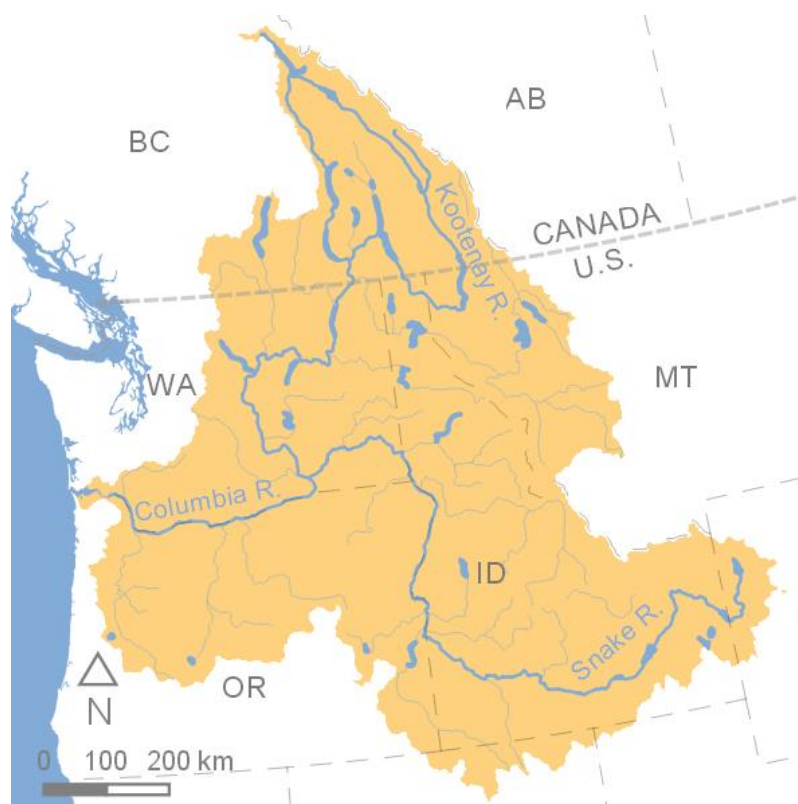


Figure 1. Map of the Columbia River basin. Source: Hailey Eckstrand 2018

The Columbia River basin offers a North American experience on transboundary water governance, which goes back over 100 years with the Boundary Waters Acts (1909) and formation of the International Joint Commission (1912). The CRT has governed the Columbia River since 1964, and went through a review process by the Province of B.C. in the Canadian basin, and the Sovereign Review Team in the U.S. basin from approximately 2011-2013 (Bankes and Cosens 2014). The Treaty was negotiated between the Canadian

and U.S. governments. But, a 1963 agreement between the Province of British Columbia (BC) and the Government of Canada gave most of the rights, obligations and benefits of the CRT to BC (Cosens and Williams 2012).

Since the CRT was ratified in 1964, the governance landscape at the provincial and federal level has changed, becoming increasingly complex. For example, numerous social and ecological issues have emerged since (Bankes and Cosens 2014), with a constellation of Indigenous nations and local actors becoming central participants in river management planning on both sides of the border (Vogel 2012). Cosens and Williams (2012, p. 4-5) outline important sources of change in the basin, including: changes in values placed on the river, changes in empowerment of local communities and Indigenous governments, deteriorated ecological systems (including salmon populations), a changing climate, changing energy demands, and increasing population in the region. Further, a number of salient issues that were explicitly ignored or were not yet common understanding in the original Treaty are contributing to the need for a more complex, adaptable and collaborative governance framework, including ecological considerations, changes to hydrology associated with a changing climate, and the role of non-central state actors in governance mechanisms for transboundary waters (McCaffery et al. 2012).

Some scholars have expressed, “there are more interests at stake than just two nations, and the river is more than just a giant power stream” (Hirt and Sowards 2012, p. 130). Though this framing of the current situation may illustrate a change in colonial/settler perspectives, it is also important to acknowledge the history of the governance of the Columbia River is one where the interests, rights and roles of Indigenous peoples were systematically excluded from all decision-making processes regarding the industrial development of the river (Paisley et al. 2015), and where the effects of colonialism continue to affect Indigenous peoples ways of life (Simpson 2014). These modern day development initiatives and governance frameworks ignored the fact that Indigenous nations have been governing their traditional lands and waters since time immemorial (Borrows 2002). Since the CRT was signed in the 1960s, Indigenous nations have fought long and hard to have their voices considered in the on-going CRT review process, and this needs to be

considered as more than just their “interests at stake” given their rights, title, and sovereignty. It is recognized that future planning and governance in the basin will need to meet a broader and more complex set of values, and align diverse economic, political, social, and cultural agendas within ecological limits, beyond what a focus on hydropower and flood control can provide (Hirt and Sowards 2012, McKinney 2012). Though CRT review process has begun to address some of these deficits, the locus of power and decision-making authority remains with the federal governments of Canada and the United States.

Orange-Senqu River basin

The Orange-Senqu originates in the highlands of Lesotho, and flows west for about 2300 kilometers to its mouth in the Atlantic Ocean (Heyns et al. 2008). It is the second largest river basin in southern Africa, behind the Zambezi, and has a catchment area of about 1 million km² (Jacobs 2012*b*), making the basin larger than the Columbia River by about 330,000 km². Lesotho, South Africa, Botswana and Namibia are all riparian states, and the river forms the border between Namibia and South Africa along the last 600km of its western reaches (Heyns et al. 2008). Lesotho and South Africa contribute the vast majority of mean annual flow to the river, at 41% and 55% respectively (Jacobs 2012*a*). The Orange-Senqu is the most developed river in the southern Africa region, with 31 dams (24 in South Africa, five in Namibia and two in Lesotho) (Jacobs 2012*b*). It is also the most important river basin in South Africa, as it contributes significantly to sustaining the mining, industrial and agricultural activities of South Africa, as well as contributing to the waters needed in the mining and industrial heartland of Gauteng Province – a region that generates 10% of the economic output of the entire African continent (Turton 2005, Heyns et al. 2008, Jacobs 2012*b*). Much of this water comes directly from the LHWP, the largest inter-basin transfer scheme in Africa, and provides critical royalty payments to Lesotho’s fragile economy (Heyns et al. 2008). Such large water transfer projects are vital to supplying the Gauteng Province with water, specifically Johannesburg, due to the fact that Johannesburg is one of the few major global cities not located on a river, lake or seashore (Turton et al. 2006).

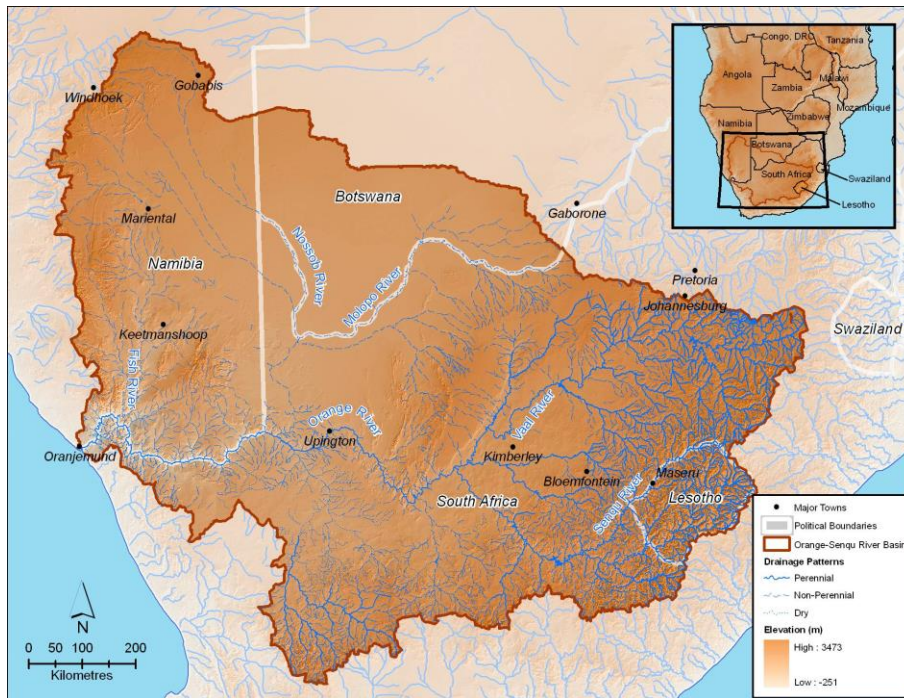


Figure 2. Map of the Orange-Senqu River basin. Used with permission from Andy Dean, Hatfield Consultants 2018.

The Orange-Senqu River is highly institutionalized, with numerous bilateral and multilateral agreements, treaties and protocols, and it is considered “as the benchmark for transboundary river basin management in Southern Africa” (Jacobs 2012a, p. 192). An important institutional development in the region was the 1995 Protocol on Shared Watercourses (updated in 2001) of the Southern African Development Community (SADC) that contains the “first provisions relevant to the introduction of public participation in transboundary water management in Southern Africa” (Kranz and Vorwerk 2007, p. 8). Further, the 2005 SADC Regional Water Policy supports and promotes the idea of stakeholder participation in transboundary water governance (SADC 2005). The establishment of a river-basin organization, the Orange-Senqu River Commission (ORASECOM), provides a multilateral basin-wide forum for consultation and coordination between riparian states (ORASECOM n.d.), realizing shared benefits from cooperation in the basin, as well as setting the standard for best practices in multilateral institutions in the region (Jacobs 2012a). However, ORASECOM has played a relatively minor role in the development of the LHWP.

In the existing literature, the case study of Johannesburg, situated in the economic and industrial heartland of Gauteng Province in South Africa, suggests that non-central state actors may have shaped transboundary water sharing agreements between South Africa and Lesotho on the Orange-Senqu River (Earle 2013). Specifically, this urban influence may have encouraged the development of massive inter-basin transfers of water from the Orange-Senqu River – and specifically from the LHWP - to supply the expanding urban water needs of Johannesburg (Turton et al. 2006, Jacobs 2012a).

1.5 The Research Process

In this section I provide a detailed justification for the methods employed for my research. Specifically, this section:

- 1) Provides a general description of the grounded theory methodology used;
- 2) Documents how I collected data for the cases;
- 3) Describes my approach for data analysis; and,
- 4) Discusses positionality, funding, and potential research bias.

1.5.1 Grounded theory methodology

Given the exploratory nature of the research questions, and the aim to develop greater understanding on an under-studied subject on the role and influence of non-central state actors in transformations to governance of transboundary rivers, this project was supported through the use of grounded theory methodology. Grounded theory is a general methodology focused on “social processes or actions”, which asks questions about “*what happens and how people interact*” (Sbaraini et al. 2011, p. 129, italics original). Theory that is developed is ‘grounded’ in the empirical evidence attained through case study research; that is, theory is “generated and developed through the interplay with data collected during research projects” (Strauss and Corbin 1994, p. 275). As a qualitative research approach, grounded theory is suited to the purpose of inductive theory building (Chiovitti and Piran 2003), though there is latitude for existing theories to be elaborated and modified as incoming data shapes and plays against them (Strauss and Corbin 1994).

Glaser and Strauss published *The Discovery of Grounded Theory: strategies for qualitative research* (Glaser and Strauss 1967), which provided the founding of grounded theory (Walsh et al. 2015). According to Glaser (2016), grounded theory was developed to offer an alternative to positivist research that privileged deductive theory-testing approaches over inductive theory-building methods. Grounded theory provides a general method for “predictions, explanations, interpretations and applications that fit” the data in the field and the participants (Glaser 2016, para 3). Grounded theory seeks to discover emerging patterns in data, and then generates theories from the data. It has been described as a “research tool” (Scott 2009, para 5), and an “exploratory method of research” (Schreiber 2001 p. 57). In essence, the theory generated has to be ‘grounded’ in the data. Since grounded theory was first articulated in *Discovery* in 1967, it has become a popular approach to both qualitative and quantitative data analysis (Walsh et al. 2015).

Walsh et al. (2015) identify three key principles of building theory in grounded theory: *emergence* (be open to what is discovered empirically, free of preconceived ideas or *a priori* hypothesis), *theoretical sampling* (concurrent data collection, coding, and data analysis that guides further data collection to inform an emerging theory), and *constant comparison* (data constantly compared with other data collected and analyzed to look for similarities and differences). I would add another key principle: reflexive memoing, which is widely recognized in the grounded theory literature as a key element of the methodology. When used concurrently, the principles of grounded theory enable new data to be compared with existing and analyzed data until no new concepts, categories, or themes emerged, at which point the research has reached theoretical saturation and a theory, grounded in the data, has emerged.

How we get to a theory grounded in the data is a multi strategy process (see table below). The empirical data is coded to distil key themes, analyze information collected, and inductively generate theory (Sbaraini et al. 2011). Data is broken apart, labels (i.e. codes) attached to segments of data, questions asked of the data, and the segments of data are sorted to provide an “analytic handle” in which to be compared with other segments of data

and see patterns across the data emerge (Charmaz 2014, p. 4, Glaser 2016). Coding is not a separate process from data collection and analysis – they are done concurrently. Interviews are conducted to test emerging ideas and concepts, and fill in the gaps of analysis. The researcher continues the data collection, known as theoretical sampling, until one reaches ‘theoretical saturation’, where no new concepts are emerging from the data. Theoretical sampling works to highlight gaps in the existing data set, suggest relationships, and raise questions to identify what is not known yet. As the theory emerges, the researcher often keeps sampling (i.e. conducting interviews) to fill in the gaps of understanding and the connections between the categories. For example, I continued interviewing participants (via phone interviews) well after I left the ‘field’, to expand on the emerging categories and to test early theories. This illustrates the non-linearity associated with grounded theory research methods and processes.

Table 1: Strategies used by constructivist grounded theorists. Adapted from Charmaz 2014 p. 15.

1	Conduct data collection and analysis simultaneously in an iterative process
2	Analyze actions and processes rather than themes and structure
3	Use comparative methods
4	Draw on data (e.g. narratives and descriptions) in service of developing new conceptual categories
5	Develop inductive abstract analytic categories through systematic data analysis
6	Emphasize theory construction rather than description or application of current theories
7	Engage in theoretical sampling
8	Search for variation in the studied categories or process
9	Pursue developing a category rather than covering a specific empirical topic

Grounded theory data collection contrasts with other qualitative approaches, in that theoretical sampling processes change as categories develop and theory emerges. The initial stages of data collection can only be planned. Other qualitative approaches to research take a different route, whereby “the sampling procedure is designed in advance

and adhered to rigorously” (Schreiber 2001, p. 64). Grounded theory involves process learning – you have to do it to understand it.

Variations of grounded theory

A number of variations to grounded theory have emerged over time.⁸ I will briefly and at a very high level identify three variants of grounded theory – classical, modified, and constructivist. *Classical, or traditional*, grounded theory is articulated by Glaser and Strauss (1967) who outline the methodology to discover new theory from the data – that is, truth is discovered and “data is representative of a ‘real’ reality” (Mills et al. 2006, p. 27). In the Glaser (1978) and Glaser and Strauss (1967) approach to grounded theory, a priori theories and hypothesis must be left aside, so as to avoid bias. Coding is conducted first by open coding of data, locating core categories, and then selective coding that show relationships between categories and their properties (Evans 2013). Strauss and Corbin (1990) present a *modified, or evolved* grounded theory, whereby coding is often done in three stages – open coding (breaking apart data), then grouping open codes into axial (or higher level) codes (relating concepts to each other and putting the data back together), then finally into selective codes (higher theoretical abstractions) (Corbin and Strauss 2008). Modified grounded theory takes the ontological position that there is no “pre-existing reality ‘out there’...truth is enacted” (Strauss and Corbin 1994, p. 279). The literature review is perhaps the starkest difference between classical and modified grounded theory. In a modified grounded theory, literature is interweaved throughout the research, coding, and analysis process to stimulate thinking, enhance analysis, and locate the emerging theory in the body of knowledge (Corbin and Strauss 2008, Evans 2013). *Constructivist* grounded theory uses an “inductive, comparative, emergent, and open-ended approach” consistent with classical grounded theory (Charmaz 2014, p. 12). Constructivist grounded theory has been elaborated by Charmaz (2000, 2014), whereby the researcher is not a neutral observer, but is a co-producer of data and knowledge, and meaning is shaped by the researcher’s preconceptions and values, as well as the conditions under which the research occurs (Charmaz 2014). Like the modified approach, a review of the literature is

⁸ This dissertation did not delve into the epistemological differences between the variations, and the discussion here is simply to illustrate that grounded theory has evolved as a methodology over time.

done prior to empirical data collection. Raw data is visible in the written text and theoretical outcome, to ensure the voice of the participant is not lost (Charmaz 2014). Bryant and Charmaz (2007, p. 10) articulate what distinguishes constructivist grounded theory from other approaches, namely it “emphasizes how data, analysis, and methodological strategies become constructed, and takes into account the research contexts and researchers positions, perspectives, priorities, and interactions”. That is, theory does not emerged from the data fully formed, but are constructed or generated by the researcher. The variants of grounded theory are considered as a “family of methods”, “family of resemblances” (Bryant and Charmaz 2007, p. 11) or a “constellation of methods” (Charmaz 2014, p. 14).

I do not claim allegiances to one specific approach, as my research borrows from a few approaches to grounded theory. For instance, coding of my data followed the Corbin and Strauss (2008) method of open, axial, and selective coding. At the same time, I ensured the visibility of participant voices in my papers akin to constructivist grounded theory, and used reflexivity through memoing my research, early analysis and emerging theories (Glaser and Strauss 1967, Charmaz 2014). I share the belief that “the researcher constructs theory as an outcome of their interpretation of the participants’ stories” (Mills et al. 2006, p. 32). I also share the belief that theory is constructed as part of “our past and present involvements and interactions with people, perspectives, and research practices” (Charmaz 2014 p. 17), as opposed to discovering a given truth from the data as Glaser and Strauss (1967) advocate.

I conducted a survey of the literature on water governance prior to field research but this was used to inform the research design and not for formulating a *priori* hypotheses to prove or disprove in the field research. Instead, I used grounded theory as an “exploratory method of research” (Schreiber 2001, p. 57) to discover emerging patters in the data through coding, while remaining reflexive about how the literature I have engaged with previous to field research shapes my own subjectivity as a researcher (through memo writing, and questioning my assumptions with reviewers and further data collection).

While I did not set out to have a focus on Indigenous nations in the Columbia River basin case study, through the analysis of my empirical data, development of manuscripts, and further interviews, the importance of Indigenous nations and their unique role in relation to re-shaping transboundary water governance, specifically with respect to the modernization of the CRT, became increasingly clear. This speaks to the iterative and inductive nature of grounded theory methods, to which I attempted to stay true by letting the data guide my writing.⁹

1.5.2 Data Collection

The following section documents how I collected data, including the population sampled and the semi-structured interview process used, which was based on the grounded theory research approach to build towards a deeper understanding of non-central state actors in contributing to changes in transboundary water governance processes.

Field Research

I conducted field research in the Columbia River basin in November 2015 and January 2016, and in South Africa and Lesotho from March-July 2016. While in the Columbia River basin I was based in both the east and west Kootenay region. I travelled to the East Kootenay region for a short time in the summer of 2015, to create and solidify regional contacts and familiarize myself with the research context. While in the Kootenays and after returning to Victoria, I also conducted interviews with participants in the U.S. via phone or skype. While attending conferences in Portland and Bellingham, I also had the opportunity to speak with practitioners based in the U.S. While in South Africa I was based in Pretoria. Although Pretoria is outside the Orange-Senqu River basin, it is the administrative capital of South Africa, and is in close proximity to Johannesburg, which is a recipient of water from the Vaal River system. Being in such a central location allowed me easy access to

⁹ A note on private business actors: It is important to note that my research in Southern Africa did explore the role of private businesses in water governance, and I interviewed individuals from large water using companies (i.e. energy industries and agriculture), and the water utility. As chapter 4 on polycentric governance systems examines, the role of private business interest was centered on information sharing and collaborative processes at the Stakeholder Operating Forum for the Vaal River System Annual Operating Analysis. For the Columbia River basin, I recognize there are many important issues related to CRT modernization that a range of public and private actors have engaged on, including the Canadian Entitlements and the flood control regime. However, to stay true to the themes that emerged from the coding of my data around power, borders, and polycentricity that centered Indigenous nations in the analysis, I elected to focus on this specific issue as opposed to a much larger set of issues for this dissertation.

policy makers and industry leaders, as well as non-governmental organizations (NGOs) and academics. I also travelled to Lesotho for seven days in June 2016, where I interviewed policy makers and individuals at NGOs in Maseru (capital city), as well as the region of Mokhotlong (where the Polihali dam is being built as part of Phase II of the LHWP). The time in Lesotho provided me an opportunity to speak to villagers who will soon be displaced by the rising waters of the Polihali dam, as well as see the dam site and the valleys and lands that will soon be flooded. A local NGO helped facilitate the interviews and travel in the region.

Population for sampling for Columbia River basin and the Orange-Senqu River basin

I identified key actors in the basins relevant to the research questions based on publicly available information as a starting point, and using my interview questions as a guide, I explored issues pertaining to transboundary water governance processes. Initial contact with potential interviewees in each basin was made prior to arrival, with other key interview participants recruited through referrals (snowball sampling), and based on the need to test and refine emerging categories from data analysis (Schrieber 2001). To do so, I sought a range of interview participants to ensure sufficient diversity in perspectives and information, consistent with grounded theory methodology. I conducted 45 formal interviews (recorded) with community leaders, community members, local elected officials, NGO and industry representatives, academic experts, government representatives, and members of Indigenous nations and Indigenous-led organizations. I also conducted approximately 15 further informal interviews with academics, practitioners, and experts to help build my contextual understanding. While collecting data, I reached out to a significantly greater number of people, many of whom I was unable to arrange an interview with. Other individuals provided me with valuable documents for my analysis (via email), answered questions, or provided me time for an informal interview, where field notes were taken but verbatim transcriptions were not created.

Semi-structured interviews

In keeping with the tenets of grounded theory, I used a series of semi-structured interviews to gather my primary data. This method allowed questions to be flexible enough for

tangents to be explored, new topics to be probed, theoretical sampling to be tested, and the natural flow of the conversation to be encouraged (O’Leary 2007). Sources used to identify potential participants included existing networks, public documents and websites, as well as referrals from previous interviewees.

Interviews lasted from 30 to 90 minutes, depending on the extent to which each interviewee wanted to share. For the majority of interviews (n=45), I recorded the conversation to make detailed transcriptions of the interviews for analysis purposes. Before recording, I ensured I had the permission of each interviewee. Interviews were conducted in both public (e.g. cafes, library) and private (e.g. work office, home) spaces. The research method followed university ethics protocols, and was approved by the University of Victoria Human Research Ethics Board (see Appendix A). During all interviews, I took detailed field notes to record key points or points to follow up on. Immediately following the interview, I would write a memo to record thoughts, reflections on the interview, consider data codes and categories, and to note any follow up actions needed. Though only a few interviewees requested, I made all transcripts available to be shared with interviewees.

To ensure confidentiality, all transcriptions used code numbers (i.e. CB1S2, or OS1S2), where “CB” indicated “Columbia Basin” and “OS” indicated “Orange-Senqu”, and “S” referred to the section of the transcript in the qualitative data software MaxQDA where the quote is located. Any direct quotes from the transcripts in the chapters and publications have been coded with this system, and thus ensure confidentiality and anonymity is protected.

1.5.3 Data analysis

Data analysis uses data from the semi-structured interviews. After transcribing the recorded interviews, I uploaded the transcripts from MS Word to MaxQDA software. MaxQDA allowed me to upload, organize, and analyze a large amount of qualitative data in one repository, a recognized benefit of computer assisted data analysis software (Yin 2009). Within this software program I manually coded the interview transcripts, building a

comprehensive list of ‘open codes’ as per grounded theory methods (Corbin and Strauss 2008).

I did not go into the research or analysis with pre-developed codes. Instead, I inductively coded the transcripts (i.e. open coding), which gave me a list of hundreds of open codes. I then grouped these open codes into higher level categories – called axial coding (Chiovitti and Piran 2003) – to start to develop themes across my data. These themes informed the development of the manuscripts of the dissertation. Different approaches were used for developing the axial codes, or themes, as the analysis developed. For example, at the start of the data analysis, I coded directly in MaxQDA. However, as I revisited the open and axial codes surrounding the themes relevant to borders (chapter 3), I printed out the open codes that were emerging relevant to borders and Indigenous nations and reorganized the open codes into axial codes on my desk. The reason for revisiting the open codes for the border paper was to account for an evolution in the development of the grounded theory, and the progression of analysis I undertook. Early analyses and theoretical concepts shifted to focus more specifically on the role of Indigenous nations within CRT modernization, requiring regrouping open codes.

After this shift, and to work towards theory saturation (Corbin and Strauss 2008), I conducted further targeted interviews with individuals who work on CRT issues, discussed my findings with border theorists and academics, and presented findings at a scholarly conference (BIG Conference, Ottawa, December 2017). These discussions and presentations assisted in the analysis and confirmation of themes that emerged. The iterative methods used in the research and writing reflects the exploratory and non-linear nature of grounded theory methodology. Given the complexity of transboundary water governance in a real life context, while recognizing ‘all is data’ in grounded theory (Glaser and Holton 2004), multiple sources of evidence were drawn upon to inform my analysis, including interviews (as discussed above), policy and historical documents (i.e. Treaty texts), and scholarly articles (Yin 2009).

1.6 Positionality, Funding, and Potential Research Bias

1.6.1 Positionality

This study began as an exploration of non-central state actors using a grounded theory approach, and it was not until I was part way through the iterative data collection and analysis (Corbin and Strauss 2008), that the central patterns emerging from the data began to concentrate on Indigenous nations and Indigenous-led organizations and their role and influence within CRT modernization. As a white male settler, I want to be clear that I am not claiming to speak on behalf of Indigenous peoples, their aspirations, beliefs, and motivations regarding transboundary water governance. Also, I acknowledge that as a settler who also lives and works on unceded traditional territories of the Songhees and Coast Salish nations, that my study must not be interpreted or used as any representation of Indigenous claims on sovereignty, which Indigenous scholars, activists, hereditary and nominated leaders, and entire communities have been articulating for more than a century. Further, I recognize the complexity of using broad terms to describe a diversity of Indigenous communities. In my papers, to refer to Indigenous nations above the 49th parallel I use the term ‘First Nations’, and the term ‘Tribes’ for below the 49th parallel. I use the term ‘Indigenous’ to refer generally to Tribes *and* First Nations.

I wish to be clear that there are limits to the Euro-Western understandings of polycentricity, power, and borders that I have used that will differ significantly from Indigenous perspectives in the Columbia basin, or Indigenous perspectives in the Orange-Senqu basin. The frameworks which I have drawn upon to explain patterns in my empirical data are not premised upon Indigenous epistemologies or developed by Indigenous scholars, and thus, are likely limited in the extent to which they help me to “unpack” assumptions in the data. For instance, I refer in chapter 2 to an evolution in societal values regarding environmental issues and the Columbia River in particular. Yet, it is instructive to note that this evolution is in regards to a colonial/settler perspective that has largely treated the environment as a ‘resource’ to be used and maximized for human-centered and narrowly defined benefits. The history of the development of the Columbia River, as well as the Orange-Senqu River, illustrates the extent to which settlers have

exploited lands and waters to increase economic and political power, to bring its “civilizing mission...[of] order and civilization” to lands otherwise considered empty by colonial/settler governments (Ashcroft 2001, p. 1). The challenge is to honour the merits of Western ways of knowing, but also acknowledge that in doing so, some of the colonial assumptions I sought to avoid through my analysis may indeed end up being reproduced.

I draw on important Indigenous political theorists in my discussion of Indigenous sovereignty and borders in chapter 3. I note the complexity of how sovereignty is understood in the Indigenous political literature. Specifically, various Indigenous political theorists suggest alternative political and relational systems between colonial and Indigenous nations built on mutually respectful negotiations that do not involve the dismantling of the nation-state system. This includes a “third space of sovereignty” where Indigenous peoples and nations “are neither fully inside nor outside of the state structure” (Lightfoot 2016, p. 10). This illustrates what some have articulated as a ‘de-coupling’ of the concept of self-determination from the state, whereby other forms of self-determination can be achieved “with or without independent statehood” (Lightfoot 2016, p. 10).

Yet, Indigenous political theorists have questioned the validity of the concept of sovereignty to Indigenous peoples. For example, Lightfoot (2016, p. 9) reminds us that the concept of sovereignty is “grounded in the European experience” that has its roots in “notions of domination that stand in stark contrast to Indigenous forms of political relations, which are based on freedom, respect, and autonomy”. Alfred (2005, p. 37) argues the history of the term ‘sovereignty’ in North America is one of “manipulation of the concept as it [has] evolved to justify the elimination of Indigenous peoples”, and the problematic nature of sovereignty granted or limited by and within colonial legal systems. Yet, Stark (2013, p. 341) posits that, although the term indeed has its roots in Europe, contemporary understandings of sovereignty “reference the unique traits of a nation that enable their self-governance”. Cobb (2005, p. 118) describes sovereignty as “a nation’s power to self-govern, to determine its own way of life, and to live that life – to whatever extent possible – free from interference”. Stark (2013) points to the establishment of early treaties between Indigenous nations and European nations where both peoples recognized

and reinforced “each nation’s sovereignty” (p. 341). And, she summarizes that prevalent across many Indigenous understandings of sovereignty is “the right of a people to live in accordance with their own ways” (Stark, 2013, p. 342).

Through my work I gesture towards areas where there might be some convergence, or deeper discussions, between different understandings of influence, borders, power, and the increasingly important role of non-central state actors in governance processes for transboundary rivers – processes that currently are biased towards colonial governments in their construction. But I do so in the hope that with governance innovations and transformations, these can be collaboratively reconstructed.

Finally, prior to starting my PhD degree, I worked on water issues with the POLIS Water Sustainability Project at the University of Victoria, with a focus on watershed governance. And, prior to my position at the POLIS Project, I spent six months researching water issues in Palestine and Israel for an NGO based in Bethlehem. Both these experiences shaped my perspectives to water challenges both in Canada and globally, specifically regarding the idea that complex water challenges cannot simply be approached with engineered solutions, but are fundamentally issues of governance and management. Given my previous work on water governance issues in the B.C. context with POLIS, I drew upon established relationships in the water community to help identify whom I would interview and secure agreement for such interviews in the Columbia River basin. In some instances, I believe these existing relationships and my association with the POLIS Project at the University of Victoria may have helped secure interviews given that people were aware of who I was already, or the organizations to which I was affiliated and which they trusted.

1.6.2 Funding

Funding from my research came from the following sources: Social Sciences and Humanities Research Council (SSHRC), the University of Victoria’s Centre for Asia-Pacific Initiatives (CAPI), Centre for Global Studies (CfGS), the Borders in Globalization (BIG) Project, and the Water Economics, Policy and Governance Network (WEPGN). These funding sources provided me the opportunity to attend conferences and workshops on CRT

review issues (see Appendix B), conduct in-depth field research in the Columbia River basin, South Africa, and Lesotho (as described above), and present findings of my research at academic conferences. They are not expected to have contributed to any conflicts of interest in the research.

1.6.3 Potential research bias

As has been noted already, given that I was not drawing on decolonizing methodologies nor post-colonial or critical Indigenous scholarship explicitly, and yet, still found key themes emerged in my data regarding Indigenous power and borders, there will be biases towards Western ways of knowing. However, as much as I, and readers, need to recognize these limitations and research biases that such a perspective brings, I believe what follows can still provide a contribution to the literature while identifying key areas to ask further – and likely unsettling – questions regarding the theoretical frameworks in which I engaged, and the history of the places in which I lived and studied. There is a colonial/settler regime overlaying the history of both basins that covers only a brief moment in time of the lands, waters, and people. Further, Indigenous scholars have written on their own histories including marginalization throughout colonialism (see: Prosper et al. 2011), treaties with colonial governments (Borrows 2005), and the strength and ability of Indigenous peoples to retain their cultural identity while existing in the modern world (Deloria 1969, King 2012). I recognize the discussion that follows in this chapter is a brief snap shot in time of this colonial history that has, in such a short time, transformed these once wild rivers into industrial rivers.

Efforts to address bias and ensure rigor throughout the research included: reflecting on interviews through detailed memoing (a core principle of grounded theory methodology); having my research committee review outputs from all stages of my research project, as well as having academic experts not affiliated with my research project review draft chapters and provide important and valuable insight; conducting revisions to a chapter based on blind peer-review process at a scholarly journal; presenting my work at scholarly conferences and giving guest lectures to a multi-disciplinary group of scholars at the University of Victoria's Centre for Global Studies. Having taken these measures, I feel I did

my best to accurately report my findings, observations and conclusions in a way that is true to the grounded theory method used and to the individuals I interviewed for my research.

1.7 Overview of dissertation

As I have developed a manuscript-based dissertation, chapter two, three and four are meant as stand-alone articles. These chapters represent results from my data analyses that address the central question and objectives of this project. The chapters include:

- Chapter 2 – Getting to ecosystem-based function: Exploring the power to influence Columbia River Treaty modernization towards ecosystem considerations (submitted to the *International Journal of Water Governance*)
- Chapter 3 – Whose Border? Contested geographies and Columbia River Treaty modernization (submitted to the *Journal of Borderland Studies*)
- Chapter 4 – Polycentricity of international river basins: Application to the Columbia River and Lesotho Highlands Water Project (in revision, *Ecology and Society*)
- Chapter 5 – Synthesis chapter of key theoretical and practical policy insights and implications, and suggestions for future research.
- Appendices – Provides supplemental information

1.8 Summary

This introductory chapter has outlined the theoretical lenses that have guided the research and which the results seek to contribute. The central research question and goals of the research have been explained. The research process itself has been explained, including case selection rationale, research methodology, and methods used while conducting the research. Finally, the overview of the chapters of the dissertation has been provided. What follows in this dissertation is a deeper discussion regarding how each of the theoretical lenses I've engaged in work towards a better understanding of whether and how non-central state actors are contributing to changes to governance of transboundary rivers, and the theoretical and empirical contribution my research has made to the scholarship on

transboundary water governance. Though the final chapter explicates on the theoretical contribution, discussions include a deeper understanding of the role of non-central state actors in governance transformations for transboundary rivers, and the relationships between actors within complex socio-ecological systems, across borders, and between actors with varying and different types of power. It is the hope that this dissertation can provide further insight into changes to how decisions are made, the relationships between different non-central state actors, whether and how they are able to change governance processes that have in recent history been primarily state-centric, and how we can think differently about transboundary waters as more than a 'resource' shared between nation-states. The results from this research suggest the changing nature of transboundary water governance involves new and reaffirmed relationships between non-central state actors at multiple scales. Transformative change regarding sites of authority, financial flows, and norms, beliefs and knowledge base is unfolding in different degrees across the two case study basins.

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Chapter 2 – Getting to ecosystem-based function: Exploring the power to influence Columbia River Treaty modernization towards ecosystem considerations¹⁰

Abstract

Governance of international rivers is shifting to include a diversity of actors below the nation state, and interests beyond those traditionally conceived to facilitate economic growth and security, such as hydropower and flood risk management. Consequently, the degree and mechanisms of influence and power of these new actors is of increasing interest in transboundary water governance scholarship, to understand whose voices are heard and whose interests are included in decision-making processes. We introduce a typology of power developed by Barnett and Duvall (2005) to illustrate the influence of Indigenous nations and local actors to position ecosystem-based function as a primary objective for modernization of the 1964 Columbia River Treaty (CRT) in the Pacific Northwest of North America. We identify four themes that emerged from the data analysis that explain the influence of Indigenous nations and local actors on CRT modernization: a shift in the legal landscape regarding Indigenous rights and title in resource management; an evolution in societal values regarding environmental issues; efforts of Indigenous nations and local actors to frame the issues for CRT modernization; and, engagement of Indigenous nations in transboundary collaboration for CRT modernization. Our evidence illustrates the sovereign state model – a state-to-state system of governance – is being redefined. The conclusion draws lessons for how these types of power can shape the course of traditionally state-centric transboundary water governance processes.

Keywords: influence; power; Columbia River basin; Columbia River Treaty modernization; ecosystem-based function

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2.1 Introduction

Signed in 1961 and ratified in 1964, the Columbia River Treaty (CRT) between Canada and the United States achieved cooperative development of the Columbia River for the benefit of a narrow set of interests, specifically, hydropower and flood risk management. The CRT reflects an approach to transboundary water governance that allocates ownership and responsibility of waters to sovereign nation-states based on understandings of territoriality as power of a state over a defined geographical area, wherein water is considered the responsibility of a state while it is flowing through its defined state borders (Blatter & Ingram, 2000; Cosens, 2012; Vogel, 2012). Transboundary water governance and management objectives used by nation-states are often narrowly conceived to facilitate industrial, resource, and to some extent, urban development for economic gain (Heasley & MacFarlane, 2016). As stated in the opening lines of the Treaty, the focus was very much on flood protection and long-term resource development for the economic prosperity of Canada and the U.S., reflecting human ambition over nature.¹¹

Following the signing of the CRT on January 17th, 1961, a press release by Prime Minister Diefenbaker illustrates, by what is not mentioned, the framing of the CRT; at no point are impacts to ecosystems and fisheries, particularly salmon, nor infringement on Indigenous¹² traditional territories or rights, mentioned in the 9-page document (Columbia River Treaty, 1964). This was emblematic of government position at that time, which excluded Indigenous communities from participation in decisions impacting their lives and livelihoods and ignored the autonomy and self-determination of the different Indigenous nations in the basin.

Beginning in 2024, either Canada or the U.S. can unilaterally decide to modify or terminate substantial parts of the Treaty, as long as 10 years notice is provided. Separately, the Province of British Columbia (the only province that falls within the basin on the Canadian side), and the Sovereign Review Team in the U.S. initiated a multi-year

¹¹ The opening lines of the 1961 CRT state: “The Governments of Canada and the United States of America...being desirous of achieving the development of those resources [of the Columbia River] in a manner that will make the largest contribution to the economic progress of both countries...secured by cooperative measures for hydroelectric power generation and flood control” (Columbia River Treaty, 1964).

¹² In this paper, to refer to Indigenous nations above the 49th parallel we use the term ‘First Nations’, and the term ‘Tribes’ for below the 49th parallel. We use the term ‘Indigenous’ to refer generally to Tribes *and* First Nations.

comprehensive CRT review starting in 2011 to hear from Indigenous nations, communities, and interests in the basin about what a modernized CRT should include. Efforts of Indigenous nations, as well as non-Indigenous local actors, to engage or participate in transboundary water governance processes and the new perspectives that these actors bring regarding numerous social, ecological, and cultural issues have begun receiving attention (Conca, 2006; Finger, Tamiotti & Allouche, 2006; Myint, 2012; Norman, 2015). Question remains though, regarding the power of these actors and their engagement. Thus, our analysis focuses on the power of Indigenous nations and local actors (i.e. local government, advisory committees) in the Columbia basin, and whether and how they have shaped current and ongoing efforts to review and modernize the 54-year-old CRT between Canada and the United States.

Using a framework of power by Barnett and Duvall (2005), we illustrate a diversity of Indigenous nations and local actors have influenced the agenda for CRT renegotiation to seriously consider ecosystem-based function as a primary objective of a modernized CRT.¹³ To do so, we use this framework of power to understand four themes that emerged from the data analysis. Specifically, two themes emerged that illustrate institutional power of Indigenous nations and local actors: 1) a *shift in the legal landscape* regarding Indigenous rights and title, and environmental issues in resource development projects; and 2) an *evolution in societal values* regarding environmental issues. Building on institutional power, two themes emerged that illustrate the mobilization of productive power: 3) efforts of Indigenous nations and local actors to *frame the issues* for CRT modernization; and, 4) engagement of Indigenous nations in *transboundary collaboration* for CRT modernization. Although there are a number of other issues that are significant for modernization of the Treaty, such as a changing climate with impacts on basin hydrology (Barnett et al., 2008;

¹³ We adopt an understanding of ecosystem-based function in the context of the Columbia River from the Columbia River Inter-Tribal Fish Commission as “the ability to provide, protect, and nurture cultural resources, traditions, values and landscapes throughout its length and breadth” (CRITFC, 2017, paragraph 1). According to this definition, ecosystem-based function can include specific management targets, including higher and more stable headwater reservoir levels, higher river flows during dry years, as well as a number of expected results, including increases in juvenile and adult salmon survival (CRITFC, 2017). Though the term ‘ecosystem services’ has been used extensively to refer to natural goods with economic values and benefits to humans (Lele et al., 2013), CRITFC adapted this concept to more accurately reflect the belief the ecosystem is not to ‘service’ humans only, but has intrinsic value and must be protected. According to an interviewee with the CRITFC, the term ‘ecosystem-based function’ was used – as opposed to ‘ecosystem services’ – to distinguish from a “deminimis approach to resource management” that is associated with the term ecosystem services (CB23S41).

Brown, 2015; Bode, 2017), we limit our focus on the inclusion of ecosystem-based function as part of a modernized CRT.

We argue that positioning modernization of the CRT as the purview *only* of sovereign nation-states ignores the multi-scaled governance processes involved. These multi-scaled processes include a diversity of Indigenous nations and local actors who are influencing Treaty modernization, some of whom collaborate across the international border to achieve governance objectives. In doing so, our analysis illuminates how the necessary shifts in power for Indigenous nations within traditionally state-centric transboundary water governance processes are emerging. We begin with a brief and recent history of the Columbia River and the CRT, before outlining the framework of power we use from Barnett and Duvall (2005) to understand the themes that emerged in our analysis. We outline the grounded theory methods employed in our empirical research and analysis before exploring each theme in turn. We discuss the implications of our research for governance of transboundary waters, and specifically, the Columbia River.

However, before going any further, we want to clarify our own positionality. This study began as an exploration of non-state actors using a grounded theory approach, and it was not until we were through part of the iterative data collection and analysis, and reaching close to theory saturation (Corbin & Strauss, 2008), that our central patterns were concentrated on Indigenous nations and their forms of power. We want to be clear that we are not claiming that Indigenous nations and organizations within the basin *only* exhibit institutional and productive power. Also, we acknowledge that as white settlers who themselves live and work on unceded traditional territories, that our study must not be interpreted or used as any representation of Indigenous claims on power and sovereignty, which Indigenous scholars, activists, hereditary and nominated leaders, and entire communities have been articulating for more than a century.

Moreover, we recognize the complexity of using broad terms to describe a diversity of Indigenous communities, and that any and all of the terms we have used in this article – including settlers', colonial, Indigenous – are widely debated themselves and often create discomfort. The terminology is imperfect and evolving, and is likely to be different in only a few more years. Therefore, we offer this analysis, at this particular point in time, in the understanding that we need a wide range of knowledges about how governance systems

can shift and be re-shaped by actors beyond central settler governments. We further aim to highlight how, from our way of knowing, our evidence shows the critical role and efforts that Indigenous nations have already held throughout the modernization discussions of the CRT and its governance. We believe that it is not only up to Indigenous colleagues to show how governance systems have marginalized the authority and autonomy of Indigenous nations in the past but how strong the articulation of their values remains and how that is already reshaping transboundary water governance today. It is also up to settlers to confront the many challenges our governance structures and processes have created and continue to create, and to contribute to developing opportunities to also consider, co-create, and debate alternative governance arrangements for the future.

2.2 Context: A history of the Columbia River

The Columbia River Basin includes the traditional territories of 18 First Nations (including the Sinixt) in Canada and 15 Tribes in the U.S., many of whose traditional lands span what is now the 49th parallel dividing Canada and the United States (CRITFC, 2016), and who have held jurisdiction and responsibility over their lands since time immemorial. Non-Indigenous development on the Columbia River, outside of any international water treaty, started in earnest in the 1890s, when the first dams in the Columbia River basin were built at lower Bonnington Falls on the Kootenay River in B.C., and Spokane Falls on the Spokane River, Washington (Thompson, Palleson, & Lemon, 1996). These early developments initiated the physical reconfiguration of the river, its tributaries, and boundaries, from a free flowing river supporting diverse socio-ecological environments to what one interviewee in the West Kootenays described as “an industrial river”, developed to meet a limited set of values. Of most concern to fisheries on the Columbia River main stem (though not the first dam to impede migration of fish in the basin) was the construction of Grand Coulee dam, completed in 1942. Grand Coulee virtually eliminated the entire anadromous fish population on the upper Columbia, and cut off salmon migration to the Canadian Columbia River (Thompson, Palleson, & Lemon, 1996). The result is currently more than 55% of spawning and rearing habitat (or about 1770km) once

used by salmon and steelhead in the Columbia Basin is permanently blocked by dams (Harrison, 2008; CCRIFC & CRITFC, 2015, p. 2).

Since 1909, transboundary waters between Canada and the United States have been governed under the framework of the *Boundary Waters Treaty*, which set out the rights and responsibilities of the two countries in regards to shared freshwater resources (Norman, Cohen, & Bakker, 2013). The 1909 Treaty also established the *International Joint Commission* (IJC), a bi-national body with a mandate to prevent and resolve conflict over inland waters shared by Canada and the U.S. (Bleser & Nelson, 2011; Clamen & Macfarlane, 2015). In 1944, the IJC began a study of the Columbia River system to make recommendations to Canada and the U.S. on the feasibility of coordinated hydro development and flood mitigation options for the Columbia River (Muckleston, 2003). Completed 15 years after the IJC reference, the study concluded cooperative development for hydropower and flood control was feasible, leading to the negotiation and signing of the CRT in 1961 between the Canadian and U.S. governments (Muckleston, 2003). Such state-based processes illustrate an implicit assumption about power and governance (Brambilla, 2015), which acts to reinforce the territoriality of nation-states over mutually exclusive territories separated by borders (Newman & Paasi, 1998; Nadasdy, 2012). The result of which was a large number of Indigenous nations with traditional lands within the basin as well as local communities left out of any formal negotiation or decision-making processes for the CRT (Loo 2004; Paisley, McKinney & Stenovec, 2015).¹⁴

When the CRT was developed in the 1960s, it did not account for the important role habitat, streamflow, water quality, and related functions play in overall ecosystem health (Swainson, 1979; U.S. Entity, 2013); a common theme during the history of water-related infrastructure development globally (Windsor & McVey, 2005; Conca, 2006). Nor did the Treaty account for the cultural, economic, social, spiritual, and political importance of salmon to Indigenous communities (CCRIFC & CRITFC, 2015). Indigenous nations and non-Indigenous communities in the basin had no ‘voice’ at the negotiation table in the early 1960s to speak to different values that were being adversely impacted. Governance

¹⁴ Public hearings concerning Treaty Dams built in the Canadian basin were held *after* the CRT was signed on January 17 1961, and “addressed licensing conditions and compensation...indicating that the fate of Kootenays’ residents had already been decided” (Toller & Nemetz, 1997, p. 20).

arrangements for the Columbia River have provided the Treaty Entities (B.C. Hydro, Bonneville Power Administration, U.S. Army Corps of Engineers) the largest degree of authority over how water and water-related resources (i.e. hydropower) are managed in the system.

2.3 Methods

Empirical data used for our analysis relied on grounded theory research design. Research was conducted in the Columbia River basin by the principal author as part of a broader study on innovation and transformative change to transboundary water governance processes.

Consistent with grounded theory methods, we used a series of in-depth semi-structured interviews guided by open-ended questions with a purposive sample of community leaders, community members, local elected officials, NGO representatives, academic experts, local and provincial government, and members of Indigenous-led organizations (n=26). Interviews were transcribed and memos written immediately after each interview. Theoretical sampling techniques were used to determine further information sought from interview participants, consistent with qualitative research and grounded theory methods (Chiovitti & Piran, 2003). While interviews focused mostly on Canadian participants (84 percent), participant-observation by the principal author in a series of regional workshops on the CRT in Canada and the U.S. provided further opportunities for learning from policy makers, Indigenous community leaders, large water users, and others who have an interest (personal, spiritual, cultural, and/or professional) in governance of the Columbia (see Appendix B for full list of events attended by principal author).

The principal author relied on memoing as a written record during data gathering, noting and recording early findings, analytical insights, and ongoing developments of the research (Corbin & Strauss, 2008). We use direct quotes from the participants, who are identified only by number to protect confidentiality, though references to organizational types are used where it will not cause risks for any participants. The open and axial coding

stages (Corbin & Strauss, 2008) identified key themes of influence and power. In the final selective coding stages, the codes that had been inductively generated were sorted into categories informed by Barnett and Duval's typology of power. Considering 'all is data' in grounded theory methodology (Glaser & Holton, 2004), we also drew on historical records and accounts about the Treaty and relevant initiatives in the basin to support findings and inform themes emerging from the grounded theory process. While we found that drawing upon concepts developed by international relations theorists Barnett and Duvall (2005) provides a robust framing for the themes that emerged when coding the data, we acknowledge that their framework neglects other conceptions of power from other worldviews. This poses a genuine risk in any discussion about Indigenous nations given the difficulty of aligning conceptions of power from Euro-western perspectives with Indigenous-led initiatives.

The next section will establish the lens used to understand how institutional and productive forms of power, as described by Barnett and Duvall (2005), are mobilized by local actors in the basin and Indigenous nations working across the international boundary between Canada and the U.S. We argue this mobilization of power has influenced CRT modernization, and cannot be adequately accounted for within a 'bordered' notion of power. We illustrate this by examining initiatives of Indigenous nations and local actors to drive ecosystem-based function as a primary objective – alongside hydropower and flood risk management - of a modernized CRT.

2.4 Power

Theories on power and the different types of power are an important concept worth further analysis to inform more socially and ecologically integrated approaches to resilience studies and governance (Moore & Tjornbo, 2012; Boonstra, 2016), including for water. This is an area in which literature from studies of political science and global governance can offer theoretical insight (see Bachrach & Baratz, 1962; Arts, 2003; Barnett & Duvall, 2005; Hayward & Lukes, 2008).

Perhaps the most conventional conceptualization of power rose from early efforts of Dahl (1957), who defined power in terms of a causal relation between people. Dahl argued “A has power over B to the extent that he can get B to do something that B would not otherwise do” (1957, p. 202-3). That is, in Dahl’s view, power is an instrument of the powerful over the powerless (Hayward, 2000). Spawned by Dahl’s early writings, debates over the concept of power have expanded, with scholars developing numerous typologies and clusters of characteristics in their attempts to distinguish among different forms (or ‘faces’) of power (i.e. Arts, 2003; Bachrach & Baratz, 1962; Lukes, 1974; Clegg, 1989; Boonstra, 2016).¹⁵ These forms of power are often considered in the context of the nation-state, or what Barnett and Duvall (2005, p. 2) call the “tunnel vision when identifying power”. Yet, shifts in conceptualizations of power have demonstrated other actors beyond the state as also possessing power (Matthews 1997; Betsill & Corell, 2008). Power in social relations between actors can range from visible activities (forcing in direct confrontation), less visible activities (shaping of conditions), to hidden activities (shaping of preferences, desires, or beliefs), with the intent to influence outcomes (Boonstra, 2016).

Barnett and Duvall (2005, p. 3) contend that power can be expressed as four interrelated yet distinct forms: compulsory (direct control over another), institutional (actors control over others in indirect ways), structural (direct and mutual constitution of the capacities of actors), and productive (socially diffused production of subjectivity in systems of meaning and signification). We find evidence of the use of power of Indigenous nations and local actors on CRT modernization, best understood in terms of institutional and productive power.¹⁶ Exploring institutional and productive power of Indigenous nations and local actors in the Columbia River basin assists us in understanding power outside of the “tunnel vision” which so often embeds discussions within the context of state-based actors acting within or representative of geographical borders. This analysis contributes to previous discussions arguing, “control over discourses is a source of power” (Anderson & Grinberg, 1998, p. 333).

¹⁵ It is beyond the scope of this paper to explore and explain the various interpretations of ‘power’ in the literature. Suffice to say, the authors recognize the literature distinguishes between various typologies of power, and recognize power is one of the most contested concepts in political science (Hay, 1997).

¹⁶ Although there is overlap between the different types of power within Barnett and Duvall’s framework, to make argumentation and claims as clear and distinctive as possible, the article focuses on institutional and productive power.

Institutional power is understood as “actors’ control of others in indirect ways”, where the focus is on formal and informal institutions mediating between actors (Barnett & Duvall, 2005, p. 15). Indigenous nations can be seen to possess institutional power through laws and policies that have evolved from assertion of Indigenous claims to rights and title over their traditional lands, as well as the constitutionally-protected rights of Indigenous nations to be consulted and accommodated by Federal and Provincial governments in regards to decisions that affect Indigenous interests. An evolution of environmental laws since the CRT was signed also provides institutional power to non-Indigenous actors, whereby laws and regulations have established the ‘environment’ as a legitimate interest in decision-making processes.

Productive power is understood as “the diffuse power that stems from being able to shape, influence or embed ideas, knowledge, norms, and discourse” (Moore & Tjornbo, 2012, p. 7). An important implication of productive power is that it “concerns discourse, the social processes and the systems of knowledge through which meaning is produced, fixed, lived, experienced, and transformed” (Barnett & Duvall, 2005, p. 20). Analysis of productive power illustrates the social processes through which Indigenous nations and local actors produce systems of knowledge, meaning (i.e., what counts as a problem), norms, and frame discourses and ideas in ways that shapes the political and economic activities of other actors. By framing, we mean highlighting particular problems, defining how the issue of ecosystem-based function was conceptualized, and who has the responsibility to act (Betsill & Corell, 2008).

Given the complexity of the real world, distinctions between the different types of power under Barnett and Duvall’s typology are often analytical in nature, yet empirically interdependent. Different forms of power can overlap in meaning, thus analysis of one type of power does not indicate the complete absence of another. Institutional power of Indigenous nations and local actors has increased since the CRT was first negotiated and signed, reflecting the exercise of productive power of these actors over time to influence the political and legal discourse concerning Indigenous rights and title, and environmental protection. This is not captured in traditional power discussions that tend to center the nation-state as the primary object of power – that is, power from the top down (Hurrell, 2005). The use of Barnett and Duvall’s framework of power provides a useful lens to

illustrate the role of Indigenous nations and local actors to influence this international process. In doing so, we highlight the limits of a sovereign nation-state model for renegotiation of the CRT.

2.5 Getting to ecosystem-based function: Influencing Columbia River Treaty modernization

We illustrate the influence of Indigenous nations and local actors to position ecosystem-based function as a new and fundamental objective for CRT modernization through a set of key themes emerging from the empirical data. We argue the themes exhibit an evolution of institutional power and a mobilization of productive power of Indigenous nations and local actors since the CRT was originally signed. The themes include: shift in the legal landscape, evolution of societal values, issue framing, and transboundary collaboration.

2.5.1 Shifts in the legal landscape: Evolution of institutional power

Using the framework of power from Barnett and Duvall (2005), we can see the institutional power of Indigenous nations has changed since the CRT was first signed in 1961. This change has emerged from an evolution in the legal landscape in both Canada and the United States affirming Indigenous nations a formal role in resource management decisions. In Canada there is now a legal obligation on the federal government to engage on a nation-to-nation basis regarding issues impacting Indigenous lands, rights, and interests. And, this growing institutional power reflects a longer exercise of productive power of Indigenous nations to influence political discourse in both Canada and the U.S. regarding Indigenous rights. Decisions made in one set of institutions –courts and treaties – have over the years influenced the participation of Indigenous nations in the institutional context of CRT modernization.

We can observe the change of institutional power of Indigenous nations since the CRT was first signed in 1961. For example, First Nations have constitutionally protected rights to consultation and, if appropriate, accommodation concerning traditional lands and

resources under the Canadian *Constitution Act* (1982), with successes in the courts to uphold Aboriginal title (i.e. *Tsilhqot'in Nation v B.C.* 2014) and Tribal treaty fishing rights (*United States v. Washington (Boldt Decision)* 1974), as well as Indigenous pre-existing treaties with the crown (Canada) or federal government (U.S.) (Cosens, 2012; Asch, 2014). A number of other important court cases in both Canada and the U.S. have influenced the evolution of federal and provincial/state interaction with Indigenous governments, including *R. v. Sparrow* (1990), *Delgamuukw v. British Columbia* (1997), *Sohappy v. Smith/U.S. v. Oregon* (1969).¹⁷ The changing legal landscape has bolstered certain Indigenous rights and resulted in “the gradual opening of space in which the enactment and expansion of a genuinely Indigenous practice of governance has become more possible” (Cornell, 2013, p. 41). Emerging legal responsibilities and the legal recognition of First Nations and Tribal rights in the basin is crucial to influencing Canadian and U.S. governments to seriously consider Indigenous perspectives regarding the CRT.

Complimentary to the institutional power of Indigenous nations in the Columbia River basin is an evolution in the institutional power of local actors. This evolution is evident through an increase in widespread public concern over environmental issues during the North American environmental movement in the 1960s and 1970s (e.g. first Earth Day celebrations in 1970) (Egri & Herman, 2000), and the eventual advances in regulation and legislation that reflect these concerns.¹⁸ In practice, we can see evidence of the shift in the legal landscape concerning environmental issues in the requirement to undertake environmental impact assessments (EIAs) to determine if potential projects are in the “public interest”, and which provide for public participation in these processes (the effectiveness of which is critiqued and contested in the EIA literature) (Sadler, 1996; Jay et al., 2007; O’Faircheallaigh, 2010; Hourdequin et al., 2012; Salomons & Hoberg, 2014). Regarding Indigenous engagement, Booth and Skelton (2011, p. 368) describe federal and provincial environmental assessment processes as “problematic”, and “fail its indigenous peoples”. What is clear is development of dams and reservoirs on the Columbia River

¹⁷ We are not legal experts and do not seek to provide an expansive account of these historical legal cases.

¹⁸ Advances in regulation and legislation in Canada include *Environmental Assessment Act* (1992) and *Species at Risk Act* (2002). In the U.S., this includes *National Environmental Policy Act* (1969), *Endangered Species Act* (1973), and *Northwest Power Act* (1980) (Booth & Halseth, 2011).

system today would face a very different political and legal environment than what existed when the CRT was first signed.¹⁹

2.5.2 Evolving societal values

A second theme concerns evolving societal values, indicating a priority issue amongst interviewees and individuals in the basin for a modernized Treaty is recognition of ecological values, including riparian health and salmon reintroduction into the upper Columbia basin. We can see the evolution of societal values as a bottom up process, whereby a few key mechanisms enabled these societal values to influence the agenda for a modernized CRT. We do not claim environmental concerns amongst basin residents were absent during the original negotiations of the CRT. It has been documented that residents held strong emotional connections to the environment, expressed during the BC Hydro licence hearings of the early 1960s (Swainson, 1979). Fostering environmental well-being in the Canadian portion of the Columbia River basin was one of the drivers of the founding of the Columbia Basin Trust in the 1990s (Columbia Basin Trust, 2017). However, this shift in social values ascribed to the river have helped frame the agenda and the issues to be included in a modernized CRT, compared to when the CRT was first signed.

From 2011 until 2013, the Province of British Columbia conducted a review of the CRT to evaluate potential future directions for a modernized Treaty. Through 23 community events over four phases of public consultation in the Columbia basin, residents had an opportunity to express their concerns and perspectives regarding what a modernized CRT should include. Environmental values were identified as a priority concern. A March 2014 *Columbia River Treaty Review Public Consultation Report* concluded, “Most Basin residents believe recommendations for the future of the Treaty need to address ecosystems” (Province of British Columbia, 2014, p. 16).

In 2011 local governments in the B.C. Columbia basin formed the Columbia River Treaty Local Governments Committee (LGC). The LGC also gathered input from basin residents and developed a series of 19 Recommendations that were submitted in

¹⁹ A cursory review of media surrounding Site C dam in British Columbia exemplifies the complexity of large-scale resource development today.

December 2013 to the provincial and federal governments for incorporation into decisions about the future of the CRT. Specifically, the LGC Recommendation states, “Basin residents support incorporation of ecosystem function as a first-order value within the Treaty, along with flood control and power production” (Local Governments Committee, 2013, p. 4).

Together, the inputs received from basin residents to the LGC (and submitted to the Provincial Treaty Review Team), as well as the Province of British Columbia’s own Treaty Review process illustrate the change in perspective of what the modernized Treaty should include, compared to the original CRT. The Province explicitly acknowledges ecosystem considerations as part of its recommendation to the federal government, stating “Ecosystem values are currently, and will continue to be, an important consideration in the planning and implementation of the Treaty” (Province of British Columbia, 2014, p. 3). This recommendation illustrates the influence of an evolution of societal values towards the environment on CRT modernization, and is a significant change in government position since the CRT was first signed.

Awareness of the connection between nature, technology and lifestyles has precipitated a change in social values towards the environment, with significant implications for environmental and sustainability policy (Hards, 2011). New environmental norms and laws have generally reflected an evolution of ecological thinking among legislators and the general public in countries around the world (Khagram, 2004; Gunningham, 2009; Cosens, 2016). Such an evolution of environmental discourse since the signing of the CRT suggests one might expect environmental issues to inform the framing of CRT modernization and the practices of state agencies performing Treaty review. An interviewee with a regional organization in the U.S. explained the evolution of environmental issues since the Treaty was signed, and the centrality of fish and wildlife to river governance and management,

“we have spent the last 30 years on the U.S. side integrating ecosystem issues, ecosystem functions, fish and wildlife issues, into decision-making...There is no doubt that on the U.S. side by law and policy...fish and wildlife are an equal player” (CB15S31).

An evolution in societal values towards the environment has informed the framing of a modernized CRT. An interviewee stated, "...how we think about rivers is different today than it was 60 years ago" (CB22S32). Another interviewee working with a regional organization in the basin also reflected on changing values in the system, stating, "you can't fault B.C. Hydro, or the BPA, or the Army Corp of Engineers... for what they were mandated to do...It's just that today's values are changing" (CB6S17).

Despite a broad shift of social values towards ecological considerations, there are many laws and treaties globally that do not account for environmental values. Understanding what makes the context of the CRT modernization unique, where environmental values have gained centre stage in discussions on possible Treaty renegotiation becomes important. To help understand this, we can look to the role of Indigenous nations to mobilize productive forms of power to *frame the issues* and *work collaboratively across the international border* to set the agenda for a modernized Treaty.

2.5.3 Issue framing

The productive power of Indigenous nations to frame the agenda for CRT modernization was highlighted during the U.S. Sovereign Review Process. The Review included consultation between representatives of four Northwest states (Idaho, Montana, Washington, Oregon), 15 Tribal governments and 11 federal agencies (U.S. Entity, 2013). The Sovereign Review Process, created following Tribal meetings with the U.S. Entity in July 2010, developed a collaborative and consensus based set of recommendations to the U.S. State Department, which incorporated ecosystem-based function as a co-equal pillar to power and flood risk management in the draft renegotiation position (Heffernan, 2016). Reflecting on the process through which the Tribes in the U.S. participated in Treaty review, an interviewee with a Tribal-led organization argued,

"the Tribes said, ecosystem-based function needs to be part of a modern Treaty. And, fish passage and reintroduction is an integral part of that...So, it was the Tribes that said we are not going to have a regional consensus unless ecosystem-based

function is part of the recommendation, unless fish passage reintroduction is recognized as being part of ecosystem-based function” (CB23S41).

An interviewee with a U.S. Federal Agency described the reaction from the Tribes when approached in 2010 by the U.S. Entity to take part in CRT review. S/he states the Tribes affirmed “we want the Treaty implementation to include some consideration of environmental and ecological values...we want the U.S. Entity to make sure we have some sort of ecosystem function in the Treaty” (CB25S29). The interviewee further stated many U.S. federal agencies, such as the Fish and Wildlife Services and the Environmental Protection Agency, were “following the Tribes lead on this” pushing for ecosystem-based function to be a primary driver of a modernized CRT (CB25S37).

Tribes and First Nations have adopted the term “ecosystem-based function”, particularly in their joint efforts at fish reintroduction and fish passage. As seen in recommendations to their respective federal governments, both the U.S. Entity and the Province of British Columbia, adopted the language of ecosystem benefits and values. The Provincial *Recommendations* use ‘ecosystem values’ and ‘ecosystem-based improvements’ to identify the importance of ecosystem considerations within Treaty modernization. The U.S. Entity explicitly used the language of ‘ecosystem-based function’ in its recommendations to the State Department, providing evidence of the direct impact of the Indigenous nations to set the agenda and frame the issues for CRT modernization. This statement is a significant shift in the position of the U.S. Entity. A 2009 Bonneville Power Administration (BPA) report described the CRT review as primarily concerned with hydropower and flood control. The paper identified “fish and wildlife” as “additional interests”, but that “it is important for both countries to first understand the implications of continuing or terminating the Treaty for the original components of the Treaty, power and flood control” (U.S. Entity, 2009: p. 8). Since that time, “additional interests” have become more central to discussions, with ecosystem-based function recognized as a primary objective of CRT modernization, as per the preference of Indigenous nations stated earlier.

In particular, we can see the influence of issue framing by Indigenous nations in the discourse around modernization of the CRT in a letter sent by the U.S. State Department to Senator Murray of the Northwest Congressional Delegation, dated May 20, 2015, in which

the department explicitly acknowledged “based on the [U.S. Regional] Recommendation, we have decided to include flood risk mitigation, *ecosystem-based function*, and hydropower generation interests in the draft U.S. negotiating position” (Fritfield, 2015, p.1 emphasis added). The use of these terms, and identification of ecosystem issues as a key element of a modernized Treaty, is a useful measure of the success of productive power of Indigenous nations over the course of the Treaty review.

Ecosystem-based function is not a new idea, as it has been partially addressed in various side-agreements to the CRT, or in initiatives at various scales along the river (i.e. First Nations and Tribes co-developed *Fish Passage and Reintroduction Report*, 2015). But, if ecosystem-based function were included in a modernized CRT as a primary objective, this would be a new direction, giving formality to these values at the international scale. The following section discusses the collaborative transboundary initiatives Indigenous nations and Indigenous-led organizations engaged to shape the agenda of a modernized CRT.

2.5.4 Transboundary collaboration

Indigenous-led initiatives for salmon restoration and reintroduction to the upper part of the Columbia basin illustrate the mobilization of productive power through transnational collaborative efforts to shape the agenda for a modernized CRT to include ecosystem-based function (CRITFC, 2013). At the same time, these cross border initiatives illustrate a shift towards a multi-level governance system working *across* nation-state borders.

An interviewee with an Indigenous-led organization explains the transboundary initiatives in which First Nations and Tribes have engaged to promote ecosystem-based function as part of a modernized CRT:

“we have had a number of U.S. Tribal-Canadian First Nations meetings around the renewal of the CRT. We have to build mechanisms for Tribes and First Nations to work together on various CRT scenarios....the concept of ecosystem function is a key component of the Treaty, and perhaps a co-equal purpose of the Treaty, is one

developed first among the U.S. Tribes, but then it's something Canadian First Nations have endorsed and supported. And so now the need between First Nations and Tribes is to come up with some shared transboundary ecosystem function scenarios" (CB19S20)

A First Nation interviewee pointed to the strength of the collaboration between First Nations and Tribes in the basin over time, driving the issue of salmon restoration as a key part of ecosystem-based function for the Columbia River. S/he states,

"our relationship and work and dealings with other First Nations and Tribal governments...has really pushed the salmon restoration issue forward as well because we are leveraging our own funding to do these studies, and to push forward whether Canada and BC are with us or not. We are doing it anyway. And, I think there is strength in [working] with the other Indigenous nations to do that together" (CB24S15).

As stated above, Indigenous nations are "pushing forward" irrespective of the positions of federal or provincial governments. Yet, as an interviewee with a First Nations organization explained, the different legal environments dividing Tribes and First Nations at the 49th parallel mean, "actions that U.S. Tribes can take can't always be paralleled by what Canadian First Nations might take...because of the different legal context" (CB19S38). Despite this, efforts to advance ecosystem-based function – including salmon reintroduction to the upper Columbia River - can also be seen to represent broader efforts at Indigenous solidarity in addressing shared interests across borders.

An example of transboundary collaboration and the mobilization of productive power by Indigenous nations to promote recognition of ecosystem-based function is the First Nations-Tribal co-developed *Fish Passage and Reintroduction into the U.S. and Canada Upper Columbia Basin* report (CCRIFC & CRITFC, 2015). Although developed after initiation of CRT review, the Fish Passage report aims to influence the direction of CRT renegotiations by calling for modernization of the CRT to include ecosystem-based function. A key element of the report is fish passage for native anadromous salmon and

resident fish into the Canadian section of the Columbia River past dams blocking migrating salmon on the Columbia River mainstem, specifically Chief Joseph and Grand Coulee dams in the U.S. and Hugh Keenleyside, Brilliant, and Waneta dams in Canada (CCRITC & CRITFC, 2015). The Report provides an important illustration of the mobilization of the productive power of Indigenous nations across the 49th parallel by contributing to defining the problem related to historic and current governance and management of the transboundary Columbia River and proposing an adaptive co-management approach to achieve goals set out in the report.

We can see the institutional and productive power of Indigenous nations contributing to defining the problem of narrow governance and management frameworks for the Columbia River through the transboundary salmon restoration and reintroduction work between First Nations and Tribes, engagement with state, provincial, and federal governments during CRT review, as well as court affirmed and modern and historical treaties. Throughout these initiatives, First Nations and Tribes have also been explicit about their autonomy from state-based decisions or interests, collaborating across colonial borders to progress and restore ecosystem-based function to the Columbia River. These cross border initiatives illustrate limits of state-centric models of politics – with their assumptions of nation-state power and territoriality - to include decentralized Indigenous ecological and political initiatives and practices of governance.

2.6 Discussion

Through the use of Barnett and Duvall's (2005) framework on power, our evidence suggests the exercise of institutional power and the mobilization of productive power of Indigenous nations and local actors has influenced the discourse for CRT modernization to include consideration for ecosystem issues. The current negotiating priorities of the U.S. federal government explicitly includes ecosystem-based function as a primary objective of a modernized CRT. Less certain is the explicit recognition by the government of Canada to position ecosystem values as a primary objective of a modernized CRT *within* the existing institutional structure of the Treaty. Irrespective of the starting position of the federal

governments for renegotiation of a modernized CRT, our evidence illustrates the sovereign state model – a state-to-state system of governance – is being redefined. We see a multi-level process that includes mechanisms for Indigenous nations and local actors to exert influence and shape the direction for CRT modernization. Transboundary collaboration involves Indigenous nations across the 49th parallel working on initiatives to reintroduce anadromous fish to the upper Columbia basin. These transboundary collaborations have helped redefine the constraints on engineering and operational factors determining water resource use in the Columbia River, and provide clarity on the application of ecosystem-based function in practice.

New institutional structures that are responsive to and embrace the nation-to-nation relationship of Indigenous nations and federal governments, and position Indigenous nations as full partners in CRT renegotiation and implementation can signal a transformation in how transboundary water governance processes are defined, and who is empowered to enact and implement decisions. Indigenous nations have called for direct representation on the negotiating team and a formal role in implementation of a modernized CRT to ensure ecosystem-based function is given a voice, alongside hydropower and flood risk management, within a modernized CRT. This suggests a further redefinition of state-centric governance systems, to provide opportunities for meaningful collaboration and co-creation of future governance models. In essence, innovations for transboundary water governance are needed.

Globally, scholars have called for innovations in governance of environmental systems (Garrick, Lane-Miller & McCoy, 2011; Scarlett, 2012; Moore et al., 2014) to address the complex and interconnected socio-ecological challenges resulting from accelerated global climate change and shifting hydrological regimes that will increase stream flow variability and disrupt water management systems (Hatcher & Jones, 2013; van Vliet et al., 2013). Scholars have argued innovations in governance should be a priority for multi-level collaborative approaches to (trans)national environmental governance (Berkes, 2017). Adaptive and multi-level governance frameworks that build resilience into governance systems, encourages flexibility and experimentation, and recognizes and embraces the value of multiple systems of knowledge (Akamani & Wilson 2011) provides principles for institutional changes in the governance of transboundary waters.

2.7 Conclusion

The limited focus of the original CRT on flood risk management and hydropower, and the associated historical and on-going socio-ecological impacts in the basin, contributes to calls for modernization of the Treaty to include ecosystem values and represent a wider set of interests. But, with formal renegotiations not yet started, and an ever-changing political landscape at federal levels for both Canada and the U.S. as they embark on NAFTA negotiations, it is still uncertain what the renegotiation agenda will include, how the issues will be officially framed, and who will be part of the renegotiation team. This lends certain fragility to our findings, as we are ultimately unable to conclude with certainty the conditions of official renegotiation for CRT modernization, including who will be 'at the table', or the outcome of these official talks, as well as who will be the voice for ecosystem-based function in a modernized CRT.

We find Barnett and Duvall's (2005) conceptions of power provides a robust framing for the themes that emerged from our analysis. We also recognize the limitations and risks inherent in using concepts developed by international relations theorists to discuss activities of Indigenous nations and organizations, given the difficulty of aligning conceptions of power from a Euro-Western perspective with Indigenous-led initiatives. Although we do not attempt to represent Indigenous claims on power, we find that through this typology, Indigenous nations and local actors mobilize institutional and productive power that contribute to shaping the current and on-going efforts to modernize the 54-year old CRT. Although primarily focused on hydropower and flood risk management, the position of the U.S. and Canadian Entities and the recommendations provided to their respective federal governments, suggests Indigenous nations and local actors helped frame CRT modernization to include other priorities, including ecosystem considerations. However, their influence has had unequal impacts across the Canada-U.S. border to-date. The U.S. Entity has explicitly recognized ecosystem-based function as a primary objective of a modernized Treaty, whereas the Canadian Entity negotiation position states such interests can be reached *within* the current structure of the Treaty (with its priority on flood risk management and hydropower). Despite the apparent difference in starting positions for renegotiations, it is important to note that each side does recognize that

changes are needed to the Treaty, in line with a diverse set of values in the basin, and in recognition of historical injustices resulting from the development of the original Treaty and related infrastructure.

The Columbia River case illustrates the influence that Indigenous nations and non-state actors have on traditionally state-centric governance processes, signaling a redefinition of who is to be included in decision-making processes, and how values, interests, and priorities are defined for waters flowing across borders. Such influences have drawn transboundary water governance towards consideration of ecosystem values and inclusion of voices and interests beyond state-based actors within the confines of formal diplomacy. Through the mobilization of different forms of power of Indigenous nations and non-state actors, new institutional frameworks might emerge that signal an evolution away from what Conca (2006, p. 374) has called “a fading era of pushing rivers around”, representing a significant shift from a decades old paradigm in state-based transboundary governance. Transboundary water governance and management institutions are increasingly reflecting the diversity of norms, interests, and values in shared river basins beyond state regimes, a devolution of authority away from the state, as well as recognizing and responding to the global water crisis rooted in narrowly conceived ways of manipulating water. It is through the nurturing of such changes that institutional frameworks can evolve to address complexity in transboundary river basins globally.

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Chapter 3 – Whose Border? Contested geographies and Columbia River Treaty modernization²⁰

Abstract

This paper explores the links between contemporary bordering processes, Indigenous traditional territories, and transboundary water governance processes, using the case of the Columbia River Treaty (CRT) modernization process. We posit the Columbia River is shared not just by two nations, but also by multiple Indigenous nations with various international borders. To-date, the implications of this in practice do not appear to mean changes in legal authority for CRT renegotiation and implementation. From our in-depth research experience, and analysis of empirical data into transboundary water governance, three primary themes emerged that illustrate: 1) a reaffirmation of state-centric discourse on borders and bordering processes in CRT modernization, while 2) at the same time we see changes in the legal landscape in Canada and the U.S. that inform the obligations of colonial governments to move towards collaboration and shared governance with Indigenous nations on a government-to-government basis on issues impacting Indigenous interests. And, 3) emerging are the seeds of governance structures that seek to engage autonomous Indigenous nations within CRT renegotiation and implementation, including potentially providing a seat at the renegotiation table and within implementation structures for a modernized CRT. Although nation-state borders still matter, a modernized CRT would account for the evolving legal landscape between the Crown and First Nations that recognizes Indigenous nations as autonomous nations in renegotiation and implementation of a modernized CRT.

Keywords: Columbia River Treaty; borders; transboundary water governance; Indigenous nations;

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3.1 Introduction

“We didn’t cross the border – the border crossed us” (*Henry Ramon, chairperson of the Tohono O’odham, Southern Arizona, cited in Crum 2005, 27*)

Developments in border studies has emphasized a shift from exclusively analyzing borders and nation state boundaries as objects (Agnew 1994; Paasi 2012) towards considering “bordering” as a process itself (Perkins and Rumford 2013; Laine 2016). Borders are increasingly viewed as representations of symbolic and material constructions resulting from everyday dynamic processes, such as, political discourse, media representations, relational networks, symbols, or sociocultural practices that give rise to the meanings of borders (Paasi 2012; Kolossov and Scott 2013; Brambilla 2015). Yet, contemporary bordering processes often essentialize the current spatial construct of the geopolitical system of nation-states and their borders (Paasi 2012). Bordering processes are understood as practices “through which territories and people are respectively included or excluded within a hierarchical network of groups, affiliations and identities” (Newman 2003, 13). In essence, bordering processes can produce or reaffirm borders. Nation-state borders are treated as fixed by state and sub-state actors, with bordering processes that reproduce nation-state geopolitical conceptions of space, identity, and culture. In transboundary water governance contexts, this can create tensions between Indigenous nations²¹ and national governments when rivers cross unceded or unrelinquished lands and borders of Indigenous nations.

Contemporary bordering processes – including renegotiating international treaties for transboundary resources – that continue to reinscribe colonial borders upon traditional territories of Indigenous nations are problematic and illustrates the contested geographies across Canada in what has been referred to as a “patchwork of contested – yet ignored – borderlands” (Hodge 2014, 3). Consequently, questions remain about whether

²¹ The Indigenous Governance literature considers Indigenous peoples as autonomous nations and governments (Fleras 2000; Tully 2000; von der Porten and de Loe 2012). As explained by von der Porten and de Loe (2013b, 5), this “stems directly from the fact that Indigenous people lived within sovereign nations prior to colonial contact”, and reflects the “sui generis, or unique, rights of Indigenous peoples”.

transboundary water governance contributes to the continued colonialism of traditional territories of Indigenous nations, specifically in the Columbia River basin. Not simply a river divided between Canada and the United States (U.S.), the Columbia River basin includes a multitude of borders between multiple Indigenous nations – First Nations north and Tribes south of the 49th parallel. We argue if the CRT renegotiation process leaves out Indigenous nations as legitimate participants in this process, it will continue to reaffirm a constructed reality and physical manifestation of political space that the river is shared between two nations only, instead of a river shared between multiple and autonomous²² Indigenous nations - with rights, title, and treaties over traditional territories - and non-Indigenous nation-states.

We build on analyses of borders as social and symbolic processes by examining a paradox in the current Columbia River Treaty (CRT) modernization process. What we see are state-centric narratives and discourses that centre non-Indigenous federal governments²³ (referred to in the remainder of this paper as colonial, given the history of colonization in the basin) in CRT modernization and reinscribe colonial borders, while not addressing the fundamental issues of Indigenous autonomy and self-determination. At the same time, there is a shift in recognition by policy makers involved in CRT modernization that the boundaries of governance – who is to be involved in decision-making – needs to, and is, changing in a way that increasingly includes Indigenous nations. However, this inclusion still only occurs within a nation-state system premised on protection of territorial integrity of nation-states. National governments have, in name, embraced government-to-

²² We recognize that the concept of sovereignty, with its European roots, is an ongoing source of debate amongst Indigenous scholars (see: Alfred 2005; Cobb 2005; Stark 2013). Alfred (2005 cited in Lightfoot 2016, 9) argues the concept of sovereignty is “grounded in the European experience” that has its roots in “notions of domination that stand in stark contrast to Indigenous forms of political relations, which are based on freedom, respect, and autonomy”. Yet, Stark (2013, 341-342) posits that, although the term has its roots in Europe, contemporary understandings of sovereignty “reference the unique traits of a nation that enable their self-governance” and the “right of a people to live in accordance with their own ways”. And, referring to Indigenous peoples of Australia, Kwaymullina (2018) writes of ‘narrative sovereignty’, that is, how networks of relationships and responsibility to homelands, which themselves are founded on stories, is indivisible to conceptions of sovereignty from an Indigenous perspective. As we write, we are aware these debates and differences exist, and we use the term ‘autonomy’ where possible and appropriate in support of efforts of Indigenous and non-Indigenous communities and peoples to determine processes to achieve autonomy and self-determination of Indigenous peoples as defined by them.

²³ We use the term federal government as shorthand for the most senior level of government in Canada and the U.S. We also recognize that not all colonizing states are federal.

government relationships with Indigenous governments (Canada Department of Justice 2017; U.S. Department of Justice 2017). However, the implications of government-to-government relationships in practice on bordering processes does not appear to result in a change of legal authority for CRT renegotiation, which still sits with the federal governments of Canada and the U.S.²⁴

As non-Indigenous academics, we are not equipped to ‘give voice’ to Indigenous communities and peoples (Shaw, Herman and Dobbs 2006). Therefore, we aim to be clear that we do not approach this topic in an attempt to speak on behalf of Indigenous peoples, culture, language, history or personalities. Instead, we attempt to address how federal governments and sub-state actors approach the changing nature of how borders are conceptualized for governance of transboundary waters, and how these structures of governance might be reformulated or modified. We aim to contribute to ongoing conversations on innovations in governance processes that recognize Indigenous nations as distinct political entities (Fleras 2000; Wilkins and Stark 2011; von der Porten and de Loe 2013a, 2013b; Norman and Bakker 2017), to represent their own interests, in ways that reflects their special and protected rights and title. We also recognize that as part of our own decolonization processes, we will likely realize in the near future that we still have approached or reproduced some of the very problems in our writing that we are expecting our governance structures to redress. With full awareness of these risks, we remain deeply committed to contributing to these ongoing conversations and our own ongoing learning about the possibilities for governance change for more sustainable and just futures.

To do so, we begin with an historical overview of colonial border making processes in the Columbia River basin and a discussion of the CRT. We then explain the grounded theory methodology used in the research and analysis of our data, before turning to our results

²⁴ A note on language use is relevant before proceeding. We use ‘modernization’, ‘review’, or ‘renegotiation’ to describe the current state of the CRT. To be clear, the CRT has undergone a *review* on both sides of the border leading up to 2014 to understand what should be included in a *modernized* treaty. Though the treaty does not have an expiry date, certain flood control provisions automatically expire in 2024. With 10 years notice, 2024 is the earliest date when Canada or the U.S. may unilaterally terminate or amend the treaty. The *review* of the treaty has been conducted to inform possible *renegotiations* between Canada and the U.S. to *modernize* the CRT, though these negotiations have yet to begin.

and discussion. Importantly, we did not initially set out to focus on Indigenous nations within CRT modernization. But, through a grounded theory methodology, key themes emerged that centered Indigenous nations within our analysis. We conclude that CRT modernization and implementation is not simply about a river divided between Canada and the U.S., but includes multiple borders between multiple nations, with implications for future governance of the river.

3.1.2 A brief history of colonial bordering processes

As a social and political construct, the border between Canada and the U.S. is born out of a colonial history of the region. Indigenous peoples of Turtle Island (North America) have inhabited the land since time immemorial,^{25,26} and have been involved in complex and sophisticated diplomatic activities involving transnational engagement between and across boundaries of distinct nations (Bauerkemper and Stark 2012). With the arrival of Europeans and subsequent border-making processes along what would become the 49th parallel, Simpson (2000, 116) argues “unlike the nationhood of western states, the nationhood of Indigenous peoples has been bifurcated and disassembled”, between colonial systems of power, authority, and land right claims. For instance, the Syilx People of the Okanagan Nation are now comprised of member communities in the Southern Interior of B.C. and in Northern Washington state, where their traditional territory is split by the 49th parallel and set within divergent colonial legal systems (Okanagan Nation Alliance 2017). This bifurcation cut off access to areas for Indigenous peoples who had gathered to maintain social, cultural, and political relationships (Singleton 2008), including Kettle Falls, an important fishing, and trading centre for Indigenous peoples (flooded by Lake Roosevelt as part of the construction of Grand Coulee Dam, completed in 1941) (Paisley, McKinney and Stenovec 2015).

²⁵ We understand ‘time immemorial’ as meaning “ancient beyond memory or record” (English Oxford Dictionary 1971, vol. 1, 63c).

²⁶ There are 15 Tribes in the U.S. portion of the Columbia River basin, and 18 First Nations (including the Sinixt) in the Canadian portion of the basin. The Syilx Nation and the Ktunaxa Nation ?amak?is (the name of the territory of the Ktunaxa Nation) is bifurcated by what is now the international border between Canada and the U.S. For example, Ktunaxa Nation ?amak?is has been mapped by the Ktunaxa Nation, and the representation of their knowledge of these boundaries can be seen at: <http://www.ktunaxa.org/who-we-are/>

Despite the pre-existing inhabitation of lands by Indigenous nations in the Pacific Northwest, the 1846 Oregon Treaty established the 49th parallel west of the Rocky Mountains to the Pacific Ocean as the border between British and United States claims to Oregon Country, or what would eventually become the Canadian province of British Columbia and the states of Oregon and Washington.²⁷ This act of political territoriality and demarcation of British colonial sovereignty ignored inherent and existing Indigenous autonomy over ancestral lands,²⁸ imposing “governmental, political, and commercial rights over the inhabitants without the knowledge nor the consent of the Indigenous peoples” (Miller 2006 cited in Lightfoot 2016, 7). This ran roughshod over lateral (not hierarchical) treaty making practices between Indigenous nations and European nations and monarchs (Bauerkemper and Stark 2012; Asch 2014). Indeed, it was through treaties with Indigenous nations that Mohawk scholar Alfred (2005, 34) posits, “European sovereignties in North America first legitimated themselves...[and] gained legitimacy as legal entities only by the expressed consent through treaty of the original occupiers and governors of North America”.

Asch (2014) identifies the complex situation regarding land claims in British Columbia. He states, “unlike most of Canada, the Crown did not generally negotiate treaties with Indigenous peoples in British Columbia prior to settlement of their lands” (Asch 2014, 106). Much of the lands within the upper Columbia basin remains unceded and unrelinquished territory of the Syilx (Okanagan), Ktunaxa, Secwepemc (Shuswap), and Sinixt (Arrow Lakes) nations. Therefore, questions of assumed federal sovereignty over these lands, and the jurisdiction of federal governments to enter into treaties with another foreign nation over the use of these lands, become relevant to discussions of modernization of the CRT.

²⁷ At the time British Columbia entered into Confederation with Canada, Indigenous peoples outnumbered the settler population 4:1 in the province, increasing to more than 15:1 on the north coast (Borrows 1999).

²⁸ The Syilx Unity Declaration between the Okanagan Nation Alliance and the Colville Confederated Tribes provides a powerful counter-narrative to colonial border-making processes and illustrates on-going transnational unity between a people divided by imposed colonial borders. The declaration states “without consultation or agreement with the Parties, colonizing governments established an international boundary, dissecting the Parties’ homelands; and the parties never agreed to or acquiesced to the international boundary at the 49th parallel; and despite the international boundary the Parties remain united through cultural, familial, territorial, economic, and political ties” (Syilx Unity Declaration 2010).

3.2 Borders as more than lines on maps

Historically borders have had a functional role (security, trade, delimitation of legal jurisdiction), and symbolic role (sense of belonging vs. exclusionary) (Brunet-Jailly 2007). Yet, borders are neither inherent nor static; they are the consequence of dynamic social, political, and discursive processes, which act to produce and institutionalize territory and territoriality of nation-states (Newman and Paasi 1998; Newman 2003; van Houtum, Kramsch and Zierhofer 2005; Brunet-Jailly 2007; Singleton 2008; Brambilla 2015). Agnew (1994) has cautioned against conventional thinking assuming the state is a fixed unit of sovereign space, where fundamental distinctions exist between domestic and foreign affairs, with the state acting as a 'container' of society (i.e. bounds of political and social processes contained by territorial boundaries). These assumptions combined are referred to as the 'territorial trap'. Moving beyond the 'territorial trap' is important to understand borders as places and spaces of different ideas, practices, discourses, sovereignty, identity, citizenship in and across boundary lines (Brambilla 2015). Bordering processes are being shaped or refined by contemporary global changes and shifts in power of different actors, whereby the social construction and meanings of borders can be understood as constantly evolving, even if borders themselves remain resistant to change.

Although globalization and the rise of transnational mobility of people and capital have rendered constructions of complete and exclusive nation-state sovereignty over physical space challenging (Scholte 2005), this does not imply the end of the state and state borders in the face of global change. Indeed, states still retain a powerful role in many spaces, including environmental governance across borders, even as the state's role has evolved over time (Norman and Bakker 2009; Reed and Bruyneel 2010). Yet, the privileging of nation-state borders as the only point of analysis is limited in the context of *trans-nation* interactions between Indigenous nations with "recognizable governments and, in most cases, recognizable and defined territories" (Cobb 2005, 118; Bauerkemper and Stark 2012), albeit typically fuzzier than juridical and political borders of nation-states.

Ongoing efforts of Indigenous activists to maintain connections across and challenge colonially imposed borders - while visibilizing Indigenous borders - illustrates the contested geographies of border-regions. Diener and Hagen (2009, 1208) argue “although international law clearly emphasizes the state’s right to territorial integrity and sovereignty, numerous groups challenge the legitimacy of borders as institutional demarcations of political and cultural belonging”. Examples include Indigenous communities asserting their right to cross the Canada-U.S. border with special privilege to restore and maintain kinship systems (Crum 2005; Singleton 2008), re-enforcing unity through the Syilx Okanagan National *Unity Declaration* (Syilx Unity Declaration 2010) and the ‘Unity Ride’ of the First Nations of Thompson-Okanagan in Canada and the Colville Confederated Tribes of the U.S., and the assertion of self-determination through the use of Haudenosaunee passports (Corntassel 2012).

3.2.1 The Columbia River Treaty (CRT)

Continuing a history of colonial bordering processes, on January 17th, 1961, the Canadian and U.S. federal governments in Washington, D.C signed the CRT. Though the CRT has no specific termination date, certain provisions for flood control expire in 2024, and with 10 years notice, each country may decide to terminate or amend the Treaty at the earliest starting in 2024 (Cosens 2012). Thus, Treaty review was initiated on both sides of the border leading up to 2014 (earliest date to which either country could give 10 years notice to change or terminate the Treaty) to inform efforts to ‘modernize’ the 60-year-old Treaty. As of the writing of this paper, neither Canada nor the U.S. has signalled intent to terminate the Treaty, and formal renegotiations between the countries have yet to begin.



Figure 3. Map of the Columbia River basin. Source: Hailey Eckstrand 2018

Negotiation of the CRT in the late 1950s and early 1960s proceeded without the consent or participation of First Nations of the basin, on whose unceded territory the Treaty would impact. The result was Indigenous nations and communities were rendered invisible during the original CRT negotiations (McKinney et al. 2010). Indeed, as described in Pearkes' *The Geography of Memory* (2002), members of the Sinixt First Nation were declared 'extinct' by the Canadian government in 1956, illustrating the invisibilization of Indigenous cultural use and inherent and pre-existing rights to the land and waters in the Columbia River basin. The absence of Indigenous participation is especially contentious given, as Paisley, McKinney and Stenovec (2015) explain, the Nations of the Ktunaxa, Syilx (Okanagan), Secwepemc (Shuswap) and Sinixt (Arrow Lakes) all have historical interest in the Columbia Basin, none have ceded their land and water rights or their autonomy, nor have land claim treaties with the Provincial or Federal governments been completed. Non-Indigenous communities were also left out of the original Treaty negotiations, and only consulted in regards to compensation and relocation after the Treaty was signed (Loo 2004). Leading up to the signing of the Treaty in 1961, Wilson (1973, 18) explains the

“concept of proper procedure was overrun by the pace of the international arrangements and the Treaty was signed only three months later without local consultation”.

From the in-depth interviews into CRT modernization, and analysis of our data, a number of themes emerged as relevant to social constructions of borders that risk reinscribing the social and political implications of colonial bordering processes and reaffirming state-centric discourses, while expanding the borders of governance for transboundary waters. This is the paradox we seek to illustrate in the presentation of empirical data. Next, we will explain the methods used to inductively explore the themes that emerged from the data.

3.3 Methods

The Columbia River offers a unique case in which to explore the contested geography of borders, and potential shifts in practices and governing activities of international rivers. The CRT has undergone a review process on both sides of the border (2011-2013) to inform possible renegotiations, while First Nations and tribal governments with interests in the Treaty have asserted their rights and title to, and autonomy over, traditional territory within or adjacent to the basin. Tensions in governance from historical impacts on Indigenous peoples, evolving legal obligations of colonial governments, and emerging governance structures to more formally incorporate Indigenous nations within renegotiations and implementation of a modernized CRT positions this case as unique and current among other international rivers.

To explore questions of the changing nature of governance for transboundary waters within the dynamic context of the CRT, qualitative research methodologies were used, including semi-structured and focused interviews with local/regional governments, Indigenous governments and organizations, NGOs, citizen organizations, and policy makers (n=26). Research design and empirical data analysis was informed by grounded theory (Corbin and Strauss 2008), and case study methodology (Yin 2009). Interviews were conducted in-person with individuals in the Canadian basin (east and west Kootenay

region), and via telecommunications with individuals in both the Canadian and U.S. basin or outside the basin who have in-depth experience and knowledge on the CRT modernization (e.g. federal government policy-makers). Interviewees were initially selected through existing contacts of the authors, or were found on publicly available websites of their organization. Additional interviewees were selected based on theoretical sampling techniques, to attempt to reach theoretical saturation (Chiovitti and Piran 2003). To assist in understanding the broader context of transboundary water governance for the Columbia River, the principal author attended several conferences and workshops in the Columbia basin, or in relation to the CRT, between 2013 and 2016 using participant-observation methods.

All interviews were recorded and transcribed immediately after the interview, with detailed memos written throughout the interview and analysis process to capture ideas, impressions and early findings. The principal author used open-coding to begin the analysis of the interview transcripts and conference observations. Axial coding was then used to group together codes into higher-level themes, which informed early drafts of a manuscript. After an initial grouping of codes into high-level themes, the principal author revisited the open codes, and re-grouped the codes using axial coding. The reason for revisiting the open codes was to account for an evolution in the development of the manuscript, and the progression of analysis the authors undertook. Early analyses and grounded theories shifted to focus more specifically on the role of Indigenous nations within CRT modernization, requiring regrouping open codes. After this shift, and to work towards theory saturation (Corbin and Strauss 2008), the principal author conducted further targeted interviews with individuals who work on CRT issues, as well as discussions with border theorists and academics. These discussions assisted in the analysis and confirmation of themes that emerged. The iterative methods used in the research and writing reflects the exploratory and inductive nature of grounded theory methodology. Given the complexity of transboundary water governance and border research in a real life context, while recognizing 'all is data' in grounded theory (Glaser and Holton 2004), multiple sources of evidence informed our analysis, including interviews, grey literature, policy and historical documents, and journal articles (Yin 2009).

3.4 Results

From our in-depth research experience, and analysis of empirical data into transboundary water governance, three primary themes emerged, which we identify as relevant to borders as social constructs, and practices and governing activities of transboundary waters in the Columbia River basin. In particular, our data illustrates (1) a reaffirmation of state-centric discourse on borders and bordering processes, (2) while at the same time we see changes in the legal landscape regarding engagement of Indigenous nations in both Canada and the U.S. in decision-making processes that impact their rights, title, and interests, with (3) potential governance structures emerging that seek to engage Indigenous nations more fully within CRT renegotiation and implementation.

3.4.1 Seeing the river as shared between two nations only and reaffirmation of state-centric discourses

Across interviews with participants on both sides of the Canada-U.S. border, a perspective emerged that the Columbia River is shared between two nations only. Though almost all interviewees recognized the central and important role of Indigenous nations in the CRT review and possible renegotiation and implementation of a modernized Treaty, language used in reports, and participant perceptions and viewpoints continue to depict CRT governance and renegotiation as the purview of Canada and the U.S., while de-centering Indigenous claims of autonomy over their traditional lands within or adjacent to the basin. This discourse reaffirms nation-state borders (the 49th parallel) as inherent and given, despite the known traditional boundaries of Indigenous territories.

Statements from interviewees identify governance of the river and of the CRT as being the purview of nation-states, reaffirming state-centric approaches to transboundary water governance. An interviewee in the U.S. explained,

...any hope we have of advancing the public interest in a time of climate change for the Columbia River...now rests with whether the Tribes and First Nations can act for their own interest but also for the greater public interest in moving *both* nations

to modernize the Treaty and to take action as necessary to begin to restore this river (CB22S24).

The mention of “moving *both* nations” suggests that discussions about the CRT modernization - who needs to act and who must be persuaded – positions Canada and the U.S. as the main decision-makers, and is embedded within a geopolitical and state-centric construct of borders and exercises of power. Seeing the Columbia River as a resource shared between two nation-states only may not be an unexpected result given that the existing Treaty itself is between Canada and the U.S., and the international legal system that has as its constituencies nation-states (Koivurova 2014).

Historically, the federal governments – and later the Province of B.C. – were the levels of government involved in initial CRT negotiations, whereby other levels of government (including First Nations) were invisibilized (Loo 2004). As suggested by a Canadian interviewee, this institutional structure remains for CRT modernization,

Everything that we had historically was that, yes, [the CRT] was the federal government’s responsibility, but they turned over that authority to the Province of B.C. So, at the end of the day, it will be the Feds (sic) who will be signing [a renegotiated CRT], but the sentiment was that it would be B.C. who would be driving the boat and saying this is what we support, this is what we can live with, this is what we can’t live with (CB5S15).

The legal structure of the CRT positions the treaty Entities as having authority to implement the Treaty, which is constrained to not consider other “concerns” outside of flood risk management and hydropower, including ecosystem values and interests. State-based mechanisms that position state-based actors as the primary (or sole) authorities were identified, often implicitly, as the way forward with a modernized CRT. An interviewee suggested a transboundary commission with “representation from a number of groups and organizations”, which is given a mandate “adhered to by the Federal governments on both sides, and the Provincial and State governments” (CB6S15), would be

an appropriate structure for implementation of a modernized CRT. As a governance structure, commissions are not necessarily a unique idea, as they have been developed for other transboundary basins (i.e. Mekong River Commission, Orange-Senqu River Commission). Yet, centering federal and provincial/state governments and agencies within state-based governance structures, while de-centering Indigenous nations in the basin reaffirms territoriality of nation-states over traditional territories of Indigenous nations.

At the same time, governments are making commitments to nation-to-nation relations with Indigenous nations and recognizing Indigenous assertions of self-determination, such as Canada's recent full support of the United Nations Declaration of the Rights of Indigenous Peoples (UNDRIP).²⁹ What remains uncertain is how nation-to-nation commitments and recognition by nation-states of rights to self-determination of Indigenous peoples, through endorsement of UNDRIP, is playing out in practice, specifically in the context of modernization of the CRT.

3.4.2 Legal obligations and Indigenous involvement in CRT modernization

A second theme important to understanding the role of Indigenous nations and borders in CRT modernization is the legal obligations on the part of federal/colonial governments to consult with Indigenous nations on a nation-to-nation basis. Indigenous governments have argued – and courts have affirmed – that First Nations and Tribes are not simply ‘stakeholders’, or ‘interest groups’. The literature and evidence from interviews clearly articulates the expectation - and legal obligation - of governments to engage with Indigenous nations directly, recognizing the unique rights Indigenous nations have compared to other actors (Fleras and Elliott 1992). These legal obligations and rights to self-determination as outlined in Article 3 of the UN Declaration would seem to counter the predominant discourse discussed above that views CRT modernization as a process for a

²⁹ Article 3 of UNDRIP articulates the rights of Indigenous nations to self-determination, understood as the right to “freely determine their political status and freely pursue their economic, social and cultural development” and “have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters...” (UNGA 2007, 7-10). Indigenous political theorists have debated the alignment of Article 3 with Article 46, which protects the “territorial integrity or political unity of sovereign and independent States” (UNGA 2007, 14). Scholars discussing these issues have done so in greater detail and articulation than we possibly could, including: Corntassel 2007, 2008; Newcomb 2011; Pulitano and Trask 2012; Lightfoot 2016.

river shared between two nations only (highlighting the different understandings of the legal limits of Indigenous sovereignty). An interviewee with a First Nation north of the 49th parallel articulated the legal obligation of nation-to-nation discussions. The interviewee explains,

the legal hook is the fact that we have put together legal opinions that were submitted to both B.C. and the federal government around why they should be considering [our] interests in salmon and ecosystem function...basically, why we won't take you to court if you listen to us, and what our legal justification is for taking you to court if you don't listen to us...First Nations or Indigenous governments are able to very clearly show the province and the federal governments why they should be talking to them at a government-to-government level (CB24S16).

Another interviewee with a First Nation-led organization explained the legal obligation the federal and provincial governments have in regards to First Nation governments. S/he argues, "the fundamental relationship is that engagement is legally and constitutionally required between governments...that is the very most fundamental piece" (CB19S20). In much the same way that First Nations in Canada reminded the federal government of its responsibility to consult on a nation-to-nation basis throughout the CRT review and modernization, Tribes in the U.S. were instrumental in the development of the Sovereign Review process, which enabled the collaboration of Tribes, state governments and federal agencies for CRT modernization. An individual with a Tribal-led organization in the U.S. explains,

the 15 Tribes were approached by the U.S. Entity who said: 'we would like to consult with you', and the Tribes said 'no, we don't want to consult, we want to collaborate with you on this Treaty review'. So it was actually the Tribes who said we can formulate the sovereign participation process which involved the Tribes, the four states and the federal agencies in the Treaty review on the U.S. side (CB23S35).

The unique standing of Indigenous nations in CRT modernization is one that is affirmed by courts and constitutions in both Canada and the U.S. According to an interviewee south of the 49th parallel, “Tribes have sovereign standing, they have power through our constitution and acts of congress and executive orders that provide opportunities for them that NGOs and individual citizens don’t have” (CB22S24). Results illustrate that Indigenous nations have unique and constitutionally protected rights and in some cases historical and modern treaties to be engaged on a nation-to-nation basis. These rights position Indigenous nations as more than simply ‘stakeholders’, but as autonomous and sovereign (albeit with jurisdictional, judicial, and political limits that remain contested) (von der Porten 2012) with historic and on-going ties to the lands and waters of the Columbia basin.

3.4.3 Governance structures: Advisory committee and Indigenous nations at the negotiation table

The theme of governance structures emerged, which informs practices and governing activities for how Indigenous nations might be engaged as advisors in formal renegotiation of the CRT. Governance structures as a theme builds on the previous theme of legal obligations, to move beyond the ‘who’ (who legally needs to be involved in Treaty modernization), to the ‘how’ (how are Indigenous governments involved), and illustrates the other side of the paradox we identified in our analysis. Data suggests the boundaries of who is to be involved to influence future possible directions of a modernized CRT broadening to include Indigenous nations and interests. As an interviewee with a First Nation-led organization explains,

...a key area of discussion is, what is going to be the structure of the negotiating team, where is the mandate for the negotiating team going to come from, and how First Nations are going to be involved as directly as possible in the negotiating structure...(there is) a significant pushback from government about that, but we haven’t come to the end of it (CB19S20).

Pushback from the government may partially relate to federal governments being protective of their jurisdictional authority within international treaty processes as well as the size of the negotiating team. An interviewee explains, “if every Indigenous nation had a seat at the table the Canadian negotiating team would be made up of 8 to 10 people likely. They (the federal government) really want a negotiating team that is two or three” (CB24S18).

Evidence suggests potential changes to decision-making structures are emerging with regards to activities such as agenda setting, or influencing the issues for renegotiation, to consider other issues beyond hydropower and flood risk management. Although CRT modernization reinforces the view of the river as shared between two nations only, we see an evolution around who may be part of CRT renegotiation and implementation compared to when the CRT was first developed in the early 1960s. Clear and ongoing calls by Indigenous peoples to be involved in modernization of the CRT have shifted the decision-making structures for formal renegotiations. An interviewee with a First Nation government explained,

I think everyone is very clear on what the stance of [our nation] is around how they are involved in the negotiation. What we are not clear on is how to make that happen. I’ve found in the last year or more there is more openness on the part of the federal and provincial governments to having this discussion. At first it was, ‘nope, absolutely not, we can’t do that. We can’t do that legally. You cannot be a part of the negotiating team. We will consult with you.’ And, now the federal government tabled...options for how [we] would be part of the decision-making within the process (CB24S18).

The interviewee explains a shift in the position of colonial governments regarding the role of First Nations in renegotiation processes for the CRT from a “nope, absolutely not” stance to one where a number of options have been presented to enable Indigenous governments

to be part of CRT renegotiation and implementation.³⁰ Similar shifts have occurred in the U.S., where Tribes have demanded a greater role in CRT renegotiation and implementation of a modernized CRT. An interviewee with a regional organization in the U.S. argues,

Tribes want...to be part of the negotiations itself across the border and would like to be part of the management of it (CRT) when it is modernized...but it could easily devolve into some functional equivalent of a Tribal-state-federal advisory board or interest board or interest appointees...whether it's in negotiation...or implementation of a modernized Treaty (CB15S37).

The case of Tribal participation in renegotiation and implementation of a modernized CRT suggests an evolution of the structures of how international treaties have historically been developed, and requires rethinking state-centric processes, to one where Indigenous governments have a seat at the renegotiation table. An interviewee with a U.S. federal agency argued, “this is what the Tribes are asking for, that they have a representative as part of the negotiating team...Tribal leaders said we want a person in the room” (CB23S54). Another interviewee explained, “I think on the U.S. side, what really became important was to get the Tribes to have a role because they were shut out so much in the past” (CB15S29). This concern is reinforced by Tribal and First Nation organizations, including the Canadian Columbia River Intertribal Fisheries Commission (CCRIFC), the U.S. based Columbia River Inter-Tribal Fish Commission (CRITFC), and Upper Columbia United Tribes (UCUT), to establish successful collaborative inter-nation (between Indigenous nations) and international efforts (across the 49th parallel) to bring a unified voice on issues like ecosystem-based function to CRT modernization (CCRIFC and CRITFC 2015).

3.5 Discussion

Contemporary border scholarship suggests we are not witnessing the demise of the nation-state borders, and in fact, we are seeing the hardening of borders more starkly as a

³⁰ Given these discussions are not public, it is unclear exactly what these specific options are.

backlash against globalization (Brambilla 2015; Laine 2016). Our analysis of the CRT suggests a paradox exists in how borders are understood and imagined for renegotiation and potential implementation of a modernized CRT. On the one hand, the renegotiation of the CRT risks reinscribing nation-state borders based on a history of colonialism by continuing to see the river as shared between two nations only. Yet, the boundaries of who are to be involved in governance processes are broadening, whereby Indigenous nations are beginning to be recognized as needing to be included as autonomous nations in this traditionally state-based process. The broadening of the 'boundaries of governance' has been influenced by the evolving legal landscape in Canada and the U.S. that has affirmed Indigenous rights and title, and self-determination over unceded traditional territories within or adjacent to the Columbia River basin, as well as clear ongoing demands by Indigenous governments within CRT modernization to be a part of the formal renegotiation team (i.e. to have a seat at the table).

We argue future governance structures of the Columbia River will have to reconcile the current geopolitical international system with an evolving legal landscape that has affirmed Indigenous nation's inherent and legal rights and title to traditional territories, as well as Indigenous demands for self-determination. The institutional structures of the state-centric system, where states are asserted as the highest sovereign entity, is thus challenged to consider self-determination from a non-state centric perspective as having dual meaning: "autonomy in governance *and* participatory engagement with the state" (Anaya 2009 cited in Lightfoot 2016, 10). Indigenous scholars have argued the right to self-determination does not necessarily entail secession (Anaya 1996; Fleras 2000; Lightfoot 2016).³¹

³¹ Various Indigenous political theorists suggest alternative political and relational systems between colonial and Indigenous nations built on mutually respectful negotiations that do not involve the dismantling of the nation-state system. This includes a "third spaces of sovereignty" where Indigenous peoples and nations "are neither fully inside nor outside of the state structure" (Bruyneel 2007 cited in Lightfoot 2016, 10) or "multinational" structures that "would recognize the social, institutional, territorial, and political powers and values of its constituents [creating] a consensual basis for participation in the multinational community and multinational state" (Champagne 2005, 19). These alternative political relationships illustrate de-coupling of the concept of self-determination from the state (which is often understood as statehood), suggesting "self-determination may take on multiple forms and achieved or advanced with or without independent statehood" (Anaya 2009 cited in Lightfoot 2016, 10).

If the international system of nation-states is to reconcile the reassertion of Indigenous autonomy with authority and jurisdiction over traditional lands in the context of the Columbia River, are there lessons from elsewhere where Indigenous nations have engaged as influential participants in international relations? A focus on Indigenous nations engagement in international relations across nation-state borders risks reproducing the tensions between working within colonial structures and the realization these structures may be designed so that “inclusion” of Indigenous people is not adequate to address their demands (Shaw 2008). In doing so however, such cases can inform *how* Indigenous nations have engaged as influential participants in the institutions of international relations, sometimes with nation-states as co-actors, and sometimes apart from nation-states but nonetheless across state borders. This may provide insight into how, as political theorist Shaw (2008, 66) posits, Indigenous peoples have articulated political options beyond those currently expressed within understandings of international relations. In doing so, as Loukacheva (2009, 51-53) states, “Indigenous peoples are trying to achieve a new kind of political and legal understanding of their activities as international actors...developed around the right of self-determination”. An example is the explicitly multi-national Yukon River Intertribal Watershed Commission (consisting of 73 First Nations and Tribes) (YRIWC 2017), where other levels of government (federal, state, provincial) are invited into the process (Wilson 2014; Norman and Bakker 2017). Another example of the way Indigenous peoples are increasingly challenging and changing how they are involved in international realms, including legally binding treaties (Anaya 2004; Tennberg 2010; Koivurova 2014) is the Arctic Council where groups representing Indigenous peoples were granted Permanent Participant status, and where decisions are made by consensus (Charron 2016).³²

3.5.1 A new framework

Questions of whose territory and territoriality we are speaking of in regards to borders and bordering processes is problematic for CRT modernization and renegotiation, and requires

³² Though we may highlight briefly instances where Indigenous peoples engage in international relations with nation-states (within an international system premised on sovereignty of nation-states only), we stress these are illustrative only, and do not constitute how Indigenous nations should engage formally within the CRT modernization. We believe it is through nation-to-nation discussions between Indigenous peoples and federal governments that we will be able to define this involvement and role.

a modification in governance processes under a modernized CRT that recognizes the autonomy and self-determination, as well as rights and title to lands, of Indigenous nations in the basin. This is especially contentious in British Columbia, where many Indigenous nations have not signed treaties, bringing into question the legal basis of claims to sovereignty of the Crown across much of the province (Shaw 2008; Wood and Rossiter 2011). Yet, relationships between colonial governments and Indigenous nations can be restructured to reflect the multi-national context in which water governance occurs (including Indigenous jurisdiction over traditional land bifurcated by geopolitical boundaries), and challenge power dynamics that essentialize certain worldviews and interests over others (Norman and Bakker 2017).

Indigenous nations should be part of – and indeed, help define - an expanding governance network beyond just federal and provincial/state governments for processes that have – and will continue to - directly impact Indigenous traditional territories and interests. This new approach could incorporate the recognized sovereignties of Indigenous nations alongside the legal and judicial authority of nation-states. Key features of any new approach to renegotiation and implementation of a modernized CRT would need to address a number of high-level issues. First, Indigenous nations need to have an explicit and recognized voice in renegotiation of a modernized CRT. Often this has been identified by interviewees as ‘having a seat at the table’ along side federal governments. Second, Indigenous nations need to have an explicit role in implementation and on-going governance of a modernized CRT as distinct political entities with decision-making authority. Justification for this has a legal basis,³³ but also a cultural and historical basis, whereby Indigenous nations in the Columbia basin have reciprocal relations with the lands and waters, and have asserted they can give a voice to ecosystem-based function as a third pillar to a modernized Columbia River (alongside existing CRT Entities who ‘give voice’ to hydropower and flood control interests in the basin). Third, any new approach should include provisions for ‘good governance’, including accountability, transparency, legitimacy, justice, reportability, and efficiency (Pahl-Wostl, Gupta and Petry 2008), to

³³ For example, Delgamuukw (1997) affirmed Indigenous claims to land, with “the associated powers that had never been ceded by treaty or agreement” (Fleras 2000, p. 108).

ensure the meaningful and direct engagement of Indigenous nations as a level of government for governance of a modernized CRT. And, finally, Indigenous governments need to be central to the efforts to define in greater detail the above three elements – and others important elements we are inevitably missing – in nation-to-nation discussions with federal governments and CRT Entities. Further, we recognize the challenges are bigger than participation in renegotiation and implementation of a modernized CRT. In the Canadian legal and political context, without broad agreement on Indigenous models of sovereignty and self-determination, legitimacy and legal authority, and jurisdiction of Indigenous nations along side federal and provincial governments, as well as equitable processes for land and resource management, progress on issues of co-management and co-governance may be limited.

3.6 Conclusion

The Columbia River basin includes the traditional territory of multiple Indigenous nations with various inter-*nation* borders, reflecting Indigenous jurisdictional authority over CRT-related issues on or impacting their traditional lands. To-date, the implications of this for CRT modernization in practice do not appear to mean a re-imagination of borders, or a change in legal authority for CRT renegotiations that still sits with the federal governments of Canada and the U.S. Modifications of legal authority could legitimize Indigenous jurisdiction to “land, identity and political voice” as co-equal to that of the federal and provincial governments in a system of “multiple yet overlapping jurisdictions” (Fleras 2000, 109; Tully 2000). Scholars have cautioned without such a modification, power asymmetries between federal governments and Indigenous nations persist, with Indigenous knowledges treated as “supplementary sources of information to western science...[with] Aboriginal worldviews that shape decision-making...dismissed” (Koschade, Koschade, and Peters 2006, 302) or forced into structures of state institutions (Agrawal 1995; Nadasdy 1999).

Perhaps unsurprisingly, nation-state control over bordering processes, such as trade, commerce, security, and flows of goods and people have not been supplanted by other levels of government. In short, borders – and states- still matter (Johnson 2012). This assertion is reflected within current global events. The 2016 U.S. election of a nationalist Republican President, with the administration’s focus on borders, immigration and security illustrates continued state control over many border processes. Current renegotiations over the future of the North American Free Trade Agreement remind us of the divisive nature of cross-border policy between nation-states. Nationalist tendencies in political discourse across Europe (i.e. Britain and Brexit) further illustrate the influential role borders have, in both the imagination of social processes to define a ‘community’ and as a policy tool.

CRT modernization is happening within a larger process of reconciliation between Canada’s settler population and Indigenous nations, as well as an evolving legal system in Canada that has affirmed pre-existing Aboriginal title and inherent rights to unceded traditional territory has not been extinguished. On-going processes and clear intentions by the Canadian federal government to begin a new relationship with Indigenous nations (i.e. adoption and now implementation of UNDRIP) gives further hope to an evolution in political relationships between Indigenous peoples and nation-states.

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Chapter 4 – Polycentricity of international river basins: application to the Columbia River Treaty and Lesotho Highlands Water Project³⁴

Abstract: Complex challenges emerging in transboundary river basins reveal a need to include a range of interests and actors in governance processes. Polycentric governance is one framework that can address this need and inform adaptive and resilient governance processes in transboundary basins as linked social and ecological systems. This article explores the emergence of polycentric traits in governance for the Columbia River (Canada/US) and the Lesotho Highlands Water Project (Lesotho/South Africa). Using data gathered from sixty in-depth interviews, empirical results illustrate four governance themes relevant to the emergence of polycentricity in the case study basins: authority, flexibility, coordination activities, and information sharing. Though the emergence of polycentricity is limited by existing state-centric governance regimes, these regimes show evidence that polycentric traits are supplementing existing governance systems, influencing policy processes, and introducing a range of management values.

Key Words: *Columbia River; Lesotho Highlands Water Project; policy; polycentricity; transboundary water governance*

4.1 Introduction

A growing trend in transboundary water governance is greater levels of participation by local, regional, and Indigenous governments, as well as non-governmental actors (Lemos and Agrawal 2006, Norman and Bakker 2009, Chen and Duda 2013, Norman 2015). These various actors seek a greater voice in governance to address a number of challenges, including: climate change impacts, disagreements with land use decisions within watersheds that impact a range of social, cultural, and spiritual values, degradation of

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ecosystems (e.g. loss of aquatic species), the need to recognize the rights and self-determination of Indigenous peoples within watersheds, and to ensure governance is flexible and responsive to emerging issues across different scales (Flanagan and Laituri 2004, Foley et al. 2005, Sheer and Steel 2006, Rotarangi and Russell 2009, Keys et al. 2012, Osborn 2012, von der Porten and de Loe 2013, Armitage et al. 2015, Morrison 2017).

Additionally, discussions increasingly focus on the need to build social-ecological resilience within watersheds (Hill Clarvis and Engle 2015, Hurlbert and Gupta 2016), defined as the “capacity of a system to absorb disturbance and reorganize so as to retain essentially the same function, structure, and feedbacks – to have the same identity” (Walker and Salt 2012: 3). Consequently, discussions have emerged on adapting existing approaches to water governance to respond to the growing number of issues, recognizing the dynamic nature of social-ecological systems (Sneddon and Fox 2007, Armitage 2008, Berkes 2010, Cosens 2010, Akamani and Wilson 2011, Pahl-Wostl et al. 2012, Rijke et al. 2013, Bankes and Cosens 2014, Gunderson et al. 2017). One form of governance recognized for its approach to integrate actors across multiple scales is known as polycentric governance (Andersson and Ostrom 2008, Huitema et al. 2009, Ostrom 2010, da Silveira and Richards 2013, Warner et al. 2014).

Polycentric governance has its foundations in social-ecological resilience theory, and consideration of its applicability has begun to be analyzed by water governance scholars (Marshall et al. 2013, Thiel 2015, Knieper and Pahl-Wostl 2016). However, many of these studies tend to focus on national or sub-national scales (e.g. watersheds set entirely within a country), with a more limited set of studies examining polycentric governance in international rivers and transboundary contexts (e.g. Akamani and Wilson 2011, Myint 2012, da Silveira and Richards 2013). Governance of international rivers has traditionally been dominated by state-based approaches with inadequate ‘fit’ between institutions, policies, and geography (Conca 2006, Lankford and Hepworth 2010). This suggests a need to understand which non-central state actors are involved in transboundary water governance, and examine whether and how these actors might be contributing to a change

in governance towards polycentric systems. It is unclear if, and how, polycentrism can emerge in cases where top-down governance is already present and functioning.

Further, polycentric concepts have emerged primarily from a Euro-centric body of scholarship and it remains relatively silent on whether and how existing conceptualizations can grapple with the rights, title, and autonomy of Indigenous nations and what this means for polycentric governance in practice. There is therefore a need to understand the emergence of polycentricity in governance for transboundary waters that include a diversity of actors as well as Indigenous ways of knowing, and which supplement existing centralized governance regimes.

This study explores transboundary water governance arrangements in the Columbia River and Orange-Senqu River basins. Given the history of successful transboundary water cooperation in these basins (Tarlock and Wouters 2007, Jacobs 2012), the cases are possible frontrunners in ongoing efforts to integrate a diversity of actors at multiple scales, as actors in each basin start to self-organize, and gain increasing levels of governance autonomy and influence over management processes to include a range of interests and perspectives in river operations. This is specifically relevant in the Columbia River basin where Indigenous nations are reasserting autonomy and self-determination over resource management (Columbia Basin Tribes and First Nations 2015), and in South Africa where there is increasing awareness that local levels should be more involved in transboundary planning processes (Raddgever et al. 2008). Therefore, this study explores the question of whether and to what degree governance systems for the case study basins are becoming more polycentric, and the implications for governance of transboundary rivers.

We begin with a review of the theoretical underpinnings of polycentricity. Next, we explain our methods, including a brief history and geographical overview of the case study basins. Empirical results show four governance themes that relate to the emergence of polycentricity. We discuss the extent to which the existing state-centric governance systems in the cases – and prevalent in transboundary basins throughout the world – illustrate the challenges and opportunities for the emergence of polycentric governance

system. Though the emergence of polycentric governance systems in our cases appears limited, existing state-centric governance regimes have become increasingly contested by the expansion of multi-scalar actors and initiatives into the realm of transboundary water governance and management.

4.2 Introduction to polycentric governance systems

Initially conceived by Polanyi (Polanyi 1951, as cited in Aligica and Tarko 2012), and further developed by Ostrom et al. (1961) on metropolitan governance, the concept of polycentricity has been used as a lens and guiding principle to analyze diverse management and governance issues, including: common-pool resources (Ostrom 1990, McGinnis 1999, Mostert 2012), urban and regional planning (Salet and Savini 2015), decentralized regulatory regimes (Black 2008), forest governance (Nagendra and Ostrom 2012), and climate governance (Ostrom 2010, Jordan et al. 2015).

Within this body of scholarship, polycentric governance is understood to involve dispersed authority to separate and autonomous bodies or governing units with non-hierarchical and modest overlapping jurisdictions that operate under an overarching set of rules (McGinnis 1999, Folke et al. 2005, Huitema et al. 2009, Ostrom 2009, Aligica and Tarko 2012, Cosens et al. 2017). These 'units' can be organized geographically where they have an independent domain of authority (i.e. river basin management agency cutting across jurisdictions), and linked horizontally on common issues with other independent units, while being nested within broader governance units vertically (Marshall 2007, McGinnis and Ostrom 2011, Biggs et al. 2012). The creation of overarching sets of rules illustrates the important and on-going role of the state within a nested system. Other actors and issues in governance processes in no way indicates the end of the state itself as a significant site of regulation and stability (Marshall 2007, Reed and Bruyneeel 2010), and instead reflects the evolution of governance in a complex, globalized, and multi-scaled world (Scholte 2005).

Pahl-Wostl and Knieper (2014: 147) posit the emergence of polycentric governance systems results from the capacity of actors to self-organize “in combination with purposeful design”, or what Marshall (2015: 9) calls the “positive-feedback dynamics” that drive self-organizing processes in what are characterized as complex and adaptive systems (Garmestani and Benson 2013). However, empirical evidence that captures these general dynamics, and specifically the experience of this emergent self-organizing process from the perspectives of those driving that dynamic in transboundary watersheds, needs further strengthening to truly understand how this theory plays out in practice. Given the self-organizing and dynamic nature, polycentric governance systems can best be presented in degrees, or along a spectrum, whereby governance systems may be “more or less polycentric and more or less ‘system-like’ in character” (Carlisle and Gruby 2017: 21).

4.2.1 Advantages and limitations

At least five key advantages for what polycentric governance approaches could ideally achieve in practice are put forward in the existing scholarship (Duit et al. 2010, Marshall 2015, Morrison 2017). First, learning opportunities emerge from experiments with new approaches that can occur due to the high number of units at the various scales. This may be more effectively undertaken in autonomous and independent bodies than it may be in a single central authority (Brondizio et al. 2009, Huitema et al. 2009, Epstein et al. 2015). Second, polycentric governance systems are assumed to be able to provide room for local and traditional knowledge to be shared across scales so that decision-making processes can be more responsive to local interests (Marshall 2007, Galaz et al. 2012, Simonsen et al. 2014). Third, smaller governance units are often able to respond more quickly to uncertainty and disturbances than centralized authority focused on optimizing some limited aspect of an ecological system (Ostrom 1999, Cosens 2013), which can lead to system collapse (Walker and Salt 2012). In the case of water, the goal is often to optimize the allocation of water for human uses. Ideally, a linked set of smaller systems could contribute to learning and shared experiences between and across scales to enhance resilience (Brondizio et al. 2009). Fourth, scale-specific approaches can be used across the nested and linked set of “units” to address different ecological issues through ‘institutional

fit' (i.e. the congruence between ecosystems and institutional arrangements) (Epstein et al. 2015, Carlisle and Gruby 2017). Finally, polycentric governance systems can exhibit a high degree of overlap, redundancy, and institutional density that can enhance resilience and mitigate risk (Carlisle and Gruby 2017, Morrison 2017).

Despite the promise of polycentric governance systems, scholars have indicated that they are not without challenges. First, though each group in a polycentric system may argue for an equitable say in governance processes, power asymmetries may result in more powerful actors having their interests met (Biggs et al. 2012). Moreover, the inclusion or consultation of formerly marginalized voices does not go far enough in addressing power asymmetries, and this is particularly problematic if considered in the colonial context where such asymmetries have been deeply engrained between settlers and Indigenous peoples. Second, scholars have identified a need to balance redundancy and experimentation with the reality of costs incurred by coordinating, consulting, and negotiating trade-offs with members of multiple governance institutions to reach agreements (Biggs et al. 2012, Mostert 2012, Simonsen et al. 2014). Third, scholars have found limited empirical evidence regarding flexibility of polycentric systems, their ability to better reflect local preferences, or the greater extent to which experimentation and learning occurs as compared to centralized and hierarchically organized systems (Huitema et al. 2009, Morrison 2017). Studies suggest, for instance, polycentric governance systems have evolved for the Great Barrier Reef, but their effectiveness to enhance environmental outcomes is not certain (Morrison 2017). Others have noted systems may be polycentric, but still remain rigid and inflexible, as evidence in the Everglades social-ecological system (Gunderson et al. 2017).

Amidst these debates about the promise and perils of polycentric governance, previous studies have been undertaken for national river basins (see, Lankford and Hepworth 2010, Pahl-Wostl et al. 2012, Marshall et al. 2013, Warner et al. 2014), though fewer studies apply the concept of polycentric governance to the scale of transboundary rivers (see, Myint 2012, da Silveira and Richards 2013). However, numerous questions remain, including what "counts" as subsidiarity and in turn, polycentric authority? And, whether this is being

upheld across scales in transboundary basins with historical centralized institutional structures, which might suggest a change in governance processes. Further, polycentric governance requires coordination between different units that comprise the governance system. Though state agencies, in theory, can coordinate between different units, a key challenge remains to understand in practice if the state is willing and able to fill this role. And, a critical gap in the literature on polycentric governance systems remains Indigenous participation in a polycentric context for transboundary river basins. This study seeks to contribute empirical research to on-going conversations of polycentric governance systems in transboundary basins by exploring if and to what degree polycentric governance systems might be emerging for the Columbia River Treaty (CRT) and, within the Orange-Senqu River Basin, the Lesotho Highlands Water Project (LHWP). Relevant to the Columbia River case is reassertion of authority of Indigenous nations regarding natural resource management, given the legal and constitutionally protected rights and title of Indigenous nations in the Canadian and U.S. context.

4.3 Methods and case selection

Given the exploratory nature of this work, and the need to continue to develop empirically grounded conceptual understandings of polycentric governance, a grounded theory approach was used (Corbin and Strauss 2008). Grounded theory is concerned with “social processes or actions”, which asks questions about “*what happens and how people interact*” (Sbaraini et al. 2011: 129, emphasis original) and is particularly useful for small-n case selection. The methodology works towards inductive theory building (Strauss and Corbin 1994, Chiovitti and Piran 2003). Unlike comparative case study methods, this study attempts to build a grounded, inductive theory about the emergence of polycentric governance by drawing on data and concepts that emerge across the two cases. Further detail about the grounded theory approach is outlined in the data collection description.

Case study selection was based on a number of factors, including: existing formal and informal organizations, existing and well documented agreements, clearly defined issues

for local actor mobilization, and political systems allowing for local actor engagement (see Table 1). The two basins also share interesting similarities in their geopolitical and geographical aspects. For example, both have an upper basin that is located in a non-hegemonic state, which provides disproportionate flows, both river basins are highly developed in regards to dams, and as a consequence, hold economic importance to their respective regions. Both cases are also widely recognized as exemplary institutional frameworks for governing transboundary rivers (Tarlock and Wouters 2007, Jacobs 2012).

Table 2: Case selection factors

Case Selection Factors	Columbia River basin	Lesotho Highlands Water Project
Existing formal and informal organizations (i.e. citizen groups, committees, coalitions)	Treaty Entities, CRITFC, CCRIFC, CBT, NPCC, CBRAC, Upper Columbia United Tribes (UCUT), Local Governments Committee (LGC)	Treaty Entities, CMAs, WUAs, non-governmental organizations (i.e. Transformation Resource Center-Lesotho, GROW-Lesotho, International Rivers-South Africa)
Existing and well documented agreements	Columbia River Treaty (1961)	Treaty on the Lesotho Highlands Water Project (1986); Agreement on Phase 2 of the Lesotho Highlands Water Project (2011)
Clearly defined issues for local actor mobilization	Modernization process underway for Columbia River Treaty	On-going development of compensation policy as part of 2011 Agreement, increasing water demands
Political system allowing for local actor engagement	Shift in legal landscape concerning rights of Indigenous nations, strong civil society	Democratization of political system in Lesotho and South Africa since 1986 Treaty

The CRT has recently undergone a review, and formal renegotiations of key aspects of the Treaty (i.e. flood provisions, benefit sharing) are likely to occur shortly. The third dam of the multi-dam LHWP is currently under construction, with further dam projects planned. Each basin therefore offers on-going and timely processes that provide empirical grounding to explore the integration of actors, interests, and values from across multiple scales into governance processes. Doing so has the potential to better enable governance processes to respond to the growing number of issues emerging for transboundary waters. Given the existing – and successful - institutional frameworks in each basin, we suggest the

cases are possible frontrunners for conventional state-centric governance regimes to interact with emerging polycentric forms of governance (Hooghe and Marks 2003).

4.3.1 Case study background

Columbia River Basin

The Columbia River basin offers a rich, albeit contentious (Norman and Bakker 2017), North American experience on transboundary water governance, going back a century with the Boundary Waters Acts (1909) and formation of the International Joint Commission (1912). The CRT has governed the Columbia River since 1964, negotiated between the Canadian and U.S. governments to reduce flood risk, and optimize hydropower generation. A 1963 agreement between the Province of B.C. and the Government of Canada gave most of the rights, obligations and benefits of the Treaty to the Province (Cosens and Williams 2012). The Treaty Entities tasked with implementing the CRT are B.C. Hydro for Canada and the Bonneville Power Administration (BPA) and the U.S. Army Corps of Engineers in the U.S. With flood control provisions set to expire in 2024, and certain elements of the Treaty identified as up for renegotiation (i.e. Canadian Entitlements), years of public consultation and a multi-phase review process on both sides of the border has been undertaken, but with formal renegotiations yet to begin. The review has provided an opportunity for historical grievances to be voiced, and for First Nations and Tribes in the basin to engage in nation-to-nation discussions with state, provincial and federal governments.



Figure 4. Map of the Columbia River basin. Source: Hailey Eckstrand 2018

Since the Treaty was signed in 1961 and ratified in 1964, the governance landscape has changed, becoming increasingly complex. Numerous social and ecological issues have emerged since 1964 (Banks and Cosens 2014). Hirt and Sowards (2012: 130) succinctly express, “there is more interests at stake than just two nations, and the river is more than just a giant power stream”. Future planning and governance in the basin must meet broader and more complex values, and align diverse economic, political, and social agendas within ecological limits, beyond what a focus on hydropower and flood risk management can provide (Hirt and Sowards 2012, McKinney 2012). Important social-ecological change includes shifts in hydrology associated with a changing climate (McCaffrey et al. 2012). Further, a number of issues that were not considered during development of the original Treaty are contributing to the need for a more adaptable and collaborative governance framework, such as changes in empowerment of Indigenous and local communities (Cosens and Williams 2012). Yet, the Treaty, it has been argued, constitutes one of the most successful examples of an international water and benefit sharing treaty amongst riparian nations in the world (Hamlet 2011).

Orange-Senqu River Basin and the Lesotho Highlands Water Project

The history of South Africa, according to hydropolitical historian Turton, “is a history of political power as it has been manifest in military conflict and the desire to capture water resources and control the economic future through river basin management” (Turton 2005: 1). Water has been, and continues to be a driver of economic, political, and cultural dynamics in South Africa, tied as much into the relations with neighbouring states as it is with the socio-economic polarization of the country’s population. The Lesotho Highlands Water Project Treaty (1986), in the Orange-Senqu River Basin, was signed between apartheid South Africa and a coup d’état installed military regime in Lesotho.

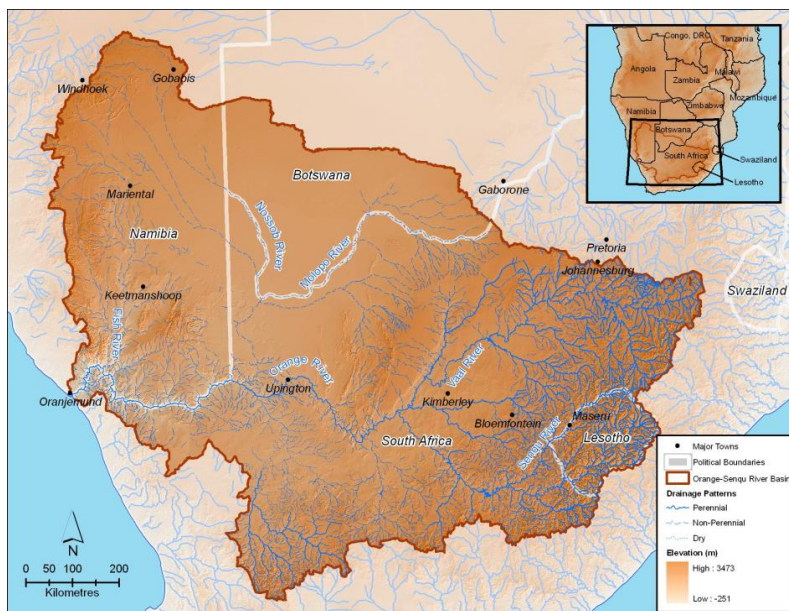


Figure 5. Map of the Orange-Senqu River basin. Used with permission from Andy Dean, Hatfield Consultants 2018.

Considered one of the few successful bilateral cooperative inter-basin water transfer schemes in the world (Mirumachi 2007), the LHWP currently includes two dams and transfer tunnels (developed as part of phase 1A and 1B). A third dam, the Polihali dam (Phase 2), is currently under construction. When it is completed, the waters behind the Polihali dam will submerge 5,040 hectares of land, of which an estimated 1125 hectares is arable, and will displace 272 households from five completely submerged and another five partially submerged villages (Lesotho Highland Development Authority 2014). A wider community of people whose access to lands and resources will be significantly or

permanently impeded will also be impacted. The waters made available by LHWP flow from Lesotho into South Africa's Vaal River, itself a major tributary of the Orange-Senqu River. This flow augments waters available behind the Vaal Dam, from which South Africa's economic engine - Gauteng Province - withdraws much of its water (Heyns et al. 2008). The web of intra-and inter-basin water transfer projects in South Africa illustrates the complexity of water resource management to meet multiple objectives in an arid region (Turton 2003).

As the primary international institutional structure for governance of the multi-dam project, the Lesotho Highlands Water Commission (LHWC) was created to "encourage cooperative governance between differently endowed states" to coordinate the overall LHWP (Mirumachi and Van Wyk 2010: 31). Two other formal governance structures include the Lesotho Highlands Development Authority (LHDA) and the Trans-Caledon Tunnel Authority (TCTA). These two entities are responsible for the implementation and development of the infrastructure pursuant to the Treaty in Lesotho and the management of the delivery tunnel that brings water to the Vaal River, respectively (Turton 2003: 146).

4.3.2 Data collection and analysis

Over the course of two field seasons, first in the Canadian Columbia River Basin (November 2015, January 2016), followed by South Africa and Lesotho (March-July 2016), 60 in-depth semi-structured interviews guided by open-ended questions (Dunn 2010) were conducted by the principal author. Interviewees included a purposive sample (Hay 2010) of Indigenous-led organizations, community members, local elected officials, NGO representatives, government ministries, academics and experts in the field, and private sector representatives who were all engaged in water governance processes across the two case study basins. The interviews relied on probing questions to elicit rich details and descriptions, consistent with exploratory research strategies (Gerring 2004). Although each interview covered the same broad topics, the semi-structured nature of the interview process allowed the principal author to explore areas of specific significance in-depth, and to clarify meanings and perspectives set forth by each interviewee. A digital recorder was

used in the majority of interviews (n=45) with consent from participants, which were transcribed verbatim. Interviews were conducted in both private (e.g. work offices) and public (e.g. public library) spaces, and lasted between thirty minutes and two hours.

Transcripts were manually coded in stages using a software data management tool (MaxQDA) to distil key themes, analyze information collected, and inform further data collection (Cope 2010, Sbaraini et al. 2011). During the first level coding of transcripts, codes were generated directly from the data, which were then reorganized into higher level categories by grouping similar codes together (Corbin and Strauss 2008). These categories each had subgroups consisting of first level codes that included instances (i.e. verbatim quotes) from the data. As categories emerged, further interviews were used to explore the limits of the categories, seeking to understand them in more detail (Dey 1999). These categories were then grouped into theoretical themes, which were then tested and contrasted with key themes in polycentric governance literature. Empirical data was substantiated with analysis of academic literature, policy documents, grey literature, media reports, as well as our own observations and experiences. The authors relied on deep critical reflection of the themes that emerged from the data through memoing, as well as multiple iterations of coding, to identify any biases and reflect on the emergence of categories.

4.4 Exploring emergence of polycentricity in governance of transboundary waters

Based on the analysis, we identified four key themes as relevant to explaining whether and how polycentric governance systems might emerge in transboundary basins that currently rely on conventional, state-centric approaches: authority, flexibility, coordination activities, and information sharing.

4.4.1 “Stickiness” of authority arrangements

For the Columbia River, the sole transboundary entity that operates pursuant to the Treaty is the Permanent Engineering Board (PEB), and represents management authority – albeit narrow in mandate given its focus on hydropower and flood protection - at the

international scale. The PEB has a primary focus on technical and operational matters pertaining to the management of the Columbia River, such as ensuring Treaty objectives are being met (Permanent Engineering Board 2017).

With such a narrow mandate, the PEB arguably lacks the legal authority to address basin wide social-ecological issues in a holistic sense. This perspective was reflected by an interviewee, who argued,

“It’s not just about money, it’s not just about hydro, it’s not just about flood control. I think there has to be operational entities that are involved in Treaty and water distribution decisions that need to be broader than just the group that we have in place right now...We have to have environmental thinkers and other thinkers that can participate effectively in operational concerns” (CB10S62).

Initiatives are emerging in the Columbia basin that appear to supplement and influence the conventionally state-centric governance structures. The Columbia Basin Regional Advisory Committee (CBRAC) is one attempt to develop deeper coordination between various interests and actors in the Canadian portion of the basin, including local governments, First Nations, Provincial and Federal government, B.C. Hydro, and citizen groups. Facilitated by the Province of B.C., CBRAC emerged from public consultation conducted by the Province for the Treaty review as a way to continue the engagement of residents and to provide input into B.C. Hydro’s operation of the Columbia system. However, the Committee has no decision-making authority, as one CBRAC member explained, “we have no authority... if we have concerns right now in this area, it’s going to end up on the [Ministry of] Mines and Energy desk, it isn’t going to end up in some common forum from both the U.S. and B.C. side of the equation” (CB4S22).

Though CBRAC aims to be representative of community interests, and to ensure that governments “hear” the local voices, the CRT and the associated governance structures and processes do not provide a legal mandate to sub-national groups like CBRAC. Thus, data suggests that participants perceive decision-making authority to remain within a narrow

set of government agencies, whereby other interests and actors are limited from having a formal role in decision-making processes at a basin scale.

Similar to the Columbia River, formal governance authority for the LHWP are vested in state-agencies and government ministries. The LHDA and TCTA are the two entities charged with implementing the LHWP in Lesotho and South Africa, respectively, with overall project coordination by the LHWC. Although the LHWC is comprised of representatives from Lesotho and South Africa, one interviewee argued:

“ultimately, the power resides within the Ministers of water in both of those states”, the implication of which is “a large amount of discretionary influence [residing] in a single individual. It also focuses very much on water, as opposed to the bigger development implications. And it also creates a very strong sort of hierarchy” (OS19S47).

This suggests the governance framework for the LHWP has limited room for other actors to play a formal role in decision-making and implementation processes. The development of the compensation program for impacted communities in Lesotho has been identified as a space in which local actors have participated. Yet this claim of greater participatory processes has been disputed by a number of individuals and organizations in Lesotho, as we will explore in the next section.

The creation of Catchment Management Agencies (CMAs) and Water User Associations (WUAs) across all of South Africa brings decision-making processes and water resource management to a localized level (Förster et al 2016). To date, only two CMAs have been fully established – the Inkomati-Usutu and the Breede-Gouritz, and in the case of the Inkomati-Usutu CMA, it took almost ten years to transfer key legislative mandates to the CMA (Denby et al. 2016). Moreover, authority for transboundary waters – including the LHWP - is still firmly situated with central government ministries. For instance, an interviewee with the partially established Vaal River Proto-CMA (currently residing in the

Department of Water and Sanitation) argued s/he has not been involved in decision-making processes for the project, stating:

“what should happen - which has not happened - is that we in the Vaal should be part and parcel of the international institution between...South Africa and Lesotho. Those institutions are there, but I personally have not been involved...we believe that, because the water from Lesotho highlands enters South Africa into my catchment, we should play a major role in decision making there” (OS2S25).

In Lesotho, participants from impacted communities, NGOs, and regional governments and organizations, such as the Mokhotlong Community Area Liaison Committee, reported few opportunities for input into decision-making processes for Phase 2 of the LHWP. Some interviewees identified the development of the compensation program as a point at which local voices and concerns were involved in crafting the program. Yet, this was disputed by other participants living in communities soon to be relocated by the rising waters of the Polihali reservoir, and by a participant based at a human rights NGO active in the region. For example, this latter participant explained, “you cannot call it a consultation or public participation because the way they (LHDA) conducted it. [The] LHDA actually [came] up with a draft to the communities...And if you can look at that, most of the issues [from the communities] they do not accept” (OS14S46). Therefore, the data suggests that most participants perceive decision-making authority to develop the compensation policy as remaining in the purview state-based actors.

In both the LHWP and the CRT, initiatives are emerging that are attempting to raise the profile of a diversity of interests, suggesting non-state actors and their own processes have begun to not replace, but operate along side of state-centric governance structures. This status means ongoing constraints for local actors. For example, even though the establishment of CMAs in South Africa has been described as a ‘text book approach’ to polycentricity (Muller 2012), the balance of decision-making authority for transboundary rivers appears to be retained by the state. In the Columbia River, although a range of actors are involved in management issues (i.e. fisheries), and the Treaty review included

comprehensive public consultation and nation-to-nation discussions between federal, provincial, state, and Indigenous nations, the ultimate authority to renegotiate the CRT remains state-based.

4.4.2 Existing and emerging flexibility

Despite the narrow focus of the CRT, participants perceived flexibility has having been developed within the operational system for the Columbia River. One participant explained how flexibility was built into the original Treaty and has since been used by the Treaty Entities,

“The Treaty writers...left flexibility in the Treaty for us...We’ve used that flexibility... [in] the initial non-power uses agreements back in the 1990s. It’s been an annual agreement since then, but it was one that we actually agreed to deviate from the strict Treaty operations because both sides needed some changes for fish” (CB21S21).

Perspectives from participants indicate that a degree of flexibility exists in how the dam operations are currently implemented by the CRT Entities to include fishery and other non-power objectives. This flexibility is achieved through supplemental agreements, such as the Non-Treaty Storage Agreements referred to in the above quote, the Detailed Operating Plans, and Supplemental Operating Agreements, which allow for the dam system operations to benefit other interests beyond only maximizing the production of hydropower (Local Governments Committee 2015). One agreement, known as the Libby Coordinating Agreement, is another illustration of flexibility within the Treaty framework to adapt to changing social, economic and environmental values, because it recognized fish and fish management as an equal part of Libby operations (Paisley et al. 2015). B.C. Hydro also maintains the flexibility to move water between different Canadian reservoirs along the Columbia River in response to social, environmental, and hydropower interests that arise (Province of British Columbia 2013). As one participant explains: “the original Treaty authors left enough flexibility that we can actually [meet ecosystem goals] in supplemental agreements” (CB21S23). Participants identified these agreements as illustrating the

existing flexibility to influence the physical operations on the Columbia River, to ensure water is available to meet different values beyond hydropower and flood risk management.

Participants identified Water Use Plans (WUPs) developed by B.C. Hydro for the Canadian Columbia River system as representing an additional mechanism designed to increase flexibility for operations to balance competing uses of water. A consultative process to develop the WUPs between 2000 and 2004 involved “government agencies, First Nations, local residents and other interests groups”, resulting in “recommendations on how incremental changes to operations of the [Mica, Revelstoke, Hugh Keenleyside, Duncan] facilities might have positive impacts on a variety of different interests”, including fish and wildlife, heritage and recreation (Province of British Columbia 2013: 5-6). As an interviewee who was previously employed by the Canadian Entity explained,

“We tried to get a cross-section of stakeholders to come in and basically sit around the table a number of times and look for a better way [for the]...changes that [B.C. Hydro] needed to make in the operations of our reservoirs to improve the overall well-being of B.C. So, if we needed to give up some power so that there could be a better fish-spawning regime or a better recreational regime that was definitely on the table” (CB12S8).

The implementation of the WUPs for the Columbia River cannot contravene the CRT by compromising flood control and power generation (Province of British Columbia 2013). But, the WUPs do provide flexibility for B.C. Hydro to unilaterally achieve (i.e. do not require mutual agreement with U.S. Entities) operational changes in the system to meet a wider set of interests.

Flexibility in operations for Phase 2 of the LHWP are less clear, given the on-going construction of the Polihali dam and related water transfer infrastructure. However, participants indicated that under Phase 2, water transfers to South Africa may not be constant (as they are under Phase 1), and will allow for more flexibility to account for

interests downstream of the dams along the Orange-Senqu River. Yet, in regards to Phase 2, an interviewee with a large water-using industry in South Africa noted,

“I think there is a bit of a trade-off discussion happening at the moment between the governments as to whether there can be more flexibility around the water, and it could come down to trading energy and water” (OS18S12).

In regards to ‘trading energy and water’, Article 7 (2) of the 2011 Phase 2 Agreement for the LHWP stipulates the operation of Phase 2 shall ensure “the most advantageous options for the long term energy security of Lesotho without diminishing the benefits derived from the water delivery system”. In the event that South Africa requires an optimal transfer of water from Phase 2 facilities that results in a loss of power generation in Lesotho, South Africa would compensate for the loss of these benefits “either in kind or in monetary value” (Agreement on Phase 2 of the Lesotho Highlands Water Project 2011). Further, similar to the flexibility in system operations for the Columbia River, an official with the LHWC indicated Phase 2 may include the flexibility needed to ensure water flows downstream of the dams can be changed to meet the interests of stakeholders, the river, and the environment (OS12S52). Evidence suggests the allocation of water for downstream benefits and environmental interests under the 2011 Agreement has been shaped by a wider range of interests and objectives beyond a narrow focus on water transfers and hydropower production, although elements of governance and management for Phase 2 may not be decentralized to local actors.

4.4.3 Coordination and novel collaboration of local activities

Though formal governance authority for the Columbia River is vested in the ‘entities’ in Canada and the U.S. as explained above, there are initiatives emerging at regional scales to coordinate activities across the border, which take a broader basin-wide approach to consider key water governance challenges. Two regional entities that most resemble initiatives to bridge various levels of government and facilitate coordination between non-state actors - though fragmented by the international border - is the Columbia Basin Trust (CBT)(Canada) and the Northwest Power and Conservation Council (NPCC) (U.S.). Both

these entities take a regional perspective in the support of community, conservation, and energy initiatives and knowledge-generation in their respective parts of the basin. Both the CBT and the NPCC are formal, in that they represent local interests in their respective parts of the basin, and are funded, authorized, and mandated through legislation (the Columbia Basin Trust Act (1996) for the CBT, and the Northwest Power Act (1980) for the NPCC). Unlike most river basin organizations however, the CBT and the NPCC have no authority to formally coordinate activities at an international level. However, the CBT and the NPCC have a memorandum of understanding for cooperation, signed in 2000 and renewed in 2011 (Columbia Basin Trust and Northwest Power and Conservation Council 2011).

Cooperation involves yearly in-person meetings between members of the CBT and the NPCC, creation of maps, and various transboundary initiatives, such as a Burbot fisheries research project in Lake Koochanusa, and a climate-change impacts study for the upper Columbia River (Northwest Power and Conservation Council 2015). However, participants identified barriers to having a formal transboundary approach to planning and decision-making between these two organizations. As explained by an interviewee,

“Probably the only real barrier is that no one has legal authority to go further. We have very specific authority to do what we do...[and] are not really authorized to do anything more...it seems like whenever we run up against doing more than just sharing information and sharing outreach, people start to get jealous of their own authorities” (CB15S21).

Efforts are also underway – and have been for some time – by Columbia Basin First Nations and Tribes to self-organize on cross-border initiatives. For example, the Canadian Columbia River Intertribal Fisheries Commission (CCRIFC), and the US-based Columbia River Inter-Tribal Fish Commission (CRITFC) coordinate across the border to develop an integrated approach to salmon and resident fish reintroduction and restoration of fish passage. As an interviewee explains, development of an integrated approach to fish passage and salmon reintroduction plan involved:

“...work[ing] with US Tribes and Canadian First Nations to develop the fish passage plan and that plan reflects fifteen US Tribes and three Canadian First Nations coming together around a joint comprehensive work plan for salmon restoration... developed principally in the context of discussions around potential renewal of the CRT” (CB19S14).

Through their collaborative work, the two organizations have maintained that, “restoring fish passage and reintroducing anadromous fish should be investigated and implemented as a key element of integrating ecosystem-based function into the [Columbia River] Treaty” (Columbia Basin Tribes and First Nations 2015: 2).

Existing structures in South Africa allow for a degree of coordination between different government and non-government (e.g. private sector) water users and stakeholders to discuss operational issues and management of the Vaal River system, as seen in the Stakeholder Operating Forum (SOF) for the Vaal River System Annual Operating Analysis. This forum involves a wide range of large water users in South Africa, organized by the Department of Water and Sanitation to update water consumers on system operations. Unlike the Water Use Plans for the Columbia River in B.C., the SOF is an on-going (bi-annual) consultative process that enables input from water users and illustrates the emergence of consultative and information sharing mechanisms in South Africa that include public and private actors. The SOF and the Operating Analysis for the Vaal River appears to support the centralized governance system to suggest operational recommendations to meet a variety of interests and values in the basin, and provide a degree of influence resulting from coordination between different actors at various scales.

There is a history of coordinated activity between international and domestic NGOs in Lesotho and South Africa focused on anti-dam advocacy, and monitoring of the adverse social and ecological effects resulting from the building of the LHWP (Khagram 2004, Meissner 2015). For instance, an interviewee with a large international organization argued, “having looked at it over the last 10 or 20 years, there is definitely a strong non-governmental process in the country, advocating for the rights of those potentially affected

by the project” (OS19S26). Results of this activity was increasing pressure on the World Bank to halt or post-pone the project given the ongoing environmental and social concerns (Khagram 2004). And according to an interviewee, there has been increasing pressure on the LHWC and LHDA to improve the substance and implementation of the compensation program for resettled communities between the phases of the project. The influence of both domestic and international NGOs and interest groups may not have been able to halt the projects, but it did contribute to the globalization of new norms about large dam development (Meissner 2015). This normative change included viewing dams as no longer the only path to secure greater water supplies for a growing society at the expense of local communities and the environment, when cheaper alternatives like water demand management could potentially meet increasing water requirements (Meissner 2015).

4.4.4 Information sharing across scales

Participant perspectives revealed that information sharing is a key component to the activities of a number of organizations in the Canadian Columbia River basin, including the Columbia Basin Trust and the Columbia Basin Regional Advisory Committee (CBRAC). For instance, the CBRAC meetings have been described as “information transfers” (CB3S122), and one member described the context of the organization as such:

“...there is an expectation or a hope that the members of CBRAC will take the information that we are getting back to our communities and discuss it with people in our communities so that [...] if there are other people in [my community] that have a value or a message that they would like brought forward, then I would take that to CBRAC to try and engage a bit more broadly in regards to what is going on with the Treaty review” (CB8S23).

Given the geographical diversity of members, as well as participating agencies (including B.C. Hydro, Ministry of Energy and Mines), information sharing has been a key component of the activities of CBRAC, including identifying opportunities for CBRAC to influence policy direction for the Treaty. In regards to cross border information sharing, an interviewee with the NPCC in the U.S. explained:

“I’ve gone to Victoria on a couple of occasions and have actually done a briefing for the staff at the Ministry of Energy and Mines [...] on the power plan and fish and wildlife stuff we have done...[we’ve] had some of the B.C. Provincial staff down here [and] our staff gave them a briefing on some of these things...Often its about making sure they know what we are doing with power planning and we know what B.C. Hydro is going to be doing with energy resources and things like that” (CB15S17).

The information sharing initiatives described above have helped to establish professional connections and interpersonal relationships, and encouraged the diffusion of information to actors at various scales. However, these initiatives have been limited to informal and ad-hoc collaboration between Canadian and U.S. groups working on Columbia River-related issues in areas such as power planning, and fish and wildlife.

For communities impacted by the LHWP in Lesotho, participants perceived that limited information sharing and consultation was occurring between the LHDA and local communities about the project development. This was most evident with the drafting of the compensation policy, identified as a critical issue that constrained wider engagement of local communities and individuals in these processes. As argued by an NGO worker in Mokhotlong District in Lesotho, “I think [the LHDA] is trying to ensure NGOs are not getting that information to digest and then try to fundraise elsewhere so that they should come and build capacity of the concerned communities” (OS14S68). Data revealed the activities of the LHDA could be strengthened to ensure active participation by local communities in decision-making processes for development of the compensation policy. As previously noted, the Stakeholder Operating Forum provides an on-going information sharing mechanism between public and private actors, though this body does not have any formal decision-making authority and remains in an advisory role only.

4.5 Discussion

We set out to explore if and to what degree polycentric governance systems might be emerging, and examine whether and how these actors might be contributing to a change in governance towards polycentric systems. The four themes that emerged from our analysis illustrate the complexity and difficulty of determining the extent to which (as a matter of degree and configuration) polycentric governance systems might be emerging, and what this looks like in different geopolitical contexts for rivers that cross international borders.

Across both cases formal governing authority remains vested in state agencies and government ministries, with other interests, such as ecosystem health, subordinate to hydropower, flood risk management, and water transfer objectives. As mentioned previously, polycentric governance systems are recognized for integrating actors with independent authority across multiple scales, to address complex social and ecological challenges (Andersson and Ostrom 2008, Huitema et al. 2009, Ostrom 2010, da Silveira and Richards 2013, Warner et al. 2014). Findings suggest a full shift of authority has not happened, which illustrate the *degrees* to which authority is dispersed away from state-based structures, as opposed to whole system change over short periods. This is especially relevant for systems that have not undergone shocks or crisis that can act as a catalyst to system change. Instead, findings illustrate the incremental changes to governance may result in additional interests being represented and new actors provided a space to engage, though authority may remain resistant to change.

The theory of polycentricity suggests flexibility, experimentation, response diversity, and redundancy in the system is necessary for responding to change and uncertainty (Pahl-Wostl and Knieper 2014, Simonsen et al. 2014). To that end, evidence from both basins indicates flexibility is functioning, albeit to different degrees. For instance, side agreements to the CRT (i.e. Libby Coordinating Agreement) provide a measure of flexibility to operational concerns to meet additional interests. For Phase 2 of the LHWP, once the Polahali dam is completed, it will be operated to meet downstream environmental interests, while providing a degree of flexibility for water releases (Agreement on Phase 2

of the Lesotho Highlands Water Project 2011). Findings suggest that flexibility remains critical to system operations, and operates alongside of existing centralized structures. However, flexibility to meet additional interests outside of the narrow confines of the CRT remains subservient to Treaty objectives that have relied on clear rules for dividing resources and benefits and not necessarily for adapting to change (Cosens 2010, Cosens et al. 2014).

Coordination structures are critical to a polycentric governance system with different – and often overlapping – centers of authority and responsibility, the absence of which can lead to “uncoordinated and contradicting actions” resulting in the “loss of effectiveness and efficiency” (Pahl-Wostl and Knieper 2014: 141). Though Black (2008) argues fragmentation is a natural component of a polycentric system, without coordination between spheres of authority, set within an overarching system of institutions and rules, fragmentation can hamper efforts at harmonization of regulatory efforts, data collection, or any strategic initiative (Hill et al. 2008, Bakker and Cook 2011). The need for coordination of activities between diverse groups signals an important role for state agencies, which can develop (in collaboration with other actors) the institutions that guide and coordinate the activities of actors. Coordination initiatives are emerging for the Columbia River with a basin-wide perspective and approach to address specific issues (i.e. salmon reintroduction to the upper basin), which are not currently addressed by the transboundary regime (despite existing flexibility mechanisms for physical system operations). The coordinated activities of a diversity of organizations (i.e. CRITFC and CCRIFC) have introduced a range of issues and interests that influence the management of the river. In turn, this has influenced the ongoing discussions about CRT modernization and governing arrangements. The nature of the coordinated activities between government entities (i.e. LHWC, LHDA, TCTA), the Stakeholder Operating Forum (SOF) for the Vaal River System Annual Operating Analysis in South Africa, and international organizations (i.e. World Bank, African Development Bank) involved in the financial components of the LHWP, would suggest elements of coordination exist. However, they remain limited to centralized actors and organizations. There is limited evidence to suggest on-going coordinated activities between decentralized actors on governance issues for the LHWP in Lesotho. Evidence to suggest

coordination mechanisms that operate at the scale of the ecological system to include actors beyond centralized agencies is limited in both basins and remains informal to CRT and LHWP implementation. The limited degree of coordination contributes to understandings that polycentric governance systems emerge in degrees, but that without coordination among diverse actors, there is risk of a loss to efficiency and system adaptability (Cosens 2010).

The ability to coordinate different actors is a critical component of a polycentric system, and information sharing is considered as “the most important first step to legitimate participation” (Arnstein 1969, as cited in van Ginkel 2005: 88). Information sharing is also a critical aspect for learning, experimentation, and building capacity to engage in governance processes. Information sharing between actors in the Columbia River basin reflects other transboundary water contexts between Canada and the U.S. (Song et al. 2016), and has potentially significant impacts for the governance system to effectively address complexity and uncertainty. The results are mixed for this study, indicating in the case of the Columbia that the information-sharing needed for polycentricity is emerging, albeit in an ad-hoc manner thus far. Information sharing remains quite constrained and a source of frustration for community and NGO participants wishing to have a role in development of Compensation Program for communities impacted by Phase 2 of the LHWP. Yet, information sharing mechanisms exist for state-based and large water users in the form of the Vaal River System Annual Operating Analysis forum.

4.6 Conclusions

This study concludes that governance of the Columbia River and the LHWP show limited, albeit emerging, evidence of polycentric traits that are supplementing existing state-centric governance regimes, influencing policy processes, and introducing other management values beyond the original mandates of the treaties. The accommodation of other interests in the management of the rivers has occurred, albeit within state-centric governance regimes. With current governance processes able to accommodate a wider set of interests and values, decision-makers may be more reluctant to introduce greater shifts in authority

towards decentralized, subsidiarity, or nested governance. Structural barriers, such as limited legal authority and competing scales of management (Bourblanc and Blanchon 2014), and capacity challenges at the local level (Norman and Bakker 2009), has limited the decentralization of formal authority to non-central state actors. Yet, the absence of a shift in governance authority to local actors does not mean the absence of policy influence. Indeed, the activities of local actors in both basins – albeit to different degrees – has helped shape management regimes for the rivers to include a wider set of interests and actors beyond those represented by state-centric structures.

The need for novelty in governing shared waters is real, and dynamic approaches to governing complex social-ecological systems are appearing in other domains (Jordan et al. 2015). But, emerging polycentric governance for transboundary waters where state-centric regimes already exist presents complex challenges in practice. And, the complexity of coordinated management between different political jurisdictions with their own priorities, legal and management structures, histories, and levels of economic development affect initiatives that serve to supplement existing governance regimes. Given the themes that emerged from our research are not exclusive to polycentric governance systems (i.e. flexibility is also a characteristic of adaptive governance), questions of what strong and deliberate polycentric governance systems looks like in practice for transboundary rivers remain. These questions reveal the need for further empirical research to understand if and to what degree emerging polycentric governance systems might be designed to supplement existing state-centric governance regimes, and indeed, if this emerging polycentricity contributes to system resilience.

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Chapter 5 – Synthesis and Conclusion

5.1 Synthesis

In recent history, transboundary water governance has been the realm of centralized senior governments involving state mechanisms (e.g. diplomacy and treaties), and is often couched in the language of ‘state security’ (Hirsch and Jensen 2006). These governance processes have been scrutinized for failing to recognize and integrate actors and interests beyond the central government (Jansky and Uitto 2005, Conca 2006). These same governance arrangements are critiqued for being increasingly unable to address the complexity and uncertainty that characterizes so many challenges in social-ecological systems today (Vorosmarty et al. 2000, Carpenter et al. 2011) such as climate change and competition for limited water supplies (Kranz and Vorwerk 2007, Cook et al. 2009, de Loe 2009, Granit et al. 2012). Consequently, scholars have argued for innovation and transformative change in water governance to better integrate diverse values, knowledges, actors, and interests and to grapple with the complexity of the challenges being faced (Pahl-Wostl et al. 2010, Moore et al. 2014, Maclean and the Bana Yarralji Bubu Inc. 2015, Pahl-Wostl 2017).

This dissertation has focused on the cases of the Columbia River and the modernization of the Columbia River Treaty (CRT), as well as the Orange-Senqu River and the Lesotho Highlands Water Project (LHWP) to examine whether and how non-central state actors might be contributing to changes in transboundary water governance and whether this integrates a more diverse set of interests and actors beyond centralized governments.³⁵ The results of the empirical research offer insight into: 1) the origins of different types of power from a global governance scholarly framework and how that power is mobilized in these cases, 2) on-going bordering processes and the ability of non-central state actors to

³⁵ As indicated in Chapter 1, footnote 9, though there are a number of important issues regarding renegotiation and modernization of the Columbia River Treaty, including flood protection measures and the calculation of the ‘Canadian Entitlement’, what emerged from the data and analysis was a specific focus on ecosystem-based function and the role of Indigenous nations driving this forward. I found that private business interests did not appear as important players in my research and analysis of emergent theories on power, borders, and polycentricity.

contest or shape these processes, and 3) the emergence of polycentric governance systems that occur alongside state-based structures.

This synthesis chapter presents the theoretical insights, policy implications, and methodological insights from the research, while providing reflections on limitations to the research process, and potential future research opportunities, before offering final contributions and conclusions.

5.1.1 Research Objectives

The overall questions that guided this study were:

How are non-central state actors contributing to changes in transboundary water governance to integrate a more diverse set of actors beyond centralized governments?

In exploring this research question, the study has achieved three objectives described below.

1. *Determined the type of power that non-central state actors have mobilized when engaging in transboundary water governance processes, and assessed if the power these actors mobilize is contributing to changes in governance.* An analysis of the diversity of actors engaged in governance of the Columbia River suggests that the power for non-central state actors to shape governance processes has changed over time. The findings in the Columbia River case illustrated two different types of power being mobilized, specifically institutional and productive power, in keeping with Barnett and Duvall's (2005) definitions. The results demonstrate that non-central state actors – specifically Indigenous nations and local community actors – are engaging in governance processes that were in recent history the exclusive jurisdiction of central state governments. The impact of this power is demonstrated by the inclusion of ecosystem function as a primary interest being consideration for a modernized CRT. Moreover, in this case at least, the distinction between national and international scales is blurring, due to the power of non-central state actors.

Results suggest that although non-central state actors demonstrate practices that could be considered as two forms of power from this framework, and exert influence over elements of transboundary water governance processes, authority to institute change remains state-based within state-centric institutional processes. Presumptions of Indigenous 'integration' into state-based Euro-western systems and frameworks of transboundary water governance are problematic and limit the opportunities for transformative change. For instance, some Indigenous activists are calling for "critically evaluating, reconstructing, and redeploying culture and tradition in ways that seek to prefigure, alongside those with similar ethical commitments, a radical alternative to the structural and psycho-affective facets of colonial domination" (Coulthard 2007, p. 456). Processes of incremental change that continue within state-centric institutional frameworks likely will not lead to the type of 'radical alternatives' Coulthard (2007) envisions. Cornassel (2008, p. 125) calls for Indigenous mobilization that is "directed toward engagement and activism in Indigenous forums – not United Nations engagement or regional institutional structures". The challenge confronting the renegotiation of the CRT is then to take up in a serious and meaningful way what both these Indigenous scholars suggest; that is, a starting point for discourse and engagement between Indigenous and non-Indigenous governments should be to re-center Indigenous nations, traditions, and practices, as opposed to privileging a colonial/settler framework as the starting point.

2. Conceptualized ongoing bordering processes for transboundary water governance, and evaluated whether non-central state actors are reshaping the construction of borders. The presence of international borders may no longer be reason enough to privilege nation-state actors as the sole authority to negotiate and implement governance decisions. This is particularly relevant where borders and the institutional structures of colonialism historically were – and continue to be - imposed by colonial states upon Indigenous nations. The empirical analysis of the Columbia River basin illustrated that the Columbia River is shared not just by two nations, but by multiple Indigenous nations with various inter-nation borders. The recognition of these contested geographies is driving a process for recognition of changes needed in how governance processes are designed, undertaken,

and illustrates the changing relationships between state actors and Indigenous nations for governance of transboundary waters.

3. Identified which non-central state actors are involved in transboundary water governance, and examined whether and how these governance systems are becoming more polycentric.

Given the power being mobilized by non-central state actors, and the contested bordering processes involving Indigenous lands and waters, other governance structures may be better able to integrate actors across multiple scales, and address complex and uncertain social-ecological issues emerging in river basins. The Columbia River and the CRT provides a relevant case in which to explore the emergence of polycentric governance structures as one possible alternative framework, given the presence of multiple groups engaged in water management issues in the Columbia basin. The LHWP was an informative secondary case to examine if polycentric governance systems are emerging elsewhere in the world where governance and management issues are also undergoing change (construction of Phase II of LHWP). In both the LHWP and the CRT, initiatives are emerging that attempt to raise the profile of a diversity of interests, suggesting non-central state actors have begun to operate alongside of state-centric governance structures but are not replacing them. The activities of non-central state actors in both basins shapes management regimes for the rivers. This suggests the emergence of features of polycentric governance, including information sharing, coordination, flexibility, and authority – albeit to different degrees - by including a wider set of interests beyond those in the original treaties.

The empirical articles in the dissertation explored each of these objectives in turn, building towards theoretical insights and policy implications for transboundary water governance, which are discussed in the following section.

5.2 Insights and Implications

The research and analysis conducted for this dissertation provides a number of important theoretical insights synthesized from the research that are relevant to understanding the

contribution non-central state actors make regarding changes to transboundary water governance.

5.2.1 Power

Scholars have long established that different forms of ‘power’ exist (see: Lukes 1974, Arts 2003, Barnett and Duvall 2005, Foucault 2007), and these different forms of power have evolved beyond what was traditionally understood by political scientists regarding power only as an instrument of the powerful over the powerless (Hayward 2000). Shifts in conceptualizations of power have demonstrated that other actors beyond the nation-state also possess power (Matthews 1997), including non-governmental NGOs (Betsill and Corell 2008) and private sector actors (Mattli and Woods 2009). The different forms of power and their characteristics have been categorized in various typologies, and in this study I applied one framework developed by Barnett and Duvall (2005).

In chapter two, using this framework, I identified the forms and origins of the institutional and productive power that local actors and Indigenous nations are perceived to be exercising to influence the direction of CRT modernization. Specifically, the results reveal efforts by these actors to advance ecosystem-based function within modernization of the CRT, which participants recognized as challenging the previous state-centric approach to governance; that is, by integrating a more diverse and local set of interests and actors. Findings also illustrate broader efforts at Indigenous solidarity and the reaffirming of historical relationships and connections between Indigenous nations. For instance, Tribes and First Nations are collaborating on transboundary fishery issues, and have pressed for salmon reintroduction as an element of ecosystem-based function to be included in a modernized CRT.

The typology of power from Barnett and Duvall (2005) provided a useful framework to analyze the different forms of power beyond a classical understanding of power (compulsory power in the typology). Importantly, using this framework, my research shows the inter-related nature of institutional and productive power. The data revealed that Indigenous nations and local actors exercised institutional power through advances in

the legal landscape and benefited from an evolution in societal values. These actors leveraged this institutional power to mobilize productive power to frame issues and collaborate across the 49th parallel for CRT modernization, demonstrating how different types of power can not only be present, but also depend on one another. However, an analysis of these instances of power is limited. For instance, in chapter 2, an interviewee states, "...how we think about rivers is different today than it was 60 years ago" (CB22S32). Yet, this evolution does not account for the active process of exclusion of Indigenous peoples, and their perspectives, values, and traditions from the original development of the CRT. The above quote refers to a change in the *colonial/settler* perspective, where slowly more 'value' is being placed on non-human systems. Yet, Indigenous peoples, and numerous cultures around the world, have long held close connections to their lands and waters (Alfred 2005). These findings are not to suggest otherwise, but to indicate a shift in the colonial/settler perspective concerning the waters of the Columbia River.

Locating power in these two forms, and the relationships between these actors, contributes to previous and ongoing analyses that power is not tied only to state actors (Foucault 1980, Betsill and Corell 2008), but is exercised by others at multiple scales, including across borders (whether defined by Indigenous borders or Western ones). Yet, the impacts of these forms of power do vary. For example, despite the connectedness of the issues Indigenous nations on both sides of the 49th parallel sought to influence in CRT modernization (i.e. inclusion of ecosystem-based function, with salmon reintroduction a key element of this), the impact their efforts had on the starting position of the Canadian Entity and the U.S. State Department for CRT renegotiation differed. The Canadian Entity expressed that ecosystem values can be accommodated within the existing structure of the CRT but that salmon were blocked from the upper Columbia by Grand Coulee dam (a non-CRT dam built over 20 years before the CRT was ratified). On the other hand, the U.S. position identified ecosystem-based function as an explicit third pillar to a modernized CRT. It also illustrates the bounded nature of institutional and productive power, which in some ways, is trapped within a nation-state system. Yet, in other tangible ways, these types of power were perceived as able to transgress colonial borders to reframe state-based structures of international negotiations by highlighting the justifications for Indigenous

nations to be included as formal participants (i.e. having a 'seat at the table') in future renegotiation processes.

While these changes are substantive and represent the patterns found within the data from the perspectives of the participants, I would contend that the notion of 'having a seat at the table' is itself problematic and more limited than what might be defined as a governance innovation or transformation. The Lesotho Highlands Water Project and CRT review and modernization process are still occurring within colonial state-centric systems, premised on the continuing power and integrity of the state. The institutional structures that have overlaid the traditional governing practices of Indigenous communities in North America and South Africa remain. Suggesting Indigenous nations may have a 'seat at the table' in possible future CRT renegotiations or that marginalized populations who have disproportionately borne the negative impacts of the LHWP will be invited to decision-making tables regarding the further development of the LHWP ignores the fact that these are 'tables' that were built by colonial governments. They were not built in collaboration from the beginning between Indigenous and colonial governments, and shape who currently holds authority and how resource benefits flow. As Alfred (2005, p. 20) states, "the political and social institutions that govern us have been shaped and organized to serve white power and they conform to the interests of the states founded on that objective". Although the participants in my study did not seem to question who 'sets the table', I conclude the study by arguing that this is fundamental for any future governance innovation. If the boundaries of what is possible for the governance of transboundary rivers have already been decided upon before negotiations begin, one might be led to believe the state-based structures that have governed these rivers to serve colonial/settler interests will not fundamentally change. This limits opportunities for what we might consider 'transformative' or 'innovative' change.

Despite the caveat to my work just mentioned, the data revealed that different forms of power are exercised in ways that are not obvious when analysis has previously been focused on the nation-state as the sole actor in transboundary water governance processes (Dinar 2008, Zeitoun et al. 2010, Tarlock 2015), or the power of private actors (i.e.

businesses) and NGOs in processes of global governance (See: Barnett and Duvall 2005, Betsill and Corell 2008, Mattli and Woods 2009). In particular, an important element of change to conceptions of power is the role of Indigenous nations, who have increasingly asserted their interests on the global stage, and achieved significant advances in international norms (i.e. UNDRIP). The institutional and productive power of Indigenous nations is different from other non-central state actors who already exercise considerable amounts of influence (i.e. private actors, NGOs), given the Constitutional rights of Indigenous nations (in the Canada and U.S. context).

Furthermore, and as a consequence of these different forms of power being exercised, my research shows that the responsibility and accountability to other interests and actors in the transboundary governance systems explored in this study is shifting, albeit still within the structures of colonial institutions and ideas. The change has moved from a narrow perspective that considered few interests (i.e. hydropower interests) and systematically and actively ignored and excluded other actors, to one where notions of responsibility to local communities, Indigenous nations, and non-human systems have begun to emerge. Ideas of responsibility and accountability to non-human interests are expanding in water governance globally (e.g. granting legal personhood status to rivers), and thus, understanding how the mobilization of different forms of power contributes to such changes is important.

As mentioned, the results regarding power reinforce previous scholarly efforts that have challenged assumptions of state power (see: Norman 2015). Yet, the findings also highlight that in the case of the CRT modernization, regardless of these various forms of power, the state remains a central actor with authority over renegotiation of the Treaty. However, this authority is not absolute, given that institutional and productive forms of power that lie with local actors and Indigenous nations affect the ability of the state to exercise unconstrained authority, and compel its actions regarding CRT modernization (i.e. expand the scope of the Treaty to consider environmental values).

5.2.2 Borders

Border scholars have argued that borders are negotiated and contested and are the outcome of ongoing social and political processes at multiple levels (Anderson and O'Dowd 1999, Brambilla 2015). The results presented in chapter three illustrate a pattern consistent with these claims. In the Columbia case study, Indigenous nations are perceived to be reasserting their authority over traditional lands bifurcated by colonial borders (i.e. Syilx traditional territory), as well as asserting their legal and historical rights to be involved as sovereigns in the renegotiation and implementation of a modernized CRT. Notions of 'boundary' and 'transboundary' as traditionally understood in the 'transboundary water governance' literature are shifting, changing, and being born anew. For instance, the state-to-state system of governance is being challenged for the CRT modernization by the fact that Indigenous nations are beginning to be recognized as needing to be included as sovereigns in this traditionally state-based process. This is so in order to uphold Constitutional rights and other broader national policies on relationships between Indigenous and settler governments. Therefore, I argue that the notion of 'boundary' appears to be changing to not only include colonial borders, but the inter-*nation* borders between Indigenous nations.

Yet, a paradox also emerged in the data because although policy makers are recognizing that transboundary water governance processes need to include Indigenous nations (i.e. the 'boundaries' of who is to be included in governance is expanding), in practice, participants did not describe a change in legal authority for CRT renegotiation, which still remains with state-based actors. Thus, the research highlighted how on the one hand, borders remain the primary way in which nation-states define their own territoriality, and provide the framework for how states interact regarding treaties, agreements, and collaborative processes over shared interests, including natural resources. On the other hand, Indigenous nations are perceived as transgressing and contesting the colonial border system through their collaborative activities, as seen through the activities of Tribes and First Nations on salmon reintroduction to the Upper Columbia River basin. How the borders are reconstructed or not, throughout the CRT modernization process will prove to be important in clarifying, or resolving this paradoxical tension that currently persists.

5.2.3 Polycentricity

As discussed in chapter 4, polycentric governance is understood to involve dispersed authority to separate and autonomous bodies or governing units at multiple scales with non-hierarchical and modest overlapping jurisdictions that operate under an overarching set of rules (McGinnis 1999, Folke et al. 2005, Huitema et al. 2009, Ostrom 2009, Aligica and Tarko 2012, Carlisle and Gruby 2017, Cosens et al. 2017, Morrison 2017). For water governance, many scholars propose that polycentric governance systems are well suited to integrate a diversity of actors across multiple scales to respond to a growing number of issues.

Despite the potential benefits of polycentric governance systems, the literature does not clarify how state-based systems may actually transition towards polycentric arrangements. The empirical evidence in chapter four demonstrates that transitions towards polycentric systems may not occur in a single instance, or uniformly across the governance system. That is, transitions towards polycentricity are a matter of degrees of change. For instance, authority remains with state-based actors for both the CRT and for the LHWP (in both cases, with the 'Entities'), and is not dispersed to autonomous bodies (such as the Columbia Basin Regional Advisory Committee), as the theory on polycentricity would suggest. Yet, as previous scholarship has found (see: Norman and Bakker 2009), processes of rescaling governance of transboundary waters downwards to the local level are especially challenging if capacity at lower scales is limited.

But, in both basins, there is an increase in engagement of non-central state actors, including Indigenous nations involved in CRT review and large water users participating in decision-making processes for the Vaal River, compared to when the CRT and LHWP treaties were first signed. These broader levels of engagement and participation would remain consistent with how polycentric governance is understood in the literature (see: Thiel 2016), but alone do not constitute polycentric governance. Thus, findings suggest a slow transition away from state-based governance systems, rather than an entire transformation in the governance system, with the state still retaining authority and a central role. This finding confirms what the literature suggests is a continued – though reconstructed - role of the

state in a polycentric governance system (Warner et al. 2014). The continued role of the state is also interesting for discussions on what 'authority' actually looks like for actors in a polycentric system, the degrees to which authority is exercised, and the different forms it takes when other actors wield 'power' (in its different forms) in a governance system.

My results have demonstrated there are distinct dimensions of polycentricity, including authority, coordination, flexibility and information sharing. These dimensions can exist in degrees, suggesting an emergence of degrees to which polycentric traits exist in a system. Further, results illustrate the complexity and lack of uniformity for the emergence of polycentric governance across different social, cultural, political, and economic contexts and scales. The emergence of polycentric governance systems for certain local common pool resources (i.e. forests) may be more feasible than for complex social-ecological systems (i.e. transboundary river basins) that are governed between sovereign nation-states and autonomous Indigenous nations.

However, the theory of polycentricity has not substantively engaged with conceptualizing the role of Indigenous nations in a polycentric context for transboundary river basins, beyond acknowledging that Indigenous knowledge can be blended with scientific knowledge in institutions within polycentric systems (Andersson and Ostrom 2008). Indeed, dispersal of authority in a polycentric system to other centers of authority may be problematic in the context of Indigenous nations fighting to have their inherent rights and title – and authority – over their traditional lands and waters recognized by colonial governments. In the Columbia River basin, authority over issues that impact Indigenous nation's interests and livelihoods is an on-going legal and jurisdictional challenge. Suggesting other, non-Indigenous and non-government units in a system should gain equal power over issues where Indigenous peoples have rights and title does not necessarily benefit efforts towards reconciliation or adequately acknowledge the historical context in which transboundary water governance processes are taking place.

The legal landscape has changed in the Columbia River basin, and polycentric governance scholarship needs to account for these types of legal distributions of authority between

Indigenous and other levels of government at the national level. Further, scholars and policy makers will need to consider how this redistribution scales up to influence international processes for transboundary basins.

Further, it is not clear if Indigenous nations in the Columbia River basin are even calling for a system of transboundary governance for the river built on polycentric ideals. Though this research does not explore this issue directly, work by practitioners and scholars are beginning to suggest alternative (and not polycentric) paths forward (see for instance Phare et al. 2017 and the concept of *collaborative consent*).

5.2.4 Practical and Policy Insights

The research also generated a number of practical and policy insights. First, it has reaffirmed and emphasized that in the case study basins at least, non-central state actors, including Indigenous nations, have an important role in governance and management of transboundary waters. This is especially so as decision-making processes change to include other, non-central state actors with different degrees of authority, contributing different knowledges, perspectives, and representing different interests. Autonomous Indigenous nations with asserted rights and title over unrelinquished territory have clearly expressed their legal rights to engage in decision-making processes that impact their interests, and these rights have previously been upheld by the courts (e.g. *Delgamuukw v British Columbia* 1997, *Tsilhqot'in Nation v. British Columbia* 2014).

Second, the frameworks used to renegotiate international treaties (state-based) are under pressure to change. My work illustrates that First Nations and Tribes on either side of the 49th parallel are demanding a seat at the renegotiation table as autonomous and self-determining peoples, and with a formal role, to determine what a modernized CRT entails. This requires the CRT to be re-considered not as a bilateral but a multilateral agreement. This has implications for existing structures as to how international treaties are negotiated and developed.

Along with calling for a seat at the renegotiation table, participants described how Indigenous nations are hoping to “represent” ecosystem-based function within the implementation of a modernized CRT. Participants expressed that the existing Treaty Entities represent narrowly defined interests under the Treaty (i.e. hydropower and flood risk management). Yet, new actors are needed to give voice to the ecosystem within the implementation structure of a modernized CRT. One possibility is to have an Indigenous-led body or organization as a Treaty entity – along side the Canadian and U.S. entities – with formal authority under a modernized CRT.

Third, though polycentric governance has been identified as a possible form of governance for dealing with complexity in a social-ecological system, practical issues remain regarding the role of Indigenous nations. As mentioned previously, Indigenous nations have been fighting to have their inherent and in some cases treaty protected rights and title recognized by colonial governments for over 150 years in the Pacific Northwest. Dispersal of authority over traditional lands and waters of Indigenous peoples to an even greater number of non-Indigenous actors in a polycentric system is extremely problematic. A critical question then remains: are there configurations of polycentric governance that better support the recognition of the rights and title of Indigenous peoples in the Columbia River basin?

Fourth, state-based governance regimes currently privilege a narrow set of interests to the exclusion of a wider set of values (i.e. ecosystem, cultural, spiritual values), and these structures are being challenged. Results demonstrate that there are clearly multiple interests and actors at different scales that practitioners and policy makers will want to take into account in tandem with existing Treaty objectives. For example, salmon is critical to the cultural, political, spiritual, and social fabric of many Indigenous nations in the Pacific Northwest. Though salmon were blocked by the construction of the Grand Coulee dam, practitioners will no longer be able to view salmon (as a proxy for ecosystem values) as secondary to hydropower and flood risk management under a modernized CRT. As well, local actors in the Kootenay region of B.C. expressed very clearly their desire to have stable reservoir levels for Arrow Lakes, to reduce impacts on air quality (dust storms from

exposed shoreline), tourism, and lakefront agriculture. Stabilization of reservoir levels will require a change in how the entire Columbia River system is operated.

Fifth, efforts to increase the fairness and equity of a modernized Treaty will likely fail if practitioners and policy makers are unable to expand the scope of the Treaty to include these other interests and actors. And, though my research did not focus on a changing climate, the uncertainty associated with changes to the hydrograph (projections of less snowpack, earlier snow melt, increased winter and decreased summer precipitation) and warming temperatures may further exacerbate the competing interests and stressors in the basin. Given these projected changes, transparent and participatory processes for negotiating trade offs between competing demands will be even more important to achieve to ensure robust governance systems that are less prone to regulatory capture by narrowly defined interests.

Ultimately, my work demonstrates that non-central state actors possess different forms of power (and other forms beyond Barnett and Duvall's framework may also exist), which are used to exert influence on state-based processes. However, power does not equate to authority. This illustrates the limited extent to which state-based power is changing, and shows the extent to which the colonial/settler institutional structures of transboundary water governance remain. From a Foucauldian perspective, the continued authority of the state in transboundary water governance processes could be seen as the state protecting its sovereignty not just from external attacks, but also a focus on internal challenges to its sovereignty (Moreton-Robinson 2006). That is, the state protects its sovereignty by limiting the challenges to its authority from within, and this extends to decision-making processes for international rivers. Even if efforts to modernize the CRT move towards a shared decision-making model with Indigenous nations, questions arise as to who ultimately decides what the renegotiation process looks like, and what values and interest prevail over others, and how contestations will be resolved. Such challenges remain to be considered and explored in future scholarship.

5.2.5 Methodological Insights

There are a number of important methodological challenges worth acknowledging, given the risk of their impact on this study. First and most significantly, this research was initially framed around local actors and their influence in traditionally state-centric governance processes for transboundary waters. As the research and analysis evolved, it became clear that for the Columbia River case the most interesting and perhaps most important element of the story is the role of Indigenous nations in CRT modernization. As this element of the story did not emerge until I was well underway with my research and into the analysis of my empirical data, I had not thought about how to integrate or embed a decolonized or Indigenous research methodology into my work. Grounded theory is a useful methodology for exploring an under-explored or under theorized case, where the researcher seeks to “discover theory from data” (Glaser and Strauss 1967, p. 1). However, this methodology does not necessarily require or include a decolonized or Indigenous research methodology. As a non-Indigenous researcher exploring issues of participation by a diverse group of non-central state actors in transboundary water governance – including, but not exclusively, Indigenous nations - it remains an ongoing challenge to be sensitive to the underlying assumptions, motivations and values that inform my research practices.

Specifically, I have tried to remain aware of assumptions of ways of knowing implicit in the literatures I engaged with. As mentioned above, polycentric governance scholarship largely remains silent on the role of Indigenous peoples, communities, and nations, and how Indigenous ways of knowing and Indigenous research methodologies might influence the direction of this particular body of literature. Further, the framework of power I engaged with comes from a Euro-western body of scholarship and thus does not account for Indigenous perspectives on issues related to power. The motivations and values I bring as a settler exploring issues where Indigenous nations have interest, must continually be checked through processes of self-evaluation, reflection, and review. Grounded theory is not silent on such processes of reflection (memoing ongoing research and analysis processes is key to the methodology). Therefore, despite it not being explicitly oriented towards Indigenous or decolonized approaches, the methodology has enabled me to explore issues central to the changing nature of policy and governance processes for

transboundary waters. Using a grounded theory methodology allowed me to explore a complex and evolving issue while being true to my empirical data and offer a consistent reading of the data (albeit biased by my own worldview). I have also offered critiques of the scholarship which I draw on to highlight the limitations of western approaches to transboundary water governance that have marginalized, and historically invisibilized, Indigenous nations, peoples, and communities. My research should be read as contributing to a larger body of research that is very much in progress, and a transmission of ideas to promote further debate.

Second, though my research proposed to explore local actor influence across two case study basins, the Columbia River case remained the predominant case on which I built my results. After conducting my interviews and data analysis in South Africa, I was faced with the prospect of two very different and large sets of data, each with hundreds of open codes. I found the data and results to be so different between the cases that the emerging grounded theory from the Columbia River data on power and on borders was not emerging from the South Africa research and analysis. Specifically, the realization of the important themes of power of Indigenous nations and the contested geographies between colonial governments and reassertions of Indigenous governance and authority in the Columbia River was not supported nor being refuted in the Orange-Senqu River case. That is not to say issues of Indigenous participation in water governance are absent from the Orange-Senqu River context. But, my research did not find this issue to be as central to the Southern Africa case as compared to the Pacific Northwest context. Attempting to build a single saturated theory using these two different cases together beyond the discussion on polycentric governance systems would have felt 'forced' and I believe would have diminished the important findings that emerged from the Columbia River case on the power of Indigenous nations and the contested nature of borders between nation-states and Indigenous nations, so I chose to focus on the concepts emerging primarily from one basin.

Third, my work illustrates the usefulness of the typology of power developed by Barnett and Duvall (2005), in that I was able to document the different forms of power that exist

among different types of actors in a system, as well as confirm the inter-related nature of these two forms of power. The identification of other forms of power is useful to expand an analysis of the Columbia River case to beyond what conventional forms of power would not be able to account for, that is, the institutional and productive forms of power that Indigenous nations and local actors have exercised and mobilized in CRT modernization processes. The open and selective coding stage identified key themes related to conceptions of power. In the final stage of organizing codes and categories into higher level themes informed by Barnett and Duvall's typology, the data showed strong instances of productive and institutional power. The other elements of the power typology – compulsory and structural – did not emerge from the data and analysis. I did not force-fit data into the typology and during the inductive generation of codes, I found compulsory and structural power were less of a dominant theme emerging from the data than productive and institutional power. Partial use of the typology of power is not unique, as other studies have also done so (see articles in Barnett and Duvall 2005).

5.3 Limitations and future research

5.3.1 Limitations

I faced several limitations while conducting research for this project. First, as mentioned in the methodological implications above, the inclusion of decolonizing methodologies and Indigenous research methodologies was not part of my initial research design in concert with grounded theory. This left me feeling less prepared for a focus on Indigenous issues, given the positionality as a settler and researcher trained in Euro-western academic institutions. I made the choice to not revisit and restructure the research methodology, given that my interest was, broadly, on non-central state actors engaging in policy processes. The project was initiated with an interest in both Indigenous and non-Indigenous organizations engaging in governance and policy processes, and although the balance of the discussion (and the most interesting part of the story I heard unfolding for the Columbia) centered on Indigenous peoples, there was – and still is – an important role for non-Indigenous non-central state actors. Given the late stages to which I saw themes emerging around the role and influence specifically of Indigenous peoples, I decided to

continue with the methodology I had initially selected. However, I am grateful for the opportunity this shift in my research gave me, as it has allowed me to step outside of my comfort zone, and address an issue that is of central importance to both water governance and the social, political, and legal context of Canada.

Second, as a settler, and male researcher, the interview process may have influenced the quality and type of information told to me by interviewees. Conducting interviews in Lesotho presented a language and cultural barrier, one that I had to recognize and remain sensitive to. I proceed cautiously, aided by a staff member who works with the local NGO in Lesotho that hosted me.

Third, case study research has been criticized for its supposed lack of generalizability (Baxter 2010). As identified by Aaltio and Heilmann (2010), the analysis of data gathered in the case study research is a subjective event, and interpretations do not come “purely from the data” (p. 72). The researcher as interpreter brings his or her own biases, background knowledge, and interpretation of the context in which the study is undertaken. Though this methodological limitation, or critique, is valid, I made efforts to provide rich detail and descriptive analysis that can act as an important means of education and promoting learning by providing a practical framework for debate and discussion (Aaltio and Heilmann 2010). As Yin (2009, p. 15) states, case study can provide generality to “theoretical propositions and not to populations or universes”. Therefore, I do recognize the limitation of the generalizability of my research to other cases and populations, though the theoretical propositions related to power, borders, and application of polycentric governance systems, remain generalizable, and relevant to on-going discussions on transformations in transboundary water governance.

Fourth, as a qualitative research methodology, grounded theory has few ‘cook book’ guides to researchers. Much depends on ones own style of empirical data gathering, thinking, and analysis, coupled with careful consideration of the evidence, results, and important feedback from reviewers. As a novice researcher using a qualitative methodology that has few regimented guidelines, I often struggled with how to proceed. Efforts were made to

address this limitation throughout the analysis and writing, through review of other grounded theory studies, guidance by my supervisor and by a grounded theory methods group on campus, feedback from reviewers of chapters, and constant immersion in the data.

5.3.2 Future Research

This project has offered insights into areas of importance for the governance of transboundary waters. Yet, there are still a number of areas ripe for future research. First, other basins globally may have similar experiences with Indigenous nations exerting forms of power across multiple scales. This may include the international scale that is reshaping our global level institutions, even without Indigenous peoples having formal roles as autonomous *nations* in most global political arenas, i.e. United Nations Framework on the Convention for Climate Change. This in turn is putting the international system on a different trajectory, including a re-articulation of international human rights to include Indigenous collective rights and “non-state-centric interpretations of self-determination” (Lightfoot 2016, p. 14). Understanding Indigenous assertions of nation-hood and self-determination, as well as rights enshrined in institutions at the country and global level (i.e. UN Declaration of the Rights of Indigenous Peoples), will contribute to reconfiguring global governance and governance of transboundary natural resource. This is an area for further analysis.

Second, questions remain, including how the reassertion of Indigenous authority, land rights and self-determination, ways of knowing, and governance and management systems will influence the emergence of polycentric governance systems. Andersson and Ostrom (2008, p. 78) acknowledge the goal of increased polycentricity is for institutions at multiple scales to “more effectively blend local, Indigenous knowledge with scientific knowledge”. But it remains unclear who, within a polycentric governance system, sets the ‘overarching rules’ where Indigenous nations hold rights and title. If authority remains with state actors, albeit constrained by different forms of power by non-central state actors, can a system still be seen as ‘emerging’ towards polycentric ideals? Or, might it suggest simply greater degrees of consultation between state and non-central state actors? Other questions also

arise, including who determines the amount of authority each independent body or governing unit has within this system and on the land? Does polycentricity move us towards a system of co-governance as articulated by Indigenous peoples? And, perhaps most important, are Indigenous communities calling for their inclusion in a polycentric governance system if that requires dispersed authority over traditional Indigenous territories with colonial governments at multiple levels? These questions warrant further exploration.

Having reflected upon the theoretical and methodological choices for this dissertation, other options for analysis, such as a post-colonial analysis, may have been helpful to examine issues of racialized power imbalances in the cases. Yet, a post-colonial analysis would have been premised on the assumption of there being a 'post' -colonial context. Both Canada and South Africa are the products of European colonization, where there are multiple ethno-culturally distinct communities that pre-date colonial expansion, and remain as distinct nations from the colonizing population. And, both of these countries and regions have similar histories of colonization, racism, which shapes who currently holds authority and for how resource benefits flow to particular segments of the population. Shaw et al. (2006) argue the application of the term postcolonial to colonial/settler states (i.e. Australia, Canada, United States) is problematic given the continued presence of colonial/settler governments and systems that privilege the settler populations. With the end of the apartheid regime in South Africa in 1994, racially-based governance frameworks began to be dismantled, though extreme disparity between the impoverished black majority population and the wealthy minority (and largely white) population continue.

However, post-colonial approaches have much to offer the study of transboundary water governance in settler/colonial contexts, including Bhabha's notion of hybridity that emphasises the "mutualities and negotiations across the colonial divide" (Kraidy 2005, p. 165). Bhabha argues that colonized peoples subvert and re-appropriate dominant/colonial discourses through 'mimicry' as a means of evading, or "striking back at colonial domination" (Jackson 2008, p. 152). We might see the cross border movement and collaborative initiatives between Indigenous nations on either side of the 49th parallel as

resistant to, and striking back at, associated power relations that have attempted to use the border to 'keep in and out'. Such acts can be seen as a reaction against a binary vision of space and identity – as more than either Canadian or American space and identity. Thus the discourse that defines the actions of the state and its agents is contested (Jones 2012).

Yet, at the same time, the very nature of “transboundary” essentializes the colonial border as the pre-existing category that can be transcended. Starting with the nation-state and border as the reference point assumes its legitimacy and sovereignty, which is problematic and incomplete in the context of Indigenous traditional territories. Others critique Bhabha’s account of hybridity, arguing it “is not only insufficiently materialist, but always already Eurocentric in its historical conditions of possibility” (Moreiras 1999, p. 395). Moreiras looks to Balibar and the notion of ‘unconditional insurrection’ that can move us away from a Eurocentric condition of possibility, that he argues is inherent in Bhabha’s ‘hybridity’, so as to acknowledge and name the possibility of other histories, and other memories of how things could have been, other than what they are now (Moreiras 1999).

The lens of Bhabha’s hybridity and Balibar’s ‘unconditional insurrection’, as well as other critical theorists, would provide compelling lenses to help understand the themes that emerged across the datasets. Such critical lenses would help to unpack the assumptions and power asymmetries embedded in the narratives and perspectives from participants in this study, and in the discourses and frameworks adopted from the literature. Critical theory would help justify why transformations and innovations are needed in transboundary water governance processes. The important link to theories I’ve engaged with, including polycentricity, is to provide one possible form for which transformations in governance might progress. This engagement with critical theories and transformative changes to transboundary water governance remains the future work of critical scholars.

5.4 Contribution and Conclusion

This dissertation has explored issues regarding whether and how non-central state actors are contributing to changes to transboundary water governance to better integrate a more diverse set of actors beyond centralized governments. In doing so, it has made a number of contributions to scholarship. This study is, as far as I know, the first to explore two different forms of power Indigenous nations and local actors exercise and mobilize to influence a transboundary (international) water treaty such as the CRT. These findings have illustrated that non-central state actors have power and influence over state-based governance systems for transboundary waters, but they do not possess authority. This suggests the power to transform state-based systems is limited as authority remains with central state actors and agencies. I am unaware of other studies that have explored the tension between nation-state conceptions of borders and the borders of Indigenous nations with implications for governance of a modernized CRT. Moreover, through the lens of polycentric governance, my work has illustrated one possible framework for changes to governance systems that in recent history have been state-based with narrowly defined interests. However, given the centralized authority, the emergence of what could be considered a polycentric system of governance for the Columbia River or the Lesotho Highlands Water Project remains limited. This study builds on important and related scholarly works on Indigenous nations, the Canada-U.S. border, and water governance (see for example Norman 2015, Norman and Bakker 2017, Wilson et al. 2018).

Empirical and methodological contributions include a fairly comprehensive case study and grounded theory methodology research process across two regionally, and in terms of governance insight and potential for governance transformation, globally significant transboundary river basins. Both of them are in processes of flux and development with the CRT modernization and the Phase II development of the LHWP.

Despite the questions that have emerged, the research has contributed to on-going discussions regarding how governance changes are occurring in transboundary waters. Specifically, insights gained suggests changes in governance for transboundary rivers away from state-centric processes may be emerging in some areas, such as the ability of non-central state actors to exert different forms of power to shape water governance processes.

Findings also illustrate that a clear distinction between international and national processes related to bordering is no longer sufficient to describe transboundary water governance processes. However, these insights also highlight that centralized government authority for transboundary waters remains, and evidence of the emergence of polycentric governance systems at the international scale is limited.

The complexity of linked social-ecological systems in transboundary river basins requires an equally complex, sophisticated, and unique approach to governance that reflects local and regional issues, interests and actors. As Pahl-Wostl (et al. 2012) argues, there are no panaceas for effective, sustainable, and equitable approaches to water governance.

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Appendices

Appendix A – University of Victoria Human Research Ethics Approval



Office of Research Services | Human Research Ethics Board
 Michael Williams Building Rm B202, PO Box 1700 STN CSC Victoria BC V8W 2Y2 Canada
 T 250-472-4545 | F 250-721-8960 | ethics@uvic.ca | uvic.ca/research |

Certificate of Renewed Approval

PRINCIPAL INVESTIGATOR: William (Jesse) Baltutis	ETHICS PROTOCOL NUMBER: 15-317 <small>Minimal Risk Review - Deleated</small>
UVic STATUS: Ph.D. Student	ORIGINAL APPROVAL DATE: 02-Oct-15
UVic DEPARTMENT: GEOG	RENEWED ON: 30-Aug-17
SUPERVISOR: Dr. Michele-Lee Moore	APPROVAL EXPIRY DATE: 01-Oct-18
PROJECT TITLE: Local actor influence in a post-sovereign world: Water governance and international rivers	
RESEARCH TEAM MEMBER: None	
DECLARED PROJECT FUNDING: 1. SSHRC Graduate Student Fellowship (2015); Borders in Globalization Project (UVic); 3. Internal Research Grant (UVic)	
CONDITIONS OF APPROVAL	
<p>This Certificate of Approval is valid for the above term provided there is no change in the protocol.</p> <p>Modifications To make any changes to the approved research procedures in your study, please submit a "Request for Modification" form. You must receive ethics approval before proceeding with your modified protocol.</p> <p>Renewals Your ethics approval must be current for the period during which you are recruiting participants or collecting data. To renew your protocol, please submit a "Request for Renewal" form before the expiry date on your certificate. You will be sent an emailed reminder prompting you to renew your protocol about six weeks before your expiry date.</p> <p>Project Closures When you have completed all data collection activities and will have no further contact with participants, please notify the Human Research Ethics Board by submitting a "Notice of Project Completion" form.</p>	
Certification	
<p>This certifies that the UVic Human Research Ethics Board has examined this research protocol and concluded that, in all respects, the proposed research meets the appropriate standards of ethics as outlined by the University of Victoria Research Regulations Involving Human Participants.</p> <div style="border: 1px solid black; width: 200px; height: 40px; margin: 0 auto; background-color: #4a86e8;"></div> <p style="text-align: center;">Dr. Rachael Scarth Associate Vice-President Research Operations</p>	

15-317
Baltutis, William (Jesse)

Certificate Issued On: 30-Aug-17

Appendix B – List of workshops, conferences, and events on Columbia River Treaty modernization attended by principal author

Date	Name, location
October 7-8, 2015	<i>Columbia River Treaty: Past, Present and Future</i> Osoyoos, B.C.
November 6-7, 2017	<i>Fresh Ideas in Freshwater Communication – Columbia Basin Watershed Network</i> Cranbrook, B.C.
January 14, 2016	<i>Can the Columbia River Treaty Call the Salmon Home?</i> Nelson, B.C.
October 18-20, 2016	<i>Future of Our Salmon</i> Oregon Convention Center, Portland, Oregon
February 22-23, 2017	<i>The Changing Environment & the Columbia River Treaty</i> Northwest Indian College & Western Washington University, Bellingham, Washington