

Exploring the role for private actors in water governance

by

Natasha Overduin

Bachelor of Public Affairs and Policy Management,  
Carleton University, 2012

A Thesis Submitted in Partial Fulfillment  
of the Requirements for the Degree of

MASTER OF ARTS

in the Department of Geography

© Natasha Overduin, 2015  
University of Victoria

All rights reserved. This thesis may not be reproduced in whole or in part, by photocopy or other means, without the permission of the author.

**Supervisory Committee**

Exploring the role for private actors in water governance

by

Natasha Overduin  
Bachelor of Public Affairs and Policy Management,  
Carleton University, 2012

**Supervisory Committee**

Dr. Michele-Lee Moore, Department of Geography  
**Supervisor**

Dr. Rosaline Canessa, Department of Geography  
**Departmental Member**

## Abstract

### Supervisory Committee

Dr. Michele-Lee Moore, Geography

### Departmental Member

Dr. Rosaline Canessa, Geography

Tension between water sustainability goals and continuing economic reliance on natural resource extraction poses challenges for accelerating water governance reform. Robust accountability mechanisms, as well as collaborative, watershed-scale approaches to water governance are needed to enhance decision-making processes and outcomes, especially where high-risk activities like mining exist. Existing scholarship has not adequately explored how to implement such governance principles in resource extraction contexts, where private actors, and particularly multi-national companies (MNCs), are often primarily responsible for community engagement, operations management, and watershed planning. Through empirical investigation in British Columbia's Elk River Valley, this thesis investigates how one MNC shapes water governance at the watershed scale currently, and in turn, how their influence may affect key governance principles and approaches. Along with document analysis and participation in local conferences, interviews were conducted with community members, community-based organizations, local/regional governments, independent consultants, industry and provincial government staff, Indigenous Nation members and scientific advisors, and academic experts. Findings indicate that despite the presence of water quality contamination linked to mining, community-industry relationships are widely perceived as positive, and there are benefits related to the MNCs' involvement in the watershed. This includes capacity building in a community-based water group, who is consequently regarded as making valuable contributions to water governance processes at multiple scales. Additionally, in response to the Indigenous Nations' concerns and leadership, the MNC supported the development of a collaborative cumulative effects management initiative, which gained momentum and attracted government leadership. Findings also suggested that challenges remain for enhancing water governance outcomes when controls and accountability of a private actors' high-risk activities are insufficient. I document how 'social license to operate' is vaguely operationalized and understood by watershed actors as an accountability principle. I argue that social license does not represent a meaningful accountability mechanism because it cannot guarantee efforts to improve ecological outcomes, and it is unclear whether and how its terms can be defined and enforced. This research contributes to the environmental and water governance literature by providing empirical evidence of new approaches to water governance in a resource extraction context. Considering that B.C. is in the midst of developing and implementing a new *Water Sustainability Act*, this research also provides practical lessons for policy-makers and practitioners who are exploring options for implementing alternative governance approaches.

## Table of Contents

Supervisory Committee .....	ii
Abstract .....	iii
Table of Contents .....	iv
List of Tables .....	vi
List of Figures .....	vii
Acknowledgments .....	viii
Chapter One .....	1
1.0 Introduction .....	1
1.1. Literature review and theoretical framework .....	9
1.1.1. How and why is society shifting towards water governance? .....	9
1.1.2. NEG: A framework for assessing governance .....	13
1.1.3. Why is collaboration important in water governance? .....	16
1.1.4. Collaboration with private actors .....	19
1.1.5. Why is accountability important in water governance? .....	23
1.1.6. Accountability and the shift to water governance .....	23
1.1.7. Accountability and private actors .....	26
Summary .....	30
Chapter One References .....	31
Chapter Two .....	47
2.0 Chapter purpose .....	47
2.1. Researcher positionality in qualitative data analysis .....	47
2.2. Research design rationale: Case study .....	55
2.3. Case study description .....	57
2.3.1. Temporal scope of the case study .....	64
2.4. Data collection methods .....	65
2.4.1. Document analysis .....	65
2.4.2. Semi-structured interviews .....	66
2.4.3. Conferences and workshop notes .....	68
2.5 Qualitative Data Analysis .....	69
Chapter Two References .....	71
Chapter Three: Exploring the role of private actors in water governance .....	76
Abstract .....	76
3.0 Introduction .....	76
3.1 Methods .....	78
3.1.1. Data Collection .....	78
3.1.2. Case study context .....	79
3.2. Results .....	80
3.2.1 Parallel governance approaches .....	80
3.2.2. Model 1: An collaborative approach to water governance .....	81
3.2.3. Model 2: Conventional approach .....	95
3.3. Discussion .....	100
3.4 Conclusion .....	104
Chapter Three References .....	105
Chapter Four: Social license to operate: a proxy for accountability? .....	112

Abstract.....	112
4.0 Introduction.....	112
4.1. Methods.....	115
4.1.1. Data collection .....	115
4.1.2. Case study context .....	116
4.2. Results and Analysis.....	117
4.2.1. “Beyond regulation” .....	117
4.2.2. A social license for whom?.....	118
4.2.3. Too intangible to measure.....	120
4.2.3. Does not guarantee ecological improvements .....	121
4.4.4. Unclear who enforces the social license .....	122
4.4.5 Summary .....	125
4.3. Discussion.....	125
4.5 Conclusion .....	129
Chapter Four References.....	129
Chapter 5: Conclusions.....	137
5.1. Summary of major findings.....	139
5.2. Contributions and looking forward.....	142
Chapter Five References.....	145

## List of Tables

Table 1 Key Conditions necessary to initiate and sustain a collaborative dynamic .....	17
Table 2: Case Study Selection Criteria .....	56
Table 3: Chronology of events and initiatives in the Elk River Valley .....	61
Table 4: Example of qualitative data coding .....	70
Table 5 Community engagement strategies.....	83

## List of Figures

Figure 1: An overview of concepts and connections between them.....	15
Figure 2 Mine operations in the Elk River Valley (Source: Golder Associates 2010).....	58
Figure 3: Overview of the collaborative approach .....	81
Figure 4: Overview of the conventional approach.....	95

## Acknowledgments

This research was only made possible by my research participants: in the Elk River Valley and elsewhere in B.C., people were welcoming and forthcoming. Thank you for being so gracious in sharing your knowledge, time, and energy.

I am also forever thankful to my supervisor, Dr. Michele-Lee Moore, who was unfailingly generous and encouraging. Your thoughtful and insightful feedback always pushed me forward. A special recognition is deserved for my WiGG Lab friends (Jesse, Geneen, Rosanna, and Jamie), who were the best comrades through the tumultuous ups-and-downs of grad school. I am deeply grateful to Oliver and the POLIS team, for the invaluable learning opportunities and mentorship. And, of course, thanks to the wonderful, wild women of Wildsight Golden, whose leadership, dedication, and passion for environmental stewardship will be a long-lasting source of inspiration.

And, of course, from the bottom of my heart, thank you to my beloved friends and family for their love and patience...

Laura, Serenity, Carmen, Justin & Angela: thank you for all the joy, laughter, bike rides, and reminders to keep things in perspective.

My grandparents. Thank you for the phone calls and prayers through all the years.

Mom and Dad. Thank you for your unwavering support and enthusiasm for even the craziest of my endeavours.

My sister Seneca. Thank you for being my role model, and best friend.

And Zeb. I couldn't have done this without you.

Funding for this project was provided by the Social Sciences and Humanities Research Council, the Canadian Water Resources Association, the Pacific Salmon Foundation, and the University of Victoria.

## Chapter One

### 1.0 Introduction

*“Water policy in many parts of Canada has not kept pace with changing political, economic and climatic conditions. Put simply, water management in Canada is presently barely coping with the effects of a changing climate...”*

– Climate Change Adaptation and Water Governance (Sandford et al. 2011, 5)

*“Governance refers to the complex processes involving individuals, institutions (public, but also private), and civil society that make social choices. It involves both the who and the how of making collective decisions, and is thus inevitably concerned with power: the ability to influence, shape, and execute decisions, and to hold those making them to account. In its formal sense, governance involves laws, regulations, and formal institutions and incentives. Just as important is how the norms, values, behaviours, and ethics influencing those decisions are constituted—how they flow through the social networks of influence and action. Behind the concept of governance are the notions of learning and adapting to change, and building social resilience to address an increasingly uncertain future...”*

– A Blueprint for Watershed Governance in British Columbia (Brandes et al. 2014, x).

When fish float belly up (e.g. Hume 2014d), algae blooms grow out of control (e.g., IJC 2014), salmon runs sharply decline (e.g., Peterman & Dorner 2012), and boil-water advisories become stubbornly common (e.g. Pentland & Wood 2013), it’s easy to recognize and agree that “water-rich” Canada is not immune to freshwater woes that are being experienced in seemingly distant, thirsty countries (Sandford et al. 2011, Pentland & Wood 2013). In Canada and globally, it is becoming alarmingly evident that combined pressures of anthropogenic climate change, resource development, agriculture, urban expansion and population growth are increasingly resulting in shrinking water supplies, rising frequency of extreme water events, and high rates of freshwater biodiversity loss (e.g., Dudgeon et al. 2006, Vorösmarty et al. 2010, IPPC 2014).

Canadian water policies, laws, and institutions have not kept pace with changing political, economic and climatic conditions and do not adequately protect water resources from the pressures listed above (Sandford et al. 2011, Cook & Bakker 2011, Pentland & Wood 2013). The limitations are particularly true in resource extraction contexts, where high-risk activities like mining threaten water sustainability (e.g. Schindler & Donahue 2006, Hendryx et al. 2010, Schindler 2010, Parfitt et al. 2012, Hauer & Sexton 2013). Research has characterized Canada’s approach to water governance as historically being top-down, broad-based and fragmented, often

lacking appropriate oversight, and failing to involve key interests, water users, and Indigenous Nations in decision-making around water resource use and development (Shrubsole 2004, Bakker 2007, Booth & Skelton 2011, Sandford et al. 2011, Bakker & Cook 2011, Pentland & Wood 2013, Brandes et al. 2014).

Consequently, a growing consensus is emerging among scholars and practitioners that water governance reform is urgently needed in Canada (e.g., see Bakker 2007, Sandford et al. 2011, Brandes et al. 2014). The urgency of this need varies across provinces, where the jurisdiction for water is held. For example, Quebec and Ontario instituted progressive water planning and source water protection approaches decades previously (e.g., Quebec's *Politique nationale de l'eau 2002*, Ontario's Conservation Authorities). Relative to other jurisdictions, British Columbia is both a laggard and a leader, and represents an important case within Canada for examining water governance, because recent trends in the province highlight both the opportunities and challenges for provincial and regional scale water governance reform.

Governance is an issue of concern at both watershed and provincial scales in B.C. (e.g., see the British Columbia Living Water Smart policy, 2008). Across the province, a diverse number of collaborative, watershed-scale, or community-based organizations are emerging (Morris & Brandes 2013). Many of these groups are striving to influence decision-making through developing and implementing watershed plans and community water monitoring programs. Through engaging in governing activities, these groups intend to provide the data, information, and plans, as well as leadership and coordination, that will improve decision-making and management in the watershed (e.g. Okanagan Water Stewardship Council 2008, Fraser Basin Council 2011, Morris & Brandes 2013, Hunter et al. 2014). To achieve their goals, organizational structures are generally designed on principles of multi-actor collaboration and coordination, deliberation, localized decision-making, integrated watershed management, and co-governance with Indigenous Nations (e.g., Melnychuk et al. 2012, Overduin 2012, Morris & Brandes 2013, Hunter et al. 2014). Such characteristics are widely agreed to be essential features of effective approaches to water governance in this era, where Indigenous, public, private, and civic actors share responsibilities for water decision-making and management (Pahl-Wostl 2007, Huitema et al. 2009, Gupta et al. 2010, Holley et al. 2012).

At the provincial scale of water decision-making, recent updates to B.C.'s 100 year-old water legislation signal that freshwater protection and water governance is increasingly being recognized as a critical priority. B.C.'s new *Water Sustainability Act* (WSA) enhances groundwater monitoring and regulation, introduces water pricing reform,<sup>1</sup> and enhances protection of environmental flows to sustain ecological systems. Moreover, the WSA enables regional area-based water management plans, and introduces provisions for delegating authority to non-government bodies, which could potentially include collaborative watershed organizations (Brandes & O'Riordan 2014, British Columbia *Water Sustainability Act* 2014). Regulations under the new WSA are being developed currently. Consequently, the time to be focusing attention on the pragmatics of water governance in B.C. is now (pers. comm. Brandes, March 2015). Undoubtedly, increasing recognition of the rights and title authority of Indigenous Nations in Canada has, and will continue, to influence structures and processes for natural resource decision-making (B.C. Assembly of First Nations 2010, Nelson et al. 2014, Simms 2014, Universities Consortium on Columbia River Governance 2015).

Altogether, the energy and momentum visible in communities and at the watershed scale in B.C., combined with changes to water legislation and regulation at the provincial scale, suggests that a transition away from the status-quo is underway in B.C. At the same time, future economic prosperity in B.C. will likely continue to rely on forestry, mining, and oil and gas development. All of these activities – but particularly mineral and gas development – are expanding in many parts of the province (Parfitt et al. 2012, e.g., see B.C. Ministry of Energy and Mines LNG Strategy 2012). In B.C., the provincial government's human and financial resources have been successively decreased (Archibald et al. 2012). Private actors, including industry proponents and third-party environmental consultants, often carry out important tasks of environmental planning, watershed management, monitoring, and community engagement (Young 2008, Haddock 2010, Archibald et al. 2012, B.C. Ombudsperson 2014, FPB 2014). Government is ultimately accountable for the results of activities happening on Crown land<sup>2</sup>, and regulatory agencies are

---

<sup>1</sup> Even after increasing water rental rates in 2015, the price of water in B.C. remains below those in other provinces (Carr-Wilson 2015).

<sup>2</sup> 95% of B.C.'s land-base is considered Crown land (Bunell 2013). However, much of this "Crown land" is also unceded territory claimed by Indigenous Nations (Borrows 2005).

meant to provide oversight and enforcement. However, development is often occurring without sufficient review and assessment (Haddock 2010, Office of the Auditor General 2010a,b, B.C. Ombudsperson 2014, FPB 2014). Private actors tend to carry primary responsibility for determining levels of acceptable risk associated with their resource development projects (Brownsey & Rayner 2009, Haddock 2010, FPB 2014).

Given that private industries' activities and operations management have direct consequences in watersheds, it seems inevitable that private actors will have a role – either directly or indirectly – in shaping how and whether governance reform occurs, and the nature of new, alternative governance arrangements (Murray & de Loe 2012). For this reason, it is important we understand how private actors are currently engaged in shaping and contributing to water governance in Canada. This thesis examines water governance in a resource extraction context in B.C. I empirically investigate whether and how a private actor, specifically a multinational mining company (MNC), shapes watershed governance and explore the implications this carries for water governance reform more broadly in B.C.

Within existing scholarship, there has been limited examination of industry's role in water governance. Industry has been widely critiqued in discussions examining the negative social and ecological impacts that resource extraction may have in a watershed, but existing accounts of resource extraction do not usually focus on their role or inputs into underlying governance processes.

Negative impacts of resource extraction on water quality and quantity are well-documented. Mining, in particular, is often high-risk and can severely impact water resources. Mining generally involves massive displacement of earth and vegetation and the creation of tailing ponds and other infrastructure, such as roads, which can lead to irreversible landform changes, acid rock drainage, contaminated soil, surface and ground water alterations, plus loss of species, vegetation, and habitat (e.g. Hilson & Murck 2000, Hendryx et al. 2010, Bernhardt & Palmer 2011, Sanford et al. 2011, Bunnell 2013). Health impacts related to environmental and water degradation, such as heightened exposure to metals and chemicals through air and drinking

water, are also a recognized potential risk of mineral extraction (Parkes 2009, B.C. Northern Health Authority 2012, Basu et al. 2013).

Social impacts of resource extraction are also frequently cited. Human rights abuses and democratic failures related to MNCs are widely evidenced in the fields of environmental justice (e.g., Ballard & Banks 2003, Bridge 2004, Carmin & Agyeman 2011, Fulmer et al. 2008, Kemp et al. 2010, Hilson 2012, Gilberthorpe & Banks 2012), and water privatization (Barlow & Clarke 2002, Lobina & Hall 2003, Bovaird 2004, Barlow 2007). Numerous cases depict “David and Goliath” scenarios where powerful industries, or seemingly “pro industry” governments attempt to override local interests, resulting in litigation and conflict (E.g., Goulet 2010, Protect the Peel 2015).

Corporate social responsibility strategies (CSR) are regularly practiced by corporations in order to pre-empt or diffuse conflict (e.g., ICMM 2010, 2014), because firms are realizing that social conflict can lead to increased business costs (Franks et al. 2014). In B.C. and elsewhere, ‘social license to operate’ is emerging as a site-specific application of CSR, and a governing principle for resource extraction, because the term implies that industries must acquire buy-in and acceptance from communities who are affected by resource extraction operations (Gunningham et al. 2004, Prno & Slocombe 2012, Bunnell 2013, Parsons & Moffat 2014). Social license is being publicly presented by politicians, governments, and industries, as well as some scholars, as holding potential for reshaping community-industry relationships and enhancing the accountability of industry (Mason 2012, CBC News 2013, Schulz 2013, Hussain 2014, Gerson 2014, Simpson 2014, ICMM 2014, Goss et al. 2015, McCarthy 2015). Conversely, industries’ CSR and social license initiatives are regularly portrayed as manipulative, self-serving, illegitimate tools that enable firms to pollute and evade accountability, while minimizing contributions to social welfare (Banerjee 2008, Koenig-Archibugi 2004, Newell 2005, Coumans 2011, Parsons & Moffat 2014). However, limited empirical evidence illustrates how social license is applied in practice, and how it influences water governance (for two exceptions, see Prno 2013, Hall et al. 2015).

In sum, existing scrutiny and anecdotal evidence about private actors from the international context as well as from B.C.'s experience, implies or assumes that private actors, and especially MNCs, have a significant level of both direct and indirect authority and influence in decision-making processes involved in water governance. Yet, minimal research effort has been targeted towards understanding how private actors shape water governance. With resource extraction occurring in most watersheds, ignoring the role of industry in governance, or excluding them from governance arrangements in practice, will not solve the most complex challenges in a watershed, which may well be related to their activities (de Loe & Murray 2012). Moreover, one of the most significant mechanisms used by corporations to frame their approach is through CSR, or by seeking a social licence to operate. Yet, again, little understanding exists about what this entails in Canadian watersheds and how this shapes water governance.

The purpose of this thesis is to address this gap through empirical analysis of a case study in the Elk River watershed in south eastern B.C., where severe water quality contamination is a result of mountain-top coal mining. Both conventional and new approaches to governance have been implemented in the watershed to address water quality concerns. I assess whether and how the private actor (a multinational company) who owns and operates the mines shapes different approaches to watershed governance.

To achieve this purpose, the following research objectives guided this project:

1. **Describe** the nature of community-industry relationships, and the form and function of governance processes in the watershed. **Analyze** the outcomes of these relationships and processes for watershed governance.
2. **Identify** and **describe** industry's role and contributions in different approaches to watershed governance in a resource extraction context.
3. **Assess** how accountability of private actors is implemented in the Elk Valley.
4. **Relate findings** from the case study to the broader B.C. and Canadian context by identifying lessons learned about the role of private actors in different approaches to water governance.

5. Contribute to the development of the environmental governance literature by providing empirical evidence of how two core governance principles, accountability and collaboration, are operationalized in a resource extraction context.

This thesis is composed of five chapters, which are summarized here:

Chapter 1 includes this introduction as well as an examination of the water and environmental governance literature. I review literature grappling with questions of how a transition to water governance has and continues to occur in B.C. and elsewhere, where it is being impeded, whether and how government has retreated from its role as primary steward and manager of water resources, how communities and Indigenous Nations are increasingly demanding and exercising greater local control and authority, and, fundamentally, why the very nature of water resources require eco-system based, multi-actor approaches to decision-making in order to improve water outcomes.

A multitude of governance theories and models attempt to explain and understand the nature and function of alternative multi-actor governance structures and institutions. I have adopted the “new environmental governance” (NEG) framework, which is an umbrella theory attempting to encapsulate the extensive work completed to date on the topic of environmental governance. In an effort to summarize the current state of knowledge and stimulate pragmatic empirical inquiry, NEG authors propose that collaboration, participation, deliberation, learning, and new forms and mechanisms of accountability are pivotal, foundational characteristics of good governance arrangements (Holley et al. 2012).

In reviewing this framework, I demonstrate how questions remain about when collaborative NEG approaches are appropriate, which new models for water decision-making are effective in practice, and how new approaches may integrate with existing centralized, top-down governance processes; for instance, permitting resource extraction activities or providing a water license (de Loe & Murray 2012). Furthermore, it is unclear how accountability, a cornerstone principle of good governance in the NEG framework, applies in multi-actor contexts, when decision-making authority and implementation responsibilities are shared (Benner et al. 2004, Blomquist &

Schlager 2005, Chan & Pattberg 2008, van der Meer 2006, May 2007, Wallington & Lawrence 2009, Cohen & Davidson 2011, Brandsma et al. 2012).

This review also explores other sub-sets of resource management and environmental sustainability literature, including environmental justice, corporate social responsibility, and regulatory literature, in order to identify and review key findings about how private actors influence communities, decision-making, and water resources. I conclude that existing scholarship offers some insights into private actors' behaviours and incentives, but there is a gap in the literature because there is little analysis of private actors role in shaping decision-making.

In this thesis, I use the terms 'private actor', MNC, industry, and 'Company' interchangeably. I normally use the term "private actor" because 'actors', versus 'stakeholders', is becoming established as a more appropriate term for referring to groups and individuals in the governance literature. This is because actors like Indigenous Nations (who hold constitutional rights), and governments (who are statutory decision-makers) are not just 'stakeholders' (Smith & Dobell 2010). I use the terms Company and industry in reference to my case study. The term MNC is used because, a) the Company in my case study is an MNC, and b) the majority of the environmental governance and CSR literature focuses on MNCs versus smaller, local extractive resource firms, and c) critiques in the literature are often specific to MNCs, such as their interest in pursuing profit by finding low environmental standards, moving offices for cheap labour, and ignoring local impacts while ensuring economic gains are held elsewhere (e.g., Carmin & Agyeman 2011). The aim in this thesis is to promote the generalizability and relatable nature of the lessons that emerge from this research (i.e., this research does not intend to critique or promote a particular company or organization specifically).

Chapter 2 describes research methodology and methods, including a discussion of my positionality in this research.

Chapter 3 presents case study findings from Elk River watershed. Findings demonstrate that two approaches to water governance developed simultaneously in the watershed – a "bottom-up" approach and a more conventional top-down approach – and that the industry is influencing the

direction and outcomes of both approaches. Industry can make positive contributions to governance by demonstrating a willingness to engage with Indigenous leadership, initiating and helping sustain collaborative multi-actor processes, and helping build the capacity of community water groups to have a voice and influence in water governance. However, these contributions do not come with ‘no strings attached’, as other watershed actors question the legitimacy of industry-led or supported organizations and processes. Findings also suggest that new approaches to water governance do not supersede existing hierarchical approaches, which are in place to provide accountability assurances. In these top-down processes, industry was perceived as resisting taking steps needed to accelerate environmental improvements. These findings lead to questions about accountability and resource extraction, and relevance of the concept of social license as it pertains to accountability.

Chapter 4 deals with accountability and social license. An absence of empirical investigation into the significance or applied definition of social license means its implications for water governance are unclear. In this article, I empirically investigate how social license is understood and applied in the Elk River watershed. This investigation raises issues with social license as an accountability mechanism: not only is the concept only vaguely understood, there are problems with enforcing it, and it does not directly relate to a company’s operations management. Therefore, social license is not a principle that guarantees improved ecological outcomes.

Chapter 5 provides a conclusion and summary of the main themes, findings, arguments, tensions, and implications documented in this thesis.

## **1.1. Literature review and theoretical framework**

### **1.1.1. How and why is society shifting towards water governance?**

Water governance is defined as “the range of political, organizational and administrative processes through which interests are articulated, input is absorbed, decisions are made and implemented, and decision makers are held accountable in the development and management of water resources and delivery of water services” (Bakker & Nowlan 2007, 14). Scholars from the fields of environmental and water governance have commented on how a ‘shift’ or ‘turn’ to

governance is underway in most developing countries, including Canada, because many diverse public and private actors (not just governments) seek and exercise influence in decision-making (Karkkainen 2004, Bäckstrand et al. 2010, Holley et al. 2012, Newell et al. 2012, de Loe & Murray 2012, van der Heijden 2014). This has also been expressed as a shift ‘from govern-*ment*’ to ‘govern-*ance*’ (Brandes & O’Riordan 2014), or a move from ‘regulation to governance’ (Gunningham 2009).

A number of authors have described the interrelated causes attributed to the water governance shift (e.g. Gunningham 2009, Holley et al. 2012). Firstly, at the broadest level, the shift to governance is associated with neoliberalism and globalization: less and smaller government, more use of market mechanisms, greater devolution of responsibilities to the private sector, increased use of public-private partnerships for funding social programs and infrastructure, diminishing autonomy of nation-states, and increasing authority for transnational governing bodies, like the World Bank (Liverman & Vilas 2006, Lemos & Agrawal 2006). Historically, conventional approaches to water governance in Canada have relied upon centralized governments to regulate polluters, manage resources, and address environmental problems. The “one-size-fits-all” command-and-control approach has been criticized for consistently failing to accommodate watershed-specific conditions, complexities, and concerns (Cummin et al. 2006). A hierarchical rules and enforcement approach is also argued to be costly, cumbersome, and inefficient for administering government agencies and for regulated entities (Karkkainen et al. 2000, Gunningham 2009). Moreover, Canadian government agencies at all scales are increasingly cash-strapped, and lack human and financial resources to provide necessary levels of monitoring, enforcement, and engagement related to natural resource management (e.g. Young 2008, Archibald 2012). As a result, decision-making authority and responsibility for water management, to varying degrees, has been devolved by central governments to lower levels of government (i.e., regional, or municipal), private industry and industry groups, and non-government organizations like community-based watershed bodies (Bakker & Nowlan 2007).

Secondly, climate change pressures, combined with increasing demand for natural resources and resulting resource scarcity, represent water governance reform drivers (Gupta et al. 2010). Status quo approaches to decision-making are arguably not designed or suited to respond to the

pervasive and complex challenges stemming from a changing climate and growing population (Meadowcroft 2007, Sanford et al. 2011). Related, there is an emerging recognition that socio-ecological complexity demands integrated management of water and land resources, which in turn requires institutional change (Shrubsole 2004, Gupta et al. 2010, Sheelanere et al. 2011).

Thirdly, growing acknowledgment of the rights and title of Indigenous Nations is influencing the development and design of water governance processes and institutions (von der Porten 2014, Simms 2014). In Canada, a series of decisions from The Supreme Court has incrementally strengthened Indigenous Nations' legal role in resource decision-making, and firmly established Indigenous rights and title. For example, the landmark Tsilquotin decision in June 2014 found that consent is required from Indigenous Nations where development is proposed on unceded traditional Indigenous territory (Nelson et al. 2014, Simms 2014). Indigenous Nations themselves are articulating their desire to reassert control over water in their traditional territories, as illustrated in the British Columbia Assembly of First Nations (2010) Water Governance Toolkit, which states: "Water is an important subject to be considered in rebuilding First Nations governance... at the outset, the most important point for our Nations is, who owns the water, and who has the right to determine access to water for all the possible uses" (445).

Finally, community-based and watershed-scale planning success stories and initiatives provide evidence that top-down approaches can be complemented by "bottom-up" governance arrangements. Case studies of devolved governance arrangements and community-based water initiatives have been documented in B.C. (e.g., Calbick et al. 2004, Melnychuk et al. 2012, Hunter et al. 2014) and the rest of Canada (e.g., Guehlstorf & Hallstrom 2012, Conservation Ontario 2013, Simpson & de Loe 2014), the U.S. (e.g. Singleton 2002, Sabatier et al. 2005), Australia (e.g., Lockwood et al. 2009, Robins & de Loe 2009), and beyond. In some watersheds in B.C., and particularly where there are acute water crises or development pressures (e.g., water scarcity or contamination, rapidly expanding resource extraction), there is a growing sense that government lacks sufficient human resources to effectively monitor and enforce water laws (Archibald et al. 2012, Baltutis et al. 2014, Moore et al. 2015). Therefore, community-based water organizations generally aim to develop visions, plans, strategies, and information databases, with the intention of supporting the long-term protection of water and environmental

values, and guide decision-making about local resource development and water infrastructure management (e.g. Okanagan Water Stewardship Council 2008, Fraser Basin Council 2011, Hunter et al. 2014).

Community-based watershed groups typically use a collaborative approach in their decision-making, because they lack authority and resources and therefore recognize the necessity of collaboration for achieving goals (Ansell & Gash 2007). For example, in the B.C. context, the Cowichan Watershed Board is based on the principle of co-governance with First Nations. The Board has involved local governments, citizens, the agriculture sector, B.C. ministries, the federal fisheries department, and scientific and academic experts in the creation of a watershed plan that intends to adapt water decision-making to reflect hydrological changes and related impacts on salmon-bearing streams (Hunter et al. 2014). A goal for some community-based groups is to have greater influence in decision-making, or yield local control over land and water use decisions in their watersheds (e.g., Baltutis et al. 2014, Brandes et al. 2014). Watershed groups will potentially become more important entities in the province when governance provisions in the *Water Sustainability Act* are further defined and applied. Altogether, these governance trends raise important questions about accountability, and the effectiveness of collaborative approaches in improving water outcomes (de Loe & Murray 2012).

### **A range of water governance models**

Scholars are investigating how water governance institutions and processes can be made more effective in resolving complex socio-ecological issues and adapting to change (e.g., Gupta et al. 2010). Alternative, devolved, and community-based governance arrangements and approaches have been widely documented and analyzed from a multitude of lenses, and are applied to water as well as to other common-pool resources, like air, fisheries, and forests. Examples of governance models include *polycentric governance models* (Ostrom 2010), *adaptive co-management* (Carlsson & Berkes 2005, Plummer et al. 2013), *multi-actor governance* (Newell et al. 2012), *integrated water resource management* (Shrubsole 2004, Blomquist & Schlager 2005), *delegated or shared governance* (Bakker & Nowlan 2007, 2010), *watershed partnerships* (Leach & Pelkey 2001), *collaborative adaptive management* (Scarlett 2013) and *cross-scale networks* (Garcia-Lopez 2013).

A range of options and principles for water governance reflects how the field is being informed by experiments that are “bubbling up” in many different policy sectors and jurisdictions (Ansell & Gash 2007). A diverse range of water governance models is likely needed to accommodate geographic and socio-economic differences in watersheds. However, extensive theorizing has created a dense labyrinth of literature in which multiple models are available, but overlaps and linkages between them, and between fields of water, environment, and natural resource management, are often unclear (Lautze et al. 2011). A scholarly maze of similar-but-different ideas and arguments may hinder progress towards identifying key knowledge gaps and advancing collective knowledge of how governance reform can be fostered (Lautze et al. 2011).

This study applies the “new environmental governance” (NEG) model as a framework for this research. The justification of this framework is discussed in depth in the next sections. Figure One, below, provides a simplified overview of the concepts that are discussed in this chapter, and throughout this thesis, and arrows indicate the connections between them.

### **1.1.2. NEG: A framework for assessing governance**

Influential theoretical developments that have occurred to date have been synthesized by Holley et al. (2012) recently, in a summary framework called “new environmental governance” (NEG). The NEG literature provides a well-rounded synthesis of the evolution of the shift from “government” to “governance.” NEG captures the current state of knowledge about governance principles, and highlights remaining knowledge gaps. Unification of the diverse environmental governance literature in the NEG framework enables focused empirical inquiry on unresolved questions and concepts that appear to be commonly important in the alternative governance models cited above. The framework aims to avoid being ensnared in the weeds of different terminology, models, and theoretical nuances of the various existing models by serving as an umbrella framework. It focuses on five key characteristics, or elements, deemed essential for “good” governance (Holley et al. 2012):

1. Collaboration
2. Participation

3. Deliberation
4. Learning
5. 'New' forms and mechanisms of accountability

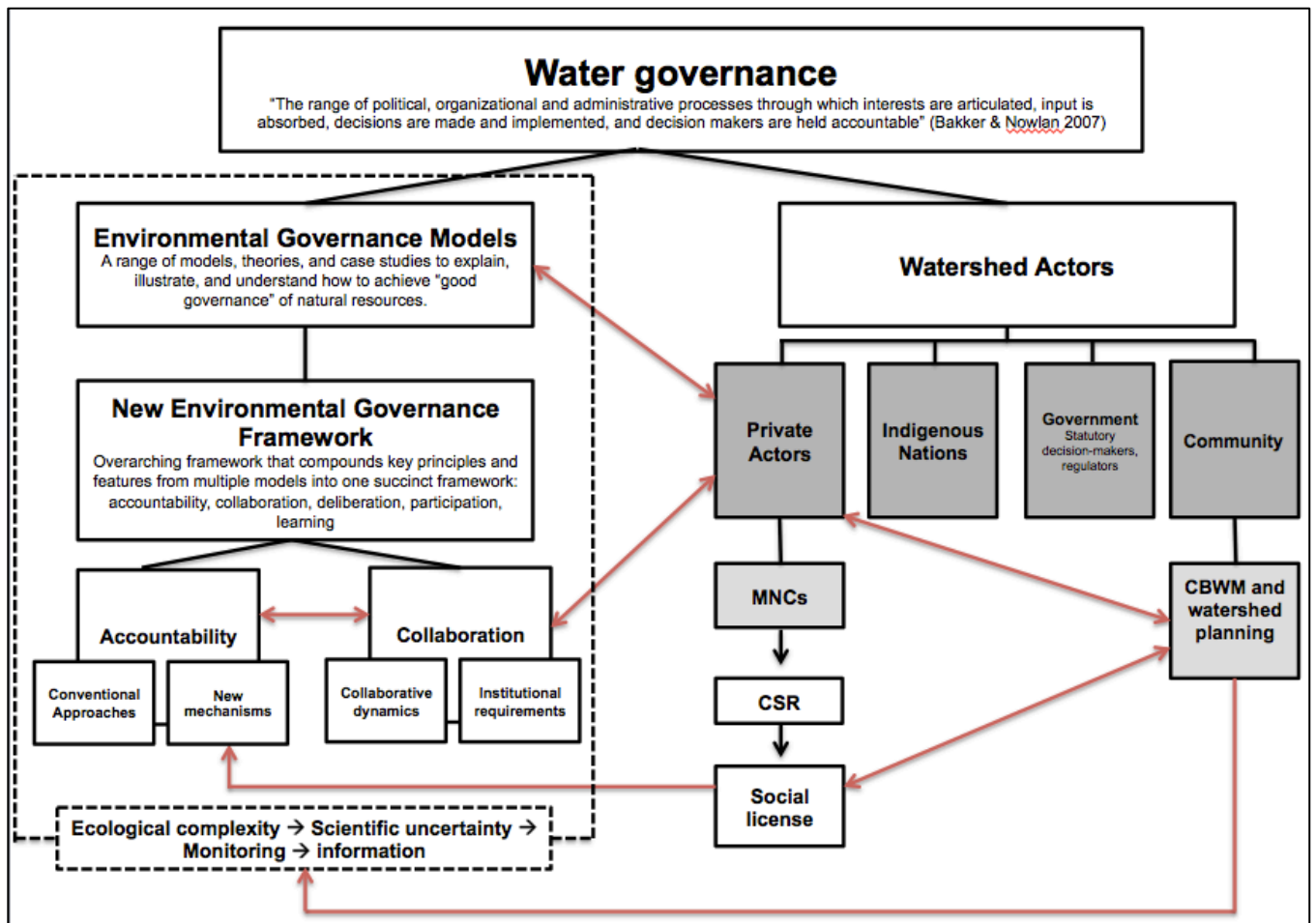
Each of these characteristics represents a stand-alone concept that is supported by extensive literature: for example, the idea that learning is important for governance has been explored in the field of 'social learning' (e.g. Pahl-Wostl 2009); collaboration has been investigated by environment and water scholars alike (e.g., Leach et al. 2002, Guehlstorf & Hallstrom 2012, Taylor et al. 2013), as well as in the field of public administration (e.g., Ansell & Gash 2007, Emerson et al. 2011). A strength in the NEG approach is that these core concepts are brought together under one overarching framework that assembles salient contributions from these various fields. This research is grounded in the theoretical position that governance arrangements exhibiting NEG characteristics represent a more desirable form of governance than conventional status quo approaches, and that NEG arrangements have the potential to address flaws and gaps in current systems of decision-making.

Many of the ideas and theories NEG scholars raise are by no means "new" in the broad literature on environmental governance. For example, principles of accountability and transparency have always been important in governance, including in conventional approaches (e.g., Mulgan 2000). Bäckstrand et al. (2010) find the presentation of 'old versus new' to be unhelpfully generalized and inaccurate. They point out, for instance, that some modes of governance may be historically new in some empirical contexts but have great longevity in other places (Bäckstrand et al. 2010). Reviewers have also noted that grouping diverse theories together under one framework runs the risk of overgeneralization and obscuring important differences (Holley 2010).

Nevertheless, Holley (2010) contends that by developing an overarching, generalized rubric of NEG and "linking and comparing theories in this broad way, it may be possible to test, build on, and reformulate theory to help achieve collectively and separately a better understanding of what is occurring, and/or a better approach for normatively influencing the direction of this new approach to environmental governance" (Holley 2010, 131). The NEG literature is inherently forward-looking, and turns our attention pragmatically to how theoretical propositions can be realized in practice.

Since each of the five NEG principles are supported by extensive sub-bodies of literature, I chose to focus on the elements of collaboration and accountability given their specific relevance to the issues of private actors engaging in watershed governance (collaboration) and their interest in gaining a social licence to operate and to use CSR reporting (accountability). In the next two sections, I provide a more in-depth discussion of collaboration and accountability, including discussion of how these relate to private actors. I also expand the discussion on why I have chosen to focus on these two particular principles as compared to the other helpful NEG principles.

**Figure 1: An overview of concepts and connections between them**



### **1.1.3. Why is collaboration important in water governance?**

Collaboration involves a diverse range of private, public and non-government actors who work together towards reaching commonly agreed upon, or mutually negotiated goals, whose achievement requires collective action; that is, goals which would otherwise not be realized through individual action (Ansell & Gash 2007, Emerson et al. 2011, Holley et al. 2012, Purdy 2012). Collaborative approaches to governance can be seen in multi-actor roundtables, community advisory councils, watershed boards and watershed planning initiatives, and dispute resolution processes (Purdy 2012). Collaboration is deemed as a necessary aspect of decision-making in the water and environment governance literature for two primary reasons:

First, because all actors in a watershed influence water outcomes through their activities, it is argued that they therefore must participate in developing and implementing solutions to water issues (Calbick et al. 2004, Wilson 2004, Bakker & Nowlan 2007, NRTEE 2011, Sandford et al. 2011, Baltutis et al. 2012, Baird et al. 2014, Simpson & de Loe 2014). Consider the example of Lake Erie, in Canada's Great Lakes basin, where severe algae blooms in Lake Erie are the result of many actors' activities: run-off from agricultural fields in Michigan, Ohio, and Indiana; leaky septic tanks in Ontario; and wastewater plants of various cities, such as Detroit, are all contributing to the problem (IJC 2014). Collaboration among actors is needed to determine what needs to be done, where, and by whom, to protect Lake Erie, and to ensure that groups do not perceive that they are bearing an undue cost when taking steps to alter their use of the watershed (IJC 2014).

Second, collaborative approaches are often assumed to yield better decisions and outcomes for the watershed, as well as for actors themselves. When multiple actors work together, they can overcome water conflicts and reach shared, mutually beneficial understandings and goals; and decision-making processes can better reflect their own values (Pahl-Wostl et al. 2007). Moreover, collaboration enables coordination across siloed activities, agencies, and jurisdictions; eases implementation of decisions through aligning efforts; increases actors' knowledge about water itself through data and information, and about socio-economic values; and expands the pool of total available human and financial resources needed to complete on-the-ground work (Leach et al. 2002, Sabatier et al. 2005, Ansell & Gash 2007, Pahl-Wostl et al. 2007, Lockwood

et al. 2009, Emerson et al. 2011, Guehlstorf & Hallstrom 2012, Holley et al. 2012, Plummer & Armitage 2013, Taylor et al. 2013).

Jurisdictions around the world are experimenting with devolved and collaborative governance approaches. For example, in Australia, regional bodies have been charged with the responsibility for developing plans that would address priority issues, such as salinity and water quality problems, with support from local communities and government (Lockwood et al. 2009). Local collaborative water sustainability planning processes are also the cornerstone of the drought-stricken state of California’s drought strategy (Brandes & Christensen 2015). In B.C., the *Water Sustainability Act* introduces potential for alternative, devolved governance. And, as discussed above, B.C. is witnessing the emergence of collaborative multi-actor watershed groups seeking formal influence in watershed decision-making in the long-term, and/or potentially greater local control (Baltutis et al. 2014, Brandes et al. 2014). The Cowichan example, described above, exemplifies the usage of collaboration to improve watershed health.

While collaborative approaches to water governance are being increasingly applied because of their purported benefits, in practice, collaboration has been found to sometimes slow down decision-making, or lead to dead-lock (Huxham et al 2000). A plethora of case studies examine the contingent factors of both successful and failed collaborative processes. Meta-analyses are thus an important resource for understanding how collaborative arrangements function (e.g. Leach et al. 2002, Ansell & Gash 2007, Plummer & Armitage 2013). A summary of conditions necessary to initiate and sustain collaborative dynamics is represented in Table One below.

**Table 1 Key Conditions necessary to initiate and sustain a collaborative dynamic**

<p>Key conditions necessary to initiate and sustain a functioning collaborative dynamic</p> <p><i>Summarized from Leach et al. 2002, and Ansell &amp; Gash 2007</i></p>	Neutral facilitation
	Ability to overcome conflict by developing trust and functioning working relationships
	Equitable inclusion of all actors
	Transparency (for example, about how decisions are made and participants are selected)
	A reasonable number and type of goals with a manageable scope of activities
	Sufficient scientific information
	Committed participants
	Strong communication efforts
	Consensus-based decision-making processes with clearly defined rules to ensure equality and limit power imbalance
	Adequate human and financial resources

A key condition is the requirement for equality, trust and relationships between watershed actors involved in the collaborative initiative. Trust, respect, and personal relationships between actors are necessary factors for ensuring cooperation and effective social relations between actors, and increasing the likelihood of reaching agreement (Huxham & Vangen 2005, Fabricius et al. 2007, Pahl-Wostl et al. 2007). These ingredients have been argued to be “essential lubricant” for collaboration (Dale & Onyx 2005, Newman & Dale 2005, Plummer & Armitage 2013). Holley et al. (2012) find that without trust, collaboration becomes inefficient. Extensive arguing and refusal to accommodate others’ concerns considerably lengthens the time and resources needed to complete plans and come to agreement (Holley et al. 2012). While some level of conflict or water crisis may be necessary to incentivize actors to come together in a collaborative forum (for example, water shortages or pollution), a prehistory of antagonism and inability to resolve conflict can make collaboration impossible (Ansell & Gash 2007, Fabricius et al. 2007). Case studies from B.C. (and elsewhere) provide evidence that consensus-based decision-making and trust are indeed necessary for actors in collaborative watershed groups to productively, continuously work together (e.g. Shrubsole 2004, Overduin 2012, Hunter et al. 2015).

Power imbalances and related mistrust between actors can act as a barrier to building long-term collaborative decision-making organizations. Powerful actors, like MNCs or a government agency, may have undue influence in shaping outcomes of collaborative processes because they have greater authority or resources (Huxham & Vangen 2005, Purdy 2012, Smith et al. 2012, Brisbois & de Loe 2015). These actors may also have alternative means of achieving their goals, and can therefore undermine the collaborative process (Purdy 2012). Less powerful or organized actors can be excluded from collaborative processes, or be co-opted by a more dominant party (Thom & Washbrook 2007, Fluet & Krogman 2009, Kemp et al. 2011, Purdy 2012). Strategies such as consensus-based decision-making, negotiation, mediation, and facilitation can potentially be used to ‘level the playing field’ (Calbick et al. 2004). A neutral facilitator can help ensure all actors have a chance to contribute to discussions, and facilitate relationship building (Holley et al. 2012). However, even with the use of these strategies, it is unclear whether collaborative groups can overcome power imbalances and the dynamics of the profit motive. Outside of the round-table process, it is unclear how these entrenched power differences might influence the

achievement of collaboratively developed goals and plans (Brisbois 2014, Brisbois & de Loe 2015).

Private industry represents a powerful actor, and multi-national companies are operating in many of B.C.'s watersheds. For that reason, it is important to understand if and how they are involved in shaping the collaborative approach to water governance. In the following section, I turn to case studies (largely from the field of environmental justice) and review literature that provides insights into private actors' behaviour and incentives. From this review it becomes clear that there is little empirical data explaining how private actors are currently shaping water governance.

#### **1.1.4. Collaboration with private actors**

Existing scholarship implies that potential for collaboration with private actors is slim. Findings from the fields of environmental justice (e.g., Handelsman 2002, Ballard & Banks 2003, Bridge 2004, Fulmer et al., 2008, Gilberthorpe & Banks 2012, Campbell 2012) and water service privatization (Barlow & Clarke 2002, Lobina & Hall 2003, Bovaird 2004, Barlow 2007) infer that, regardless of the location in the world, it is unlikely that solutions for water issues can ever be devised between communities and industry that are satisfactory to both parties (Kemp et al. 2010). These assumptions are not unfounded: countless conflicts between mining companies and communities have been documented by scholars, especially in the developing world context (e.g. Ballard & Banks 2003, Bridge 2004, Al Faruque & Hossain 2006, Fulmer et al. 2008, Bebbington & Bury 2009, Kemp et al. 2011, Campbell 2012, Gilberthorpe et al. 2012, Slack 2012, Franks et al. 2014). The Marlin Mine example in Guatemala exemplifies a situation where Indigenous peoples insisted that development activities were unwelcome, yet saw their interests and rights ignored by government, a Canadian mining company, and global financial institutions alike. Protestors were accused of terrorism, and one leader was shot and killed (Fulmer et al. 2008).

Environmental injustices, conflict, and litigation related to mining and resource extraction have also been documented in Canada (Goulet 2010, Booth & Skelton 2011a,b, Basu et al. 2013, Garvie 2013). In B.C. between 2012-2014 alone, protests and conflict surrounded development

projects proposed by private actors, such as pipe-lines and natural gas developments (E.g. Mason 2012, Hussain 2012, Hume 2014c, Woo 2014). Mistrust seems to shroud government and industry and can escalate because processes often do not seem to include an option for the community to say “no” to a proposed development (Moore et al. 2015). “David versus Goliath” scenarios exist where litigation is the only (or most likely means) for communities or Indigenous Nations to achieve their goals for their watershed. Such tensions between community, industry, and government are commonplace in the media, as well as observable at natural resource conferences (e.g., Hume 2014c, Columbia Mountains Institute of Applied Ecology 2014, UNBC 2014). For example, Nations who have been stewards of the Peel watershed in the Yukon Territories for generations have decided to take a litigious stand against government and industry to prevent unwanted development in that watershed.<sup>3</sup>

Collaborative approaches to governance could seem like paltry solutions to conflicts like the Marlin Mine: after extreme injustice and tragedy has occurred, it seems unrealistic that actors could peacefully compromise or negotiate. That case, and a host of similar examples in developing countries and Canada, suggest that achieving sustainability solutions will only be possible where we have better-resourced regulators and governments with strong mandates for clean energy production, landscape-scale conservation, and global GHG reduction (Meadowcroft 2007). Often, it seems that the reason communities desire greater local control is so that they have a means for resisting, dictating, and controlling the influence and activities of industry (Moore et al. 2015, pers. observation). Altogether, the literature leaves the impression that developing meaningful collaboration with industry in any form is inconceivable. Instead, large corporations must simply be more effectively controlled by government or by the communities themselves (e.g., Meadowcroft 2007, Carmin & Agyeman 2011, Coumans 2011).

In contrast to the critiques above, researchers and private actors are examining the potential for improved community-industry relationships and best practices in the extractive industries (e.g., Franks et al. 2014). With the realization that environmental stewardship can be in a company’s financial interest, ‘corporate social responsibility’ (CSR) and ‘good corporate citizen’ codes have

---

<sup>3</sup> This case is documented by environmental non-profit organizations (e.g., Protect the Peel 2015), as well as in a recent court decision, *The First Nation of Nacho Nyak Dun v. Yukon Government*, 2014.

been adopted by many mining companies (e.g., ICMM 2010, 2014). Unmanaged social risks have the potential to halt or greatly delay development, which ultimately translate into potentially higher business costs (Franks et al. 2014). Corporate codes are not universally defined, but essentially refer to voluntary ‘beyond compliance’ measures that a company takes to meet social demands and expectations on a wide range of issues, including environmental sustainability, accountability and transparency, respect for human rights, and labour relations (Gunningham et al. 2004, Al Faraque & Hossain 2006, Dashwood & Puplampu 2011, Schulz 2013). CSR strategies are sometimes used to seek a “social license to operate”, which is a more site-specific notion of CSR that connotes the need for a company to acquire social acceptance of extraction activities from impacted local communities, governments, Indigenous Nations, and businesses (Baba & Raufflet 2014).

Corporate social responsibility and social license pressures may represent a potential for positive improvements in community-industry relationships and mine operations because upholding these codes indicate that industries value their relationship to communities. In efforts to achieve social “buy-in” (i.e. acceptance by a local community for their proposed activity), companies may be willing to improve or change their practices and accommodate community concerns (Dashwood & Puplampu 2011, Fleury & Davies 2012, Dashwood 2013, Schulz 2013). In Canada, it is important to note that a duty to accommodate Indigenous Nations is legally required by government, who provide permits to the industry, which thus has significant implications for industry. At the same time, it is unclear whether these codes of conduct fundamentally change how mining companies have traditionally operated (Jenkins 2004, Canel et al. 2010, Franks et al. 2014). Scholars have critically questioned the ability of CSR instruments to reflect and assure respect for human rights, provide access to sanction and remedy, and protect social, economic, and environmental values (Coumans 2011, Cash 2012, Gilberthorpe & Banks 2012, Farrell et al. 2012, Parsons & Moffat 2014).

In cases where corporate codes and social pressure seem to be effective influences on industry behaviour, companies may seek involvement in collaborative approaches to water governance (e.g., Lertzman & Vredenburg 2005, Smith & Dobell 2010, Prno 2013, Rolston 2015). Benefits to their participation may include the fact that private actors may “bring experience, expertise,

and resources to the collaborative process and by doing so encourage better informed decisions” (Murray & de L oe 2012, p. 4). Holley et al. (2012) also find a role for industry in covering transaction costs such as hiring a facilitator/mediator, and paying for lengthy negotiations; that is, the private actors have access to financial capital that would not otherwise be available in the watershed, which can support collaboration.

While the literature on the role of private actors in Canadian water governance is limited, one initial small-scale survey of twenty-two industry respondents explored how natural resource firms (mining, oil, gas, forestry, electricity generation) perceive and experience collaborative approaches to water governance in Canada (Murray & de L oe 2012). Questions considered included: why would industries participate in collaborative approaches to water governance, what benefits do they perceive from participation, what incentives exist for participation, and related, what benefits or contributions can industries make to collaborative processes? There was a high level of consensus among the twenty-two participants in Murray and de L oe’s (2012) study that participating within collaborative processes is believed to be an opportunity for firms to provide information and to advance the firm’s position, which in turn helps build community, Indigenous, and stakeholder support for operations (i.e., achieving a ‘social license to operate’). All twenty-two companies in the study demonstrated awareness of the challenges inherent in collaborative approaches to water governance, but for the most part, the majority of participants “believe that these challenges are outweighed by the benefits that these approaches offer, namely the ability to engage with and influence decision/policy-making from the ground up, and the ability to engage with, build relationships, and influence other stakeholders” (Murray & de L oe 2012, 6).

In sum, considerable debate exists in the literature about private actors. Some of the existing evidence suggests that profit-driven private actors are generally disingenuous. However, industry bodies like the International Council on Mining and Metals, as well as some scholars (e.g., Schulz 2013), insist that industry is attuned to working with communities, and companies are increasingly seeking their “social license to operate” (e.g., Nelsen 2006). In the Canadian context, preliminary research indicates that firms want to participate in collaborative processes, and see benefits arising from their involvement in alternative approaches to water governance

(Murray & de Loe 2012). Moreover, firms might even be willing to contribute to covering the transaction costs associated with collaborative initiatives (Holley et al. 2012). Yet, private actors' role in different approaches to governance is understudied. This extends to a lack of knowledge about whether functional collaborative dynamics can be fostered between industry and communities (i.e., whether industries and communities can work together in a meaningful way). A key interest in this research was to develop a better understanding of collaborative dynamics in a resource extraction context, where an MNC is an important actor in the watershed. Better understanding how an MNC shapes different approaches to water governance, including collaborative processes, will inform our understanding of the suitability of the collaborative approach for water governance reform initiatives in B.C.

#### **1.1.5. Why is accountability important in water governance?**

Accountability emerges as a key issue of concern in analyses of governance where high-risk private activities like mineral extraction take place (e.g., Koenig-archibugi 2004, Schindler 2010, Baltutis et al. 2014). In the following section, I review literature from the fields of water governance, and public administration, in order to explain how the shift to “governance” rather than “government” has implications for accountability in water decision-making. This section focuses on ‘new’ approaches to accountability. Subsequently, I focus on accountability of private actors and resource extraction, highlighting where knowledge gaps exist, and how this thesis research aims to contribute to the scholarship.

#### **1.1.6. Accountability and the shift to water governance**

In the wake of water disasters linked with resource extraction activities – be they tailings pond breaches, pipeline malfunctions, or evidence of fish poisoning and decline – the reasonable questions that might be posed by affected interests and communities include: Who is in charge, who is responsible for this outcome, and how was this disaster allowed to happen in the first place? How can we ensure this never happens again? Ultimately, these questions boil down to the need for effective accountability, another essential principle of good water governance (Nowlan & Bakker 2007, 2010, Brandes et al. 2014).

Accountability, or “the obligation to explain and justify conduct” refers to specific social relationships between actors (Bovens 2007, 447). The concept conveys images of transparency,

trustworthiness, and is often used synonymously with terms like responsibility, answerability, and responsiveness (Bovens 2007). Despite its appeal and importance, accountability is a notoriously elusive, slippery, and multi-layered concept that has been adapted by policymakers and academics alike to suit different purposes (Bovens 2007, Wallington & Lawrence 2009, Biermann & Gupta 2011).

Conventionally, accountability has been understood in the context of electoral democracy and hierarchical, principal-agent relationships where governments lead decision-making and implementation, and are held accountable to citizens primarily through the electoral and legislative processes, and judicial review (Bäckstrand et al. 2010, Holley 2010). This linear understanding does not mirror the messy multi-actor governance context that has emerged in recent decades, where numerous accountability relationships exist between government, industry, Indigenous Nations, and community actors (van der Meer 2006, Chan & Pattberg 2008, Schillemans 2010). Accountability relationships can be expressed in various forms, with multiple overlapping and dynamic dimensions. For example, firms are accountable to their shareholders, as well as to governments, and to the citizens and Indigenous Nations who live in their operating area (Bäckstrand et al. 2010). Conventional, top-down, bureaucratic mechanisms and requirements for accountability may be at odds with new innovative governance experiments, such as roundtable initiatives. Arguably, more flexible accountability mechanisms are required to complement devolved governance structures (Holley et al. 2012).

Collaborative watershed groups are potentially able to harness new, ‘horizontal’ forms of accountability, including:

- ‘Downward’ accountability relationships: actors in a collaborative organization are accountable to their internal members. For instance, local governments are accountable to their citizens, First Nations leaders are accountable to their members (Holley 2010).
- ‘Professional’ accountability: professional bodies check performance of their members (e.g., The Association of Professional Biologists) (Holley 2010, BC Ombudsperson 2014).
- ‘Mutual’ accountability relationships: actors involved in collaborative decision-making hold each other accountable and check each others’ behaviour (Holley et al. 2012).

- ‘Discursive accountability’: Inclusive collaborative processes are argued to be more democratic by their very nature, and thus achieve a more fulsome form of accountability. Through the process of reaching shared understanding, actors deliberate and discursively evaluate the account-giving of multiple other actors (Ranson 2003, Black 2008).

Collaborative water governance initiatives can also make use of other accountability mechanisms, including third-party verification. This accountability mechanism sees a role for auditing organizations, verification bodies, and/or independent review organizations inspecting activities and providing systematic and objective reviews of whether legal requirements are being met, and ecological outcomes being achieved (Holley 2010, McAllister 2012). Third-party verification can be applied to government or industry activities, and perhaps to the activities of a delegated decision-making body. Measures such as independent environmental monitoring and ‘watch-dog’ organizations can also be considered third-party verification techniques (Ross 2003, Storey & Noble 2005, McAllister 2012, Olszynski 2012, Santarprio 2013, Rolston 2015). Third-party verification can theoretically “furnish more and better data about compliance and regulatory performance”, as well as provide opportunities to educate and persuade regulated entities to comply, and free up government resources (McAllister 2012, 9).

Third-party verification focuses on holding a separate governing body to account, as opposed to a range of non-hierarchical forms of accountability increasingly being applied to water resources with a focus on holding water users to account (i.e., “mutual” accountability). One common community-based or advocacy group approach is to develop a watershed report card. A watershed report card indicates the different impacts and stressors in the watershed, and highlights particular activities or water uses as problematic (e.g., WWF-Canada 2011, Conservation Ontario 2013, McPherson et al. 2014). Water accounting is another approach, and has been applied in water-scarce drought regions like Australia (e.g. Vardon et al. 2006, Godfrey et al. 2012). This method involves “organizing and presenting information relating to the physical volumes of water in the environment and economy as well as the economic aspects of water supply and use” (Vardon et al. 2006, p.650). Similarly, the “water footprint” is an accountability mechanism that aims to “quantify and locate the water footprint of a process, product, producer or consumer” to uncover the links between consumption and water use,

thereby informing water governance strategies by “identifying new triggers for change” (Hoekstra 2012, 58).

Questions remain about whether new approaches and devolved watershed-based groups can provide effective and sufficient accountability for something as critical and widely sought and required as water (Cohen & Davidson 2011). Bovens (2007) argues that it is a mistake to conflate concepts of collaboration, deliberation and participatory decision-making with concrete practices of account-giving. In his view, this makes it “difficult to establish empirically whether an official or organization is subject to accountability” (Bovens 2007, 450). When accountability becomes an evaluative notion, rather than an analytical concept, it is opened up to contestation because evaluative standards can differ among scholars, practitioners, and across circumstances (Bovens 2007). Expanded concepts of accountability seem to contradict current notions and practice, wherein accountability for water quality and quality protection measures (e.g., around drinking water safety) remains exclusively within the domain of governments, and arguably cannot – and should not – be shared (Cohen & Davidson 2011). It is unclear how new accountability measures can integrate with or complement existing accountability structures (van der Meer 2006, Schillemans 2010, Holley et al. 2012).

#### **1.1.7. Accountability and private actors**

With resource extraction activities occurring in most watersheds, it is essential to understand how private actors are held to account for their activities. Currently, the conventional approach to accountability tends to be relied upon for holding industry to account. Government specifies conditions within permits or licenses, and then enforces these legislative requirements, using punitive measures such as fines for breaking the law. However, government resources for enforcement are often limited, and Canadian provincial and federal governments’ oversight of resource extraction has been perceived as minimal and arguably insufficient (Brownsey & Rayner 2009, Pentland & Wood 2013).

Holding multi-national firms to account for their activities and influence may be inherently difficult due to the fact that these firms often possess considerable economic leverage, and have

capacity for global mobility (Blumberg 2000, Barlow & Clark 2002, Koenig-Archibugi 2004, Banerjee 2008, Carmin & Agyeman 2011). Corporations are “widely perceived as being capable of evading public control and getting away with behaviour that harms employees, consumers, vulnerable communities or the environment” (Koenig-Archibugi 2004, 235). Potential for collusion exists between government officials and MNC directors, and can range from “relatively benign forms” to outright corruption (Koenig-Archibugi 2004). Governments who fear losing corporate investment may be susceptible to pressures to create an inviting regulatory environment (i.e., one with minimal enforcement, less “red tape”, quicker time-lines, and fewer requirements for environmental assessments) (Koenig-Archibugi 2004).

Similar critiques of a lack of accountability for private actors can be found in the water privatization literature. Authors examine the mechanics of water service utility and pricing (e.g., Prudham 2004, Furlong & Bakker 2007), as well as questions of how democratic processes and human rights can be upheld through water privatization (e.g., Gleick 1998, Lobina & Hall 2003, Bovaird 2004, Swyngedouw 2006). The argument that water privatization and greater power for private actors’ in water management erodes core democratic processes of accountability and transparency was exemplified by the infamous Cochabamba, Bolivia, “water war” of the late 1990s. This high-profile case of water privatization reform led to massive water price hikes and pricing inequities due to a lack of accountability of the private water provider, who presented misleading information (O’Neill 2006, Liverman & Vilas 2006). Civil disobedience and mass public revolt forced the Bolivian government to revoke the private concession. In turn, the private consortium filed a lawsuit of \$25 million in compensation (O’Neill 2006, Liverman and Vilas 2006).

As discussed above, the emergence of “corporate social responsibility” and “social licence to operate” is a widespread phenomenon in the extractive sector. Broadly speaking, CSR and social license concepts may become a means for industry to “self-regulate” as opposed to being held accountable by another party (government or otherwise), or increasing regulations and improving access to legal recourse for those affected by extractive projects (Coumans 2011). For example, in the forestry sector, the Forestry Stewardship Council (FSC) was developed to promote sustainable forestry management, following international boycotts of old-growth and rainforest

timber (e.g., Walter 2003). The FSC uses auditing and certifiers to ensure that best management practices are applied by forestry companies. Organizations like Greenpeace support the FSC, and have stated that it is a “leading model for credible certification of responsible forest stewardship worldwide” (Greenpeace 2008, 3). Yet, the FSC has also been criticized by Greenpeace and others. Investigations have shown, for instance, that the FSC has not properly controlled its accredited auditors (Greenpeace 2008). Scholars are similarly critical of forest certification, and point to failure to preserve forest biodiversity and enhance accountability (e.g., Cashore et al. 2003, Walter 2003, Siry et al. 2005, Chan & Pattberg 2008, Schlyter et al. 2009). In the mining sector, corporate codes and standards for sustainability and community engagement have been developed by the International Council on Mining and Metals (ICMM) (e.g. see ICMM 2014). These codes seek to promote and enhance firms’ accountability by requiring transparency and disclosure of information, and by holding a company to its environmental commitments (e.g. ICMM 2014). For example, member companies of the ICMM are committed to transparent reporting as well as providing external assurance on the Sustainable Development Framework (Fonseca 2010).

Banerjee (2008) argues that corporate social responsibility enables corporations to conduct their business more easily, rather than help society hold corporations to account. Banerjee (2008) and other scholars have highlighted the need to investigate whether such corporate codes lead to tangible progress and improvement in the mining sector (Fonseca 2010, Parsons & Moffat 2014). Particularly, corporate accountability strategies such as ICMM’s Sustainable Development Framework (ICMM 2014) are intended to apply to member mining firms, regardless of where they are operating in the world. However, it is often not well understood how these mechanisms are applied at the watershed-scale, and if they enhance accountability of firms’ operations.

Industry’s efforts to enhance their accountability and social acceptability at a watershed scale can lead to their development of third-party verification mechanisms. For example, in a Canadian case study, the increasing pressures for industry to demonstrate accountability to communities affected by uranium mining led to the creation of an industry funded community-based environmental monitoring program as part of an environmental assessment follow-up agreement. Affected local citizens became involved in monitoring the off-site impacts of uranium operations

on air and water quality, vegetation, and animal muscle tissue for health and contaminants assessment (Noble & Birk 2011). From interviews with Indigenous Nations and industry members, Noble and Birk (2011) conclude that while the community-monitoring appears on the surface to be influential in directing industry activities, in actuality, “no direct scientific role or impact management relationship may exist between negotiated agreements and EIA follow-up practices. What seems to be a good model in the uranium industry is actually just “comfort monitoring” (Noble & Birk, 2011, p. 23). Noble & Birk (2011) suggest that ‘comfort monitoring’ may be valuable for industries in ensuring cooperation and community buy-in for development activities – but its credibility as a meaningful accountability mechanism is suspect.

Legally binding contractual agreements between firms and communities are another example of a watershed-scale accountability mechanism and are common with new major mine developments in Canada, Australia, the U.S., New Zealand, and developing countries (O’Faircheallaigh 2011). Negotiated environmental agreements, compensation agreements, and impact-benefit agreements can provide a means for dictating specifically how industry operates, and how wealth and employment benefits are distributed (Gregory & Trousdale 2009, O’Faircheallaigh 2011, Noble & Birk 2011, Laurie 2013). Despite wide-spread use of agreements, little analysis has been conducted of whether they represent effective accountability mechanisms (Sosa & Keenan 2001). In part, this is due to the confidentiality of the agreements, which poses a barrier to conducting research. Sosa & Keenan (2001) outline a number of traps and limitations related to these types of agreements, and conclude that although agreements are one way to address the socio-ecological and cultural impacts of mining, their effectiveness depends on “the type of agreement that is negotiated, how it is drafted, whether it is conceived with a long-term vision and how it is linked to development policy. This, in turn, depends on the legal protection, government support, financial resources, and access to expertise and information that Aboriginal communities are afforded” (Sosa & Keenan 2001, 21).

Given the unsubstantiated potential of agreements negotiated between communities and industries, critiques of insufficient government oversight of industry activity, and the continuing perception that private actors influence decision-making, there is a need to examine issues of accountability around water decision-making. New possibilities for holding private actors to

account through CSR and social license mechanisms are intriguing, particularly because research has thus far suggested that CSR strategies ultimately represent disingenuous, self-serving, and illegitimate means to evade accountability (Koenig-archibugi 2004, Coumans 2011, Campbell 2012, Smith et al. 2012, Farrell et al. 2012, Gilberthorpe et al. 2012). The value of CSR and social license concepts for improving accountability of private actors is currently not well-supported with empirical evidence. Several authors note the need for empirical research that identifies and analyzes accountability relationships and the barriers to enhancing accountability (e.g., Bovens 2007, Booth & Skelton 2011). This research intends to fill this gap by investigating how accountability mechanisms are applied at the watershed scale in a resource extraction context.

### **Summary**

Collaboration and accountability are two critical aspects of the five pillars in NEG, but assumptions and debates in the collaboration and NEG literature are not well-understood in the context of resource extraction, where private actors' activities can profoundly affect watershed ecosystems. Extensive critiques of private actors have been documented, with a focus on the high environmental and social risks and conflict associated with many resource extraction activities, and the inherent challenges related to accountability of multi-national corporations (e.g. Banerjee 2008). Some tentative potential for change and positive private sector contributions have been explored, but private actors have multiple roles in water governance in practice. The scholarship has largely neglected this diversity when private actors are cast simply as evil corporate actors or conversely, as the socially responsible actor or even salvific agent.

Further in-depth study is needed on the role of industry in collaborative approaches to water governance. This topic is illustratively relevant in B.C., where a transition to water governance is still very much underway, and resource extraction is occurring in most watersheds. This research therefore empirically examines how one MNC shapes water governance in a resource extraction context by exploring community/industry relationships, the form and function of governance processes related to water quality contamination caused by mining, and the application of both conventional and emerging accountability mechanisms in the watershed.

## Chapter One References

- Al Faruque, A. & Hossain, M. Z. (2006). Regulation vs. Self-Regulation in Extractive Industries: A level playing field. *Journal of International and Comparative Environmental Law*, 45(3), 45–64.
- Ansell, C., & Gash, A. (2007). Collaborative Governance in Theory and Practice. *Journal of Public Administration Research and Theory*, 18(4), 543–571.
- Archibald, R., Eastman, D., Ellis, R., & Nyberg, B. (2012). Trends in Renewable Resource Management in BC. *Journal of Ecosystems & Management*, 14(3), 1–10.
- Arnold, C. (2009). Water Privatization Trends in the United States: Human Rights, National Security, and Public Stewardship. *Wm. and Mary Environmental Law and Policy Review*, 33: 785-815
- Baba, S., & Raufflet, E. (2014). Managing Relational Legacies: Lessons from British Columbia, Canada. *Administrative Sciences*, 4 (1), 15–34.
- Bäckstrand, K., Khan, J., Kronsell, A., & Lovbrand, E. (eds). (2010). *Environmental Politics and Deliberative Democracy: Examining the Promise of New Modes of Governance*. Cheltenham, UK: Edward Elgar Publishing Ltd.
- Bader, C. (2013). Business and Human Rights: An Insider’s Journey with BP and Beyond. In E. Heinze (Ed.), *Justice, Sustainability, and Security: Global Ethics for the 21st Century*. Palgrave Macmillan.
- Baird, J., Plummer, R., Morris, S., Mitchell, S., & Rathwell, K. (2014). Enhancing source water protection and watershed management: Lessons from the case of the New Brunswick Water Classification Initiative. *Canadian Water Resources Journal*, (November), 1–14.
- Bakker, K. (ed). (2007). *Eau Canada: The Future of Canada’s Water*. Vancouver, BC: UBC Press
- Bakker, K., & Cook, C. (2011). Water Governance in Canada: Innovation and Fragmentation. *International Journal of Water Resources Development*, 27, 275–289.
- Ballard, C., & Banks, G. (2003). Resource Wars: The Anthropology of Mining. *Annual Review of Anthropology*, 32, 287–313.
- Baltutis, J., Brandes, L., Brandes, O.M., Moore, M.L., Overduin, N. & Plummer, R. (2014). Proceedings from Watersheds 2014: Towards Watershed Governance in British Columbia and Beyond. Duncan, B.C.: POLIS Project on Ecological Governance
- Banerjee, S. B. (2008). Corporate Social Responsibility: The Good, the Bad and the Ugly. *Critical Sociology*, 34(1), 51–79.

- Basu, N., Cryderman, D.K., Miller, F.K., Johnston, S., Rogers, C., Plain, W. (2013). Multiple Chemical Exposure Assessment at Aamjiwnaang. McGill Environmental Health Sciences Lab Occasional Report 2013-1.
- Barlow, M. (2007): *Blue Covenant: The Global Water Crisis and the Fight for the Right to Water*. Toronto: McClelland & Stewart.
- Barlow, M. & Clarke, T. (2002): *Blue Gold: The Battle Against Corporate Theft of the World's Water*. Toronto: Stoddart.
- Bebbington, A. J., & Bury, J. T. (2009). Institutional challenges for mining and sustainability in Peru. *Proceedings of the National Academy of Sciences*, 06(41), 17296–17301.
- Benner, T., & Reinicke, Wolfgang H, Witte, J. N. (2004). Multisectoral Networks in Global Governance: Towards a Pluralistic System of Accountability. *Government and Opposition*, 39(2), 191–210.
- Bernhardt, E. S., & Palmer, M. a. (2011). The environmental costs of mountaintop mining valley fill operations for aquatic ecosystems of the Central Appalachians. *Annals of the New York Academy of Sciences*, 1223, 39–57.
- Black, J. (2008). Constructing and contesting legitimacy and accountability in polycentric regulatory regimes. *Regulation & Governance*, 2(2), 137–164. doi:10.1111/j.1748-5991.2008.00034.x
- Blomquist, W., & Schlager, E. (2005). Political Pitfalls of Integrated Watershed Management. *Society & Natural Resources*, 18(2), 101–117. doi:10.1080/08941920590894435
- Blumberg, P. I. (2000). Accountability of Multinational Corporations: The Barriers Presented by Concepts of the Corporate Juridical Entity. *Hastings International and Comparative Law Review*, 24, 297–320.
- Booth, A. L., & Skelton, N. W. (2011)a. Industry and government perspectives on First Nations' participation in the British Columbia environmental assessment process. *Environmental Impact Assessment Review*, 31(3), 216–225.
- Booth, A. L., & Skelton, N. W. (2011)b. “You spoil everything!” Indigenous peoples and the consequences of industrial development in British Columbia. *Environment, Development and Sustainability*, 13, 685–702.
- Borrows, J. (2005). *Crown and Aboriginal Occupations of Land: A History & Comparison*. Ipperwash Inquiry research paper. 1–85. Retrieved from: [https://www.attorneygeneral.jus.gov.on.ca/inquiries/ipperwash/policy\\_part/research/pdf/History\\_of\\_Occupations\\_Borrows.pdf](https://www.attorneygeneral.jus.gov.on.ca/inquiries/ipperwash/policy_part/research/pdf/History_of_Occupations_Borrows.pdf)
- Bovaird, T. (2004). Public-Private Partnerships: from Contested Concepts to Prevalent Practice.

*International Review of Administrative Sciences*, 70(2): 199-215.

Bovens, M. (2007). Analysing and Assessing Accountability: A Conceptual Framework. *European Law Journal*, 13(4), 447–468.

Brandes, O. M., & O’Riordan, J. (2014). Decision-Makers’ Brief: A Blueprint for Watershed Governance in British Columbia, (August), 1–12.

Brandes, O.M, O’Riordan, J., O’Riordan, T., & Brandes, L. (2014). *A Blueprint for Watershed Governance in British Columbia*. POLIS Project on Ecological Governance: University of Victoria.

Brandes, O. & O’Riordan, J. (2014). *Watershed governance in the CVRD – Setting the Scene*. Presentation to the Cowichan Valley Regional District. Duncan, B.C. POLIS Project on Ecological Governance.

Brandsma, G. J., & Schillemans, T. (2012). The Accountability Cube: Measuring Accountability. *Journal of Public Administration Research and Theory*, 23(4), 953–975.

Bridge, G. (2004). Contested Terrain: Mining and the Environment. *Annual Review of Environment and Resources*, 29(1), 205–259.

Brisbois, M.C. (2014). *Power and influence: assessing the impact of natural resource industries on collaboration for water governance*. Concurrent session ‘Water and the Natural Environment: Regional Collaboration’. Canadian Water Resources Annual Congress, “What is the Future We Want?” Hamilton, Ontario, June 2-4, 2014.

Brisbois, M.C., & de Loë, RC. *in press*. Power in collaborative approaches to governance for water: a systematic review. *Society and Natural Resources*.

British Columbia Assembly of First Nations. (2010). *Part 1, Section 3.1. Water Tool-Kit*. Retrieved from <http://www.bcafn.ca/toolkit/governance-bcafn-governance-tool-3.31.php>

British Columbia Ministry of Energy and Mines. (2012). *Liquefied Natural Gas: A Strategy for B.C.’s Newest Industry*. Retrieved from: [http://www.gov.bc.ca/ener/popt/down/liquefied\\_natural\\_gas\\_strategy.pdf](http://www.gov.bc.ca/ener/popt/down/liquefied_natural_gas_strategy.pdf)

British Columbia Northern Health Authority. (2012). *Position on the Environment as a Context for Health: An Integrated Settings Approach*. Retrieved from: [https://northernhealth.ca/Portals/0/About/PositionPapers/documents/EnvironmentContext%20Health\\_V2\\_20120725\\_WEB.pdf](https://northernhealth.ca/Portals/0/About/PositionPapers/documents/EnvironmentContext%20Health_V2_20120725_WEB.pdf)

Brownsey, K., & Rayner, J. (2009). Integrated land management in Alberta: From economic to environmental integration. *Policy and Society*, 28(2), 125–137.

- Bunnell, F. (2013). Social Licence in British Columbia: Some Implications for Energy Development. *Journal of Ecosystems & Management*, 14(2), 1–16.
- Calbick, K.S., Gunton, I., & Day, J.C. (2004). Watershed Resources Planning and Management: Lessons Learned from Comparative Case Studies. In D. Shrubsole (Ed.), *Canadian Perspectives on Integrated Water Resource Management* (pp. 33–56). Cambridge, ON: Canadian Water Resources Association.
- Campbell, B. (2012). Corporate Social Responsibility and development in Africa: Redefining the roles and responsibilities of public and private actors in the mining sector. *Resources Policy*, 37(2), 138–143.
- Canel, E., Idemudia, U., & North, L. (2010). Rethinking Extractive Industry: Regulation, Dispossession, and Emerging Claims. *Canadian Journal of Development Studies*, 20, 37–41.
- Carlsson, L., & Berkes, F. (2005). Co-management : concepts and methodological implications. *Journal of Environmental Management*, 75, 65–76.
- Carmin, J. & Agyeman, J. (eds). (2011). *Environmental Inequalities Beyond Borders. Local Perspectives on Global Injustices*. Cambridge, MA: MIT Press
- Carr-Wilson, S., Brandes, O.M., Dobell, R. (2015). *British Columbia's New Water Pricing Regime. The Future of Water Law and Governance: Legal Issues Brief*. POLIS Project on Ecological Governance: University of Victoria
- Cash, A. C. (2012). Corporate social responsibility and petroleum development in sub-Saharan Africa: The case of Chad. *Resources Policy*, 37(2), 144–151.
- Cashore, B., Auld, G., & Newsom, D. (2003). Forest certification (eco-labeling) programs and their policy-making authority: explaining divergence among North American and European case studies. *Forest Policy and Economics*, 5(3), 225–247.
- CBC News. (2013). Mining firm seeks ‘social licence’ with First Nations. *CBC News*
- Chan, S. & Pattberg, P. (2008). Private Rule-Making and the Politics of Accountability: Analyzing Global Forest Governance. *Global Environmental Politics*, 8(3), 103–121.
- Christensen, R., & Brandes, O. M. (2015). *California's Oranges and B.C.'s Apples? Lessons for B.C. From California Groundwater Reform*. University of Victoria: POLIS Project on Ecological Governance
- Cohen, A., & Davidson, S. (2011). The watershed approach: Challenges, antecedents, and the transition from technical tool to governance unit. *Water Alternatives*, 4(1), 1–14.

- Columbia Mountains Institute of Applied Ecology. (2014). *Conference proceedings: Solving Wicked Problems – Using Human Dimensions to Inform Natural Resource Management*. Sept. 30 – October 1, Kimberley, B.C.
- Conservation Ontario (2013). *Watershed reporting*. Retrieved from: <http://www.conservation-ontario.on.ca/what-we-do/science-information/watershed-reporting>
- Coumans, C. (2011). Alternative Accountability Mechanisms and Mining: The Problems of Effective Impunity, Human Rights, and Agency. *Canadian Journal of Development Studies*, 37–41.
- Cumming, Graeme., Cumming, D.H.M., Redman, C. L. (2006). Scale Mismatches in Social-Ecological Systems: Causes, Consequences, and Solutions. *Ecology and Society*, 11(1).
- Dale, A. and Onyx, J. (Eds). (2005). *A dynamic balance: social capital and sustainable community development*. UBC Press: Vancouver
- Dashwood, H. S. (2013). Sustainable Development and Industry Self-Regulation: Developments in the Global Mining Sector. *Business & Society*, 53(4), 551–582.
- Dashwood, H. S., & Ptoplampu, B. B. (2011). Corporate Social Responsibility and Canadian Mining Companies in the Developing World : The Role of Organizational Leadership and Learning. *Canadian Journal of Development Studies*, 30(1-2), 175–196.
- de Loë, R., & Murray, D. (2012). *Governance for Source Water Protection in Canada: Synthesis Report*. Waterloo, Ontario: Water Policy and Governance Group.
- de Loë, R., & Murray, D. (2012). *Understanding the Current and Potential Role of the Natural Resources Sector in Collaborative Approaches to Water Governance : Summary of Survey Findings*. Waterloo, Ontario: Water Policy and Governance Group.
- Dudgeon, D., Arthington, A. H., Gessner, M. O., Kawabata, Z., Knowler, D. J., Lévêque, C., Sullivan, C. (2006). Freshwater biodiversity: importance, threats, status and conservation challenges. *Biological Reviews of the Cambridge Philosophical Society*, 81(2), 163–82.
- Emerson, K., Nabatchi, T., & Balogh, S. (2011). An Integrative Framework for Collaborative Governance. *Journal of Public Administration Research and Theory*, 22(1), 1–29.
- Fabricius, C., Folke, C., Cundill, G., & Schultz, L. (2007). Powerless Spectators, Coping Actors, and Adaptive Co-managers: a Synthesis of the Role of Communities in Ecosystem Management. *Ecology and Society* 12(1).
- Farrell, L. A., Hamann, R., & Mackres, E. (2012). A clash of cultures (and lawyers): Anglo Platinum and mine-affected communities in Limpopo Province, South Africa. *Resources Policy*, 37(2), 194–204.

- Fleury, A.-M., & Davies, B. (2012). Sustainable supply chains—minerals and sustainable development, going beyond the mine. *Resources Policy*, 37(2), 175–178.
- Fluet, C. and Krogman, N. (2009). The limits of integrated resource management in Alberta for Aboriginal and Environmental groups: the northern east slopes sustainable resource and environmental management strategy. In Adkin, L.E. (ED.), *Environmental Conflict and Democracy in Canada* (Chapter 14). Vancouver: UBC Press
- Fonseca, A. (2010). How credible are mining corporations’ sustainability reports? A critical analysis of external assurance under the requirements of the international council on mining and metals. *Corporate Social Responsibility and Environmental Management*, 17(March), 355–370.
- Forest Practices Board. (2014). Balancing Risk Across Resource Values in Forest Operations. *Board Bulletin*, 16(March).
- Franks, D. M., Davis, R., Bebbington, A. J., Ali, S. H., Kemp, D., & Scurrah, M. (2014). Conflict translates environmental and social risk into business costs. *Proceedings of the National Academy of Sciences of the United States of America*, 111(21).
- Fraser Basin Council. (2011). *Rethinking Our Water Ways: A guide to water and watershed planning for BC communities in the face of climate change and other challenges*. Retrieved from: [http://www.rethinkingwater.ca/\\_Library/docs/FBC\\_WaterGuide\\_FINAL.pdf](http://www.rethinkingwater.ca/_Library/docs/FBC_WaterGuide_FINAL.pdf)
- Fraser Basin Council. (2014). *Capacity and Accountability for Shared Decision-Making in Watersheds: Discussion Paper*. Retrieved from: [http://www.fraserbasin.bc.ca/\\_Library/Water\\_BCWF/Capacity\\_and\\_Accountability\\_DiscussionPaper-1May-2014.pdf](http://www.fraserbasin.bc.ca/_Library/Water_BCWF/Capacity_and_Accountability_DiscussionPaper-1May-2014.pdf)
- Fulmer, A., Godoy, A.S., & Neff, P. (2008). Indigenous Rights, Resistance, and the Law: Lessons from a Guatemalan Mine. *Latin American Politics and Society*, 50(4), 91–121.
- Garcia-lopez, G. A. (2013). Scaling up from the grassroots and the top down: the impacts of multi-level governance on community forestry in Durango, Mexico. *International Journal of the Commons*, 7(2), 406–431.
- Garvie, K. H. (2013). *Beyond consultation: First Nations and the Governance of Shale Gas in British Columbia* (Master’s Thesis). School of Environmental Studies, University of Victoria.
- Gerson, J. (2014). Rise of “social licence”: Claiming they speak for their community, protest groups are undermining the law. *Financial Post*.
- Gilberthorpe, E., & Banks, G. (2012). Development on whose terms?: CSR discourse and social realities in Papua New Guinea’s extractive industries sector. *Resources Policy*, 37(2), 185–193.

- Godfrey, Jayne M.; Chalmers, K. (2012). *Water Accounting : International Approaches to Policy and Decision-making*. UK: Edward Elgar Publishing.
- Goss, G., Alessi, D., Allen, D., Gehman, J., Brisbois, J., Kletke, Sharak, A.Z., Notte, C., Thompson, D.Y., Hong, K., Junes, V., Barroso, W., Neto, G., Prosser, C. (2015). *Unconventional wastewater management: a comparative review and analysis of hydraulic fracturing wastewater management practices across four North American basins*. [Draft Report prepared for the Canadian Water Network].
- Goulet, J. G. (2010). Legal victories for the Dene Tha?: Their significance for aboriginal rights in Canada. *Anthropologica*, 52(1), 15–31.
- Greenpeace International. (2008). *Holding the line with FSC*. Retrieved from: [www.greenpeace.org](http://www.greenpeace.org)
- Gregory, R., & Trousdale, W. (2009). Compensating aboriginal cultural losses: an alternative approach to assessing environmental damages. *Journal of Environmental Management*, 90(8), 2469–2479.
- Guehlstorf, N., & Hallstrom, L. K. (2012). Participatory Watershed Management: A Case Study from Maritime Canada. *Environmental Practice*, 14(2), 143–153.
- Gunningham, N. (2009). Environment Law, Regulation and Governance: Shifting Architectures. *Journal of Environmental Law*, 2(April), 179–212.
- Gunningham, N., Kagan, R. A., & Thornton, D. (2004). Social license and environmental protection: why businesses go beyond compliance. *Law and Social Inquiry*, 29(2), 307–341.
- Gupta, J., Termeer, C., Klostermann, J., Meijerink, S., van den Brink, M., Jong, P., & Bergsma, E. (2010). The Adaptive Capacity Wheel: A method to assess the inherent characteristics of institutions to enable the adaptive capacity of society. *Environmental Science and Policy*, 13(6), 459–471.
- Haddock, M. (2010). *Environmental Assessment in British Columbia*. University of Victoria: Environmental Law Centre
- Hall, N., Lacey, J., Carr-Cornish, S., & Dowd, A.-M. (2015). Social licence to operate: understanding how a concept has been translated into practice in energy industries. *Journal of Cleaner Production*, 86, 301–310.
- Handelsman, S. D. (2002). *Human Rights in the Minerals Industry*. Mining, Minerals and Sustainable Development: A report for the International Institute of Environment and Development.
- Hauer, R. & Sexton, E. (2013). Transboundary Flathead River : Water Quality and Aquatic Life Use Final Report. Prepared for: Glacier National Park, West Glacier, MT

- Hendryx, M. S., Lemly, A. D., Likens, G. E., Loucks, O. L., Power, M. E., White, P. S., & Wilcock, P. R. (2010). Mountaintop Mining Consequences. *Science and Regulation*, 327, 148–149.
- Hilson, G. (2012). Corporate Social Responsibility in the extractive industries: Experiences from developing countries. *Resources Policy*, 37(2), 131–137.
- Hilson, G., & Murck, B. (2000). Sustainable development in the mining industry : clarifying the corporate perspective. *Resources Policy*, 26, 227–238.
- Hoekstra, A. (2012). Water Footprint Accounting. In K. Godfrey, Jayne M.; Chalmers (Ed.), *Water Accounting : International Approaches to Policy and Decision-making*. UK: Edward Elgar Publishing.
- Holley, C. (2010). Facilitating Monitoring, Subverting Self-Interest and Limiting Discretion: Learning from “New” Forms of Accountability in Practice. *Columbia Journal of Environmental Law*, 35, 127.
- Holley, C., Gunningham, N. & Shearing, C. (2012). *The New Environmental Governance*. Earthscan.
- Huitema, D., Mostert, E., Egas, W., Moellenkamp, S., Pahl-Wostl, C., & Yalcin, R. (2009). Adaptive water governance: Assessing the institutional prescriptions of adaptive (co-)management from a governance perspective and defining a research agenda. *Ecology and Society*, 14(1).
- Hume, M. (2014a). Coal mining, selenium, and the costs of toxic pollutants. *The Globe and Mail*. Vancouver.
- Hume, M. (2014b). Elk Valley watershed: Why has this unfolding disaster been ignored? *The Globe and Mail*. Vancouver.
- Hume, M. (2014c). Flurry of B.C. court battles threaten to drive away investment. *The Globe and Mail*. Vancouver.
- Hume, M. (2014d). Teck Resources water-treatment plant shut after dead fish found. *The Globe and Mail*. Vancouver.
- Hunter, R., Brandes, O. M., & Moore, M-L. (2014). *A Watershed Governance Case Study: The Cowichan Watershed Board, An Evolution of Collaborative Watershed Governance*. University of Victoria, POLIS Project on Ecological Governance
- Hussain, Y. (2014). B.C. Premier Christy Clark confident of Petronas decision in 2015. *The National Post*. Vancouver, B.C.

- Huxham, C., Vangen, S., & Eden, C. (2000). The Challenge of Collaborative Governance. *Public Management Review*, 2(3), 337–358.
- Huxham, C., & Vangen, S. (Eds.). (2005). Chapter 10: Using Power. In *Managing to collaborate* (pp. 173–187). New York: Routledge.
- Huxham, C., & Vangen, S. (Eds.). (2005). *Chapter 9: Coping with Trust*. New York: Routledge.
- International Council on Mining and Metals. (2010). *Good Practice Guide: Indigenous Peoples and Mining*. Retrieved from [www.icmm.com/document/1221](http://www.icmm.com/document/1221)
- International Council on Mining and Metals. (2014). *Water stewardship framework*. Retrieved from: [www.icmm.com/document/7024](http://www.icmm.com/document/7024)
- International Joint Commission. (2014). *A Balanced Diet for Lake Erie: Reducing Phosphorus Loadings and Harmful Algal Blooms*. A report for the Lake Erie Ecosystem Priority.
- International Panel on Climate Change. (2014). *Climate Change 2014: Synthesis Report Summary for Policymakers*. Retrieved from: [https://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5\\_SYR\\_FINAL\\_SPM.pdf](https://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf)
- Jenkins, H. (2004). Corporate social responsibility and the mining industry: conflicts and constructs. *Corporate Social Responsibility and Environmental Management*, 11, 23–34.
- Karkkainen, B. (2004). Post-Sovereign Environmental Governance. *Global Environmental Change*, 4(1), 72–96.
- Karkkainen, B., Fung, A., & Sabel, C. F. (2000). After Backyard Environmentalism: Towards a performance-based regime of environmental regulation. *American Behavioural Scientists*, 44(4), 692–711.
- Kemp, D., Owen, J. R., & Bond, C. J. (2011). Just Relations and Company – Community Conflict in Mining. *Journal of Business Ethics*, 93–109.
- Koenig-archibugi, M. (2004). Transnational corporations and public accountability. *Government and Opposition*, 234–259.
- Laurie, M. (2013). *An Overview: Sharing Benefits From Natural Resources with Local Stakeholders in British Columbia*. Jointly prepared by: Columbia River Treaty Local Government’s Committee and the Columbia Basin Trust.
- Lautze, J., De Silva, S., Giordano, M., & Sanford, L. (2011). Putting the cart before the horse: Water governance and IWRM. *Natural Resources Forum*, 35, 1–8.

- Leach, W. D., Pelkey, N. W., Sabatier, P. A., & Leach, D. (2002). Stakeholder Partnerships as Watershed Management in California and Washington. *Journal of Policy Analysis and Management*, 21(4).
- Leach, W.D., and Pelkey, N. W. (2001). Making Watershed Partnerships Work: A Review of the Empirical Literature. *Journal of Water Resources Planning and Management*, 127(6), 378–385.
- Lemos, M. C., & Agrawal, A. (2006). Environmental Governance. *Annual Review of Environment and Resources*, 31(1), 297–325. d
- Lertzman, D. & Vredenburg, H. (2005). Indigenous Extraction Peoples, Resource and Sustainable Development: An Ethical Approach. *Journal of Business Ethics*, 56(3), 239–254.
- Liverman, D. M., & Vilas, S. (2006). Neoliberalism and the Environment in Latin America. *Annual Review of Environment and Resources*, 31(1), 327–363.
- Lobina, E., and Hall, D., 2003. Problems with private water concessions: a review of experience. *Public Services International Research Unit*. University of Greenwich.
- Lockwood, M., Davidson, J., Curtis, A., Stratford, E., & Griffith, R. (2009). Multi-level Environmental Governance: lessons from Australian natural resource management. *Australian Geographer*, 40(2), 169–186.
- Mason, G. (2012). B.C. Premier Christy Clark warns of national crisis over pipeline. *The Globe and Mail*.
- May, P.J. (2007). Regulatory regimes and accountability. *Regulation & Governance*, 1(1), 8–26.
- McAllister, L. (2012). Regulation by third-party verification. *Boston College Law Review*, 53, 1–76.
- McInychuk, N., Murray, D., & de Loë, R. (2012). *Water Governance Challenges and Opportunities: Lake Windermere, British Columbia*. Waterloo, Ontario: Water Policy and Governance Group.
- McPherson S., G. Duke, M. Robinson, K. Grant, and L. Walker. 2014. *Elk River watershed, valley bottom assessment – Report to residents on river health, phase 1*. Prepared by Lotic Environmental Ltd., GranDuke Geomatics Ltd. and Elk River Alliance for the Columbia Basin Trust.
- Meadowcroft, J. (2007). Who is in Charge here? Governance for Sustainable Development in a Complex World. *Journal of Environmental Policy & Planning*, 9(3-4), 299–314.

- Moore, M-L., Shaw, K., Castleden, H. with R. Breiddal, M. Kot, and M. Murray. (2015). *Building capacity to build trust: Key Challenges for Water Governance in Relation to Hydraulic Fracturing*. Report prepared for: Canadian Water Network, Waterloo ON.
- Morris, T., & Brandes, O. M. (2013). *The State of the Water Movement in British Columbia: A Waterscape Scan & Needs Assessment of B.C. Watershed-Based Groups*. University of Victoria: POLIS Project on Ecological Governance.
- Mulgan, R. (2000). "Accountability": An ever-expanding concept? *Public Administration*, 78(3), 555–573.
- National Round Table on the Economy and the Environment. (2010). *Changing Currents: Water sustainability and the future of Canada's natural resource sectors*. Retrieved from: <http://nrt-trn.ca/water/water-sustainability-and-the-future-of-canadas-natural-resource-sectors-2/changing-currents>
- Nelsen, J. L. (2006). Social license to operate. *International Journal of Mining, Reclamation and Environment*, 20, 161–162.
- Nelson, J., Robertson, K., & Borrows, J. (2014). Aboriginal title and provincial regulation: the impact of the Tsilhqot'in Nation v. B.C. Webinar and panel discussion. Hosted by: University of Victoria Faculty of Law, POLIS Water Sustainability Project, Centre for Global Studies, September 25, 2014. Retrieved from: <http://poliswaterproject.org/webinar/767>
- Newell, P. (2005). Citizenship, accountability and community: the limits of the CSR agenda. *International Affairs (Royal Institute of International Affairs)* 81 (3), 541-557
- Newell, P., Pattberg, P., & Schroeder, H. (2012). Multi-actor Governance and the Environment. *Annual Review of Environment and Resources*, 37(1), 365–387.
- Newman, L., & Dale, A. (2005). The role of agency in sustainable local community development. *Local Environment*, 10(5), 477–486.
- Noble, B., & Birk, J. (2011). Comfort monitoring? Environmental assessment follow-up under community–industry negotiated environmental agreements. *Environmental Impact Assessment Review*, 31(1), 17–24.
- Noble, B., & Storey, K. (2005). Towards increasing the utility of follow-up in Canadian EIA. *Environmental Impact Assessment Review*, 25(2), 163–180.
- Nowlan, L. and Bakker, K. (2007). Delegating Water Governance: Issues and Challenges in the BC Context. *Paper for the BC Water Governance Project., UBC Program on Water Governance*

- O'Faircheallaigh, C. (2011). Aboriginal-Mining Company Contractual Agreements in Australia and Canada: Implications for Political Autonomy and Community Development. *Canadian Journal of Development Studies*, 37–41.
- O'Neill, T., 2006. Water and freedom: the privatization of water and its implications for democracy and human rights in the developing world. *Colorado Journal of International Environmental Law and Policy*, 17(2): 357.
- Office of the Auditor General of British Columbia. (2010a). *An audit of the management of groundwater resources in British Columbia*. Retrieved from <http://www.bcauditor.com/pubs/2010/report8/audit-management-groundwater-resources-british-columbia>
- Office of the Auditor General of British Columbia. (2010b). *Oil and Gas Site Contamination Risks: improved oversight needed*. Retrieved from <http://www.bcauditor.com/pubs/2010/report8/oil-and-gas-site-contamination-risks-improved-oversight-n>
- Office of the Ombudsperson of British Columbia. (2014). *Striking a Balance: The challenges of using a professional reliance model in environmental protection - BC's Riparian Areas Regulation*. Public Report No. 50 to the Legislative Assembly of B.C.
- Okanagan Water Stewardship Council. (2008). *Okanagan Sustainable Water Strategy Action Plan 1.0*. Retrieved from: [http://www.obwb.ca/fileadmin/docs/osws\\_action\\_plan.pdf](http://www.obwb.ca/fileadmin/docs/osws_action_plan.pdf)
- Olszynski, M. Z. P. (2012). Environmental Monitoring and Ecosystem Management in the Oil Sands : Spaceship Earth or Escort Tugboat? *McGill JSDLP (10) 1*
- Ostrom, E. (2010). Beyond Markets and States: Polycentric Governance of Complex Economic Systems. *American Economic Review*, 100(June), 1–33.
- Overduin, N. (2012). *Collaborative governance for advances in water management* (Undergraduate honours thesis). Carleton University.
- Pahl-wostl, C., Craps, M., Dewulf, A., Mostert, E., Tabara, D., & Taillieu, T. (2007). Social Learning and Water Resources Management. *Ecology And Society*, 12, 5.
- Parfitt, B., Baltutis, J. & Brandes, O. M. (2012). *From Stream to Steam: Emerging Challenges for B.C.'s Interlinked Water and Energy Resources*. POLIS Project on Ecological Governance and Canadian Centre for Policy Alternatives.
- Parkes, M. W. (2009). *Eco-health and aboriginal health: A review of Common Ground*. National Collaborating Centre for Aboriginal Health.
- Parsons, R., & Moffat, K. (2014). Constructing the Meaning of Social Licence. *Social Epistemology*, 28(March 2015), 340–363.

- Pentland, R. & Wood, C. (2013). *Down the drain: how we are failing to protect our water resources*. Greystone Books/The Gordon Foundation.
- Peterman, R. M., Dorner, B., & Rosenfeld, J. S. (2012). A widespread decrease in productivity of sockeye salmon populations in western North America. *Canadian Journal of Fisheries and Aquatic Sciences*, 69, 1255–1260.
- Plummer, R., & Armitage, D. R. (2013). Adaptive Co-management and Its Relationship to Environmental Governance, *Ecology and Society*, 18(1).
- Prno, J. (2013). An analysis of factors leading to the establishment of a social licence to operate in the mining industry. *Resources Policy*, 38(4), 577–590.
- Prno, J., & Scott Slocombe, D. (2012). Exploring the origins of “social license to operate” in the mining sector: Perspectives from governance and sustainability theories. *Resources Policy*, 37(3), 346–357.
- Protect the Peel. (2015). *Protect the Peel: Yukon’s Great Boreal Wilderness*. Retrieved from: [www.protectpeel.ca](http://www.protectpeel.ca)
- Province of British Columbia. (2008). *Living Water Smart: British Columbia’s Water Plan*.
- Province of British Columbia. (2014). *Bill 18 - Water Sustainability Act*. Retrieved from: [http://leg.bc.ca/40th2nd/3rd\\_read/gov18-3.htm](http://leg.bc.ca/40th2nd/3rd_read/gov18-3.htm)
- Purdy, J. M. (2012). A Framework for Assessing Power in Collaborative Governance Processes. *Public Administration Review*, 72, 409–417.
- Ranson, S. (2003). Public accountability in the age of neo-liberal governance. *Journal of Education Policy*, 18(5), 459–480.
- Robins, L., & de Loë, R. (2009). Decentralised governance for natural resource management : capacity challenges in Australia and Canada. In Lane, M., Robinson, C.J., Bruce, T. (eds). *Contested Country: Local and Regional Natural Resource Management in Australia*. 179–197.
- Rolston, J. S. (2015). Turning Protesters into Monitors: Appraising Critical Collaboration in the Mining Industry. *Society & Natural Resources*, 28, 165–179.
- Ross, W. (2003). The Independent Environmental Watchdog: A Canadian Experiment in EIA Follow-up. In Morrison-Saunders, J., & Arts, A. (Eds.), *Assessing Impact: Handbook of EIA and SEA Follow-up*, p. 178–197. Earthscan.
- Sandford, B. (2011). *Climate Change Adaptation and Water Governance*. Simon Fraser University, B.C.: Adaptation to Climate Change Team

- Santarprio, C. M. (2013). From lapdog to watchdog: giving citizens a voice in monitoring the oil industry through RCACs. *Boston College Law Review*, 40.
- Scarlett, L. (2013). Collaborative Adaptive Management: Challenges and Opportunities. *Ecology and Society*, 18(3), 26.
- Schillemans, T. (2010). Redundant Accountability: the Joint Impact of Horizontal and Vertical Accountability on Autonomous Agencies. *Public Administration Quarterly*, 34(3), 300–337.
- Schindler, D. (2010). Tar sands need solid science. *Nature*, 468, 499–501.
- Schindler, D. W., & Donahue, W. F. (2006). An impending water crisis in Canada's western prairie provinces. *Proceedings of the National Academy of Sciences*, 103(19), 7210–6.
- Schulz, K. B. (2013). New Governance and Industry Culture. *Notre Dame Law Review*, 88(5).
- Sheelanere, P., Noble, B. F., & Patrick, R. J. (2013). Institutional requirements for watershed cumulative effects assessment and management: Lessons from a Canadian trans-boundary watershed. *Land Use Policy*, 30(1), 67–75.
- Shrubsole, D. (Ed.). (2004). *Canadian Perspectives on Integrated Water Resources Management in Canada*. Canadian Water Resource Association.
- Simms, B. R. (2014). "All of the water that is in our reserves and that is in our territory is ours": Colonial and Indigenous water governance in unceded Indigenous territories in British Columbia. (MA Thesis). Department of Resource Management and Environmental Studies: University of British Columbia.
- Simpson, H. C., & de Loë, R. (2014). A collaborative approach to groundwater protection: The Rural Water Quality Program for Waterloo Region. *Canadian Water Resources Journal*, 37–41.
- Singleton, S. (2010). Collaborative Environmental Planning in the American West : The Good , the Bad and the Ugly, *Environmental Politics*, 11 (3). 37–41.
- Siry, J. P., Cabbage, F. W., & Ahmed, M. R. (2005). Sustainable forest management: global trends and opportunities. *Forest Policy and Economics*, 7(4), 551–561.
- Slack, K. (2012). Mission impossible?: Adopting a CSR-based business model for extractive industries in developing countries. *Resources Policy*, 37(2), 179–184.
- Smith, M., & Dobell, D. (2009). *Place of Power: Lessons from the Great Bear Rainforest*. Vancouver, B.C.

- Smith, S. M., Shepherd, D. D., & Dorward, P. T. (2012). Perspectives on community representation within the Extractive Industries Transparency Initiative: Experiences from south-east Madagascar. *Resources Policy*, 37(2), 241–250.
- Sosa, I., & Keenan, K. (2001). Impact Benefit Agreements between Aboriginal Communities and Mining Companies: their use in Canada. *Canadian Environmental Law Association*. Retrieved from: <http://www.cela.ca/publications/impact-benefit-agreements-between-aboriginal-communities-and-mining-companies-their-use>
- Swyngedouw, E. (2005). Dispossessing H2O: The Contested Terrain of Water Privatization. *Capitalism, Nature, Socialism*, 16(1): 81.
- Thom, B. B., & Washbrook, K. (1997). Questions of Power in Traditional Use Studies Introduction: Questions of Power Traditional Use Studies in Resource Management. *Paper Prepared for the Annual Meetings of the Society for Applied Anthropology*. Seattle, Washington.
- Universities Consortium on Columbia River Governance. (2015). *A Sacred Responsibility: Governing the Use of Water and Related Resources in the International Columbia Basin Through the Prism of Tribes and First Nations*.
- University of Northern British Columbia. (2014). *Cumulative Environmental, Community and Health Effects of Multiple Natural Resource Developments in Northern British Columbia Colloquium and Workshop*. Hosted by Natural Resources And Environmental Studies Institute, Health Research Institute, and Community Development Institute. Prince George, January 10-11 2014.
- Van der Heijden, J. (2014). Regulatory failures, split-incentives, conflicting interests and a vicious circle of blame: the New Environmental Governance to the rescue? *Journal of Environmental Planning and Management*, (October 2014), 1–24.
- Van der Meer, F.B. (2006). Evaluation in Multi-Actor Policy Processes: Accountability, Learning and Co-operation. *Evaluation*, 12(2), 201–218.
- Vardon, M., Lenzen, M., Peevor, S., & Creaser, M. (2007). Water accounting in Australia. *Ecological Economics*, 61, 650–659.
- Von der Porten, S., & de Loë, R. (2014). How Collaborative Approaches to Environmental Problem Solving View Indigenous Peoples: A Systematic Review. *Society & Natural Resources*, 27(10), 1040–1056.
- Vörösmarty, P. B., McIntyre, M. O., Gessner, D., Dudgeon, D., Prusevich, A., Green, Glidden, P., Bunn, S.E., Sullivan, C.A., Liermann, C.R., & Davies, P.M. (2010). Rivers in Crisis: Global Water Insecurity for Humans and Biodiversity. *Nature*, 467. 555-561

- Wallington, T., & Lawrence, G. (2009). Accounting for performance : public environmental governance in the shadow of the future. In Lane, M., Robinson, C.J., Bruce, T. (eds). *Contested Country: Local and Regional Natural Resources Management in Australia* (pp. 91–107).
- Walter, E. (2003). From civil disobedience to obedient consumerism? Influences of market-based activism and eco-certification on forest governance. *Osgoode Hall Law Journal*, 41(2&3).
- Wilson, P. (2004). First Nations and Integrated Water Management. In D. Shrubsole (Ed.), *Canadian Perspectives on Integrated Water Resource Management* (pp. 69–84). Cambridge, ON: Canadian Water Resources Association.
- WWF-Canada. (2011). *Canada's Rivers at Risk. Environmental Flows and Canada's Freshwater Future*. Retrieved from: <http://www.wwf.ca/conservation/freshwater/riversatrisk.cfm>
- Young, N. (2008). Radical neoliberalism in British Columbia: Remaking Rural Geographies. *The Canadian Journal of Sociology*, 33(1), 1–36

## **Chapter Two**

### **2.0 Chapter purpose**

The purpose of this chapter is to thoroughly and chronologically explain how I produced this research. I begin with a discussion of researcher positionality, which segues into a discussion of how I accounted for and controlled potential for subjectivity and bias in this research. Moreover, this chapter includes a description of:

- the case study research design;
- case study context;
- methods employed in collecting data (e.g., semi-structured interviews, document analysis), and;
- methods employed in analyzing data (e.g., coding).

### **2.1. Researcher positionality in qualitative data analysis**

A recognized practice in social science qualitative research is to state the researcher's positionality in her research and discuss how potential for bias was mitigated in data collection and analysis (Mansvelt & Berg 2010). Researcher positionality is determined in part by a researcher's professional position within her research context, but also by theoretical, epistemological, and ontological assumptions, as well as inherent characteristics, such as gender, age, and personality (Mauthner & Doucet 2003, Mansvelt & Berg 2010). Mauthner and Doucet (2003) refute the prevailing assumption perpetuated by many academic data analysis methods that the researcher, the method and the data are separate entities, and that data analysis methods constitute objective, "neutral, mechanical, and decontextualized procedures" (114). Data and methods, they argue, are "reflexively interdependent and interconnected" (114). Likewise, Herbert (2000) argues that a researcher's subjectivity is an "analytical asset" (559): the researcher wants to properly interpret the meanings that are

"operationalized in a milieu and thus allow herself to 'feel subject to the group's code of moral regulations.' The observer's reactions, initial stumblings, discomforts, confusions and hard-fought competencies are all instructive in teasing out the broader background knowledges and meaning structures invoked in daily action" (559).

In grounded theory methodology (GTM), there is a saying that "all is data" (Glaser 1998).

Though I did not use a GTM approach, this saying is cohesive with my Master's thesis

experience as a whole, where I learned about water governance in many ways other than through coursework and field research. In this section, I briefly describe the context within which this research was produced. A description of this context and my positionality supports the authenticity, trustworthiness, and robustness of my interpretation of the data, because it relates to the efforts I took to ensure that subjectivity and bias were accounted for and controlled. Acknowledging and controlling the potential for bias helps to ensure research findings are reliable, and reflect, as accurately as possible, research participants' views and experiences (Herbert 2000, Mauthner & Doucet 2003). Readers can consider the findings of my research in light of my positionality now that I have made it transparent. Within this discussion, I address the following questions: How did this research come about? How did activities and experiences that occurred outside of the data collection period (e.g., research projects through POLIS) contribute to this research and my understanding of water governance? What techniques did I use to account for and control subjectivity and bias?

### **2.1.1. How did this research come about?**

My motivation for this research began in my undergraduate studies, when I investigated the potential for collaborative approaches to water governance in B.C. I became fascinated by the idea that Indigenous Nations, governments, citizens, and stakeholders could work together to improve decision-making around water resources at the watershed scale. The honours thesis I produced was an enthusiastic account of the great potential for the collaborative watershed governance model.

My interest in water governance continued to grow outside the academic context. Specifically, my interest in the role of multi-national corporations in governance began in a tent, in the rain, when I was working as a hunting guide in the Yukon territories in the summers of 2012-2014. My tent was awkwardly perched on a knobbly, lichen-moss hummock, a few feet away from a tiny, bubbling groundwater spring, in the headwaters of Royal Creek. Royal Creek is a small tributary to the magnificent Wind River, in the Peel River Watershed. The Peel is a pristine 68,000 square kilometer watershed where predator-prey relationships are intact, the flows of rivers are unobstructed by dams or human infrastructure, water quality is pure and removed from

influences of resource extraction, and the landscape is unmarred by roads, mines, or power-lines (Protect Peel 2015).

Ironically, I was sitting in this tent with the vice president of a huge multinational mining corporation, an avid hunter looking to shoot a caribou or sheep, or both, and mount the horns on his wall. He and I (and the other hunting guide), had been huddled in the tent for the past day, playing cards, sipping hot chocolate, and waiting out the weather. Hours of meandering conversation slowly morphed into a discussion of our client's current major project: developing a new mine in northern British Columbia. Our client, an American, described that from his perspective, the biggest barrier to developing a new mine project in B.C. was "the natives" (Here I quote from my field journal):

*"It's those pesky, uncooperative, unorganized, lazy, drunk, greedy 'natives', who tangle up the regulatory process, and make everything difficult and impossible and slow and expensive.... Even when they're 'given' jobs....The 'traditional subsistence lifestyles' and 'culture' stuff is a bunch of baloney. They don't have any real culture left, they have so many alcohol and drug problems. The culture thing is all made-up as a strategy to get a share of profit..."*

This conversation was, by no means, 'data', and it was only one individual, in one mining company. But it struck me, because this was a powerful individual, who had worked for multiple oil, gas, and mining MNCs. Numerous other clients were similarly powerful mining executives, and shared this individual's demographic, general value system, attitude towards resource extraction, and racist views of Indigenous peoples. The oil and gas industry was the basis of their affluence. My impression was that to criticize resource extraction, or point to climate change and its effects, was fundamentally threatening to these people's livelihoods. Certainly it would have short-circuited ongoing conversation.

Exposure to those intriguing individuals, who were by no means wholly "evil", shaped my perspective and motivated my desire to understand how private actors shape watershed governance, whether it was in the Peel Watershed or beyond. Is it possible to develop meaningful relationships with companies who are headed up by individuals like my client? Do collaborative approaches to water governance make any sense for resource extraction contexts? Are all companies the same, or are some actually better than others?

This experience is an important part of my positionality in this project, but a number of other activities and experiences were equally instrumental in shaping my perspective of water governance, which in turn shaped my methods and interpretation of my data. Particularly, I will explain briefly how the professional development and growth I experienced working for two organizations (the POLIS Water Sustainability Project, and Wildsight, a community-based stewardship organization in the Kootenays) influenced this project.

### **2.1.2. How did activities and experiences that occurred outside of the data collection period contribute to this research and my understanding of water governance?**

#### **The POLIS Project on Ecological Governance: Water Sustainability Project**

*The POLIS Water Sustainability Project (WSP) is unique because it straddles two worlds: one of academic policy, law, and governance research, and the other of grassroots, bottom-up action. In this way, the WSP acts as a bridge to connect theory with practice, turning research into action. The WSP believes that sustainable water management must focus on ensuring all “new” water comes from better use of existing supplies, and from changes in attitudes and water use habits. By demonstrating the powerful potential of new approaches, new perspectives, and innovation, the organization works to develop a clear model for ecosystem-based water management in Canada—a model based on conservation, stewardship, and sustainability.  
– POLIS Water Sustainability Project, 2015*

The Water, Innovation, and Global Governance (WIGG) Lab is the academic “sister” to the POLIS Water Sustainability Project (WSP) and both are based at the University of Victoria. The opportunity for applied research through WIGG/POLIS was an important draw in my decision to attend the University of Victoria for my graduate degree. I believe academic research should be made accessible and relevant to communities and policy-makers. I worked as a research assistant for the WSP throughout my Master’s. The experience was invaluable; profoundly shaping my research and professional development.

The POLIS Project provided valuable opportunities for networking and mentorship, and experience in developing action research. For example, I was involved in the event organization and follow-up of the “Watersheds 2014 Forum,” which brought over two hundred water leaders from B.C. and elsewhere in Canada together to discuss water governance (see Baltutis et al.

2014). Similarly, I helped organize a “Water Leaders Meeting”, and was able to observe meetings between POLIS Project leads and senior government officials from B.C.’s Ministry of the Environment. POLIS and the WIGG Lab also provided the opportunity for me to attend conferences and workshops, e.g.: a conference in Prince George focusing on the cumulative environmental, community and health effects of multiple natural resource developments in northern British Columbia; and a workshop in Victoria that focused on the issue of hydraulic fracturing and water governance. I was also involved in a number of policy-action research projects, including supporting “pilot” water governance projects (e.g., helping a watershed group put together a proposal to the provincial government outlining the delegated powers they would like to “test-drive” as part of the WSA). All of these research projects required that I develop an understanding of B.C.’s water legislation, and the nature of B.C.’s government institutions.

Organizing and/or attending events, and conducting policy-action research meant that I developed connections with dozens of individuals from across the province and the country who are working on water issues, at various scales. For example, it was at the Watersheds 2014 Forum that I met people who would eventually connect me to my future research participants and case study. And, it was through presenting at a local conference in November, on behalf of POLIS, that I received feedback on my early thesis findings.

More fundamentally, the realities of water governance became contextualized through my POLIS assignments. I learned things in a hands-on way that I could not have truly understood from reading the literature. For example, a Lands Manager of an Indigenous Nation in Northern B.C. explained the challenge of being overwhelmed with applications related to resource extraction developments. A municipal government leader talked about how her council and community was dealing with the social impacts of a local boom-bust mining cycle. A fisheries manager elaborated on the scientific uncertainty, as well as regulatory challenges, involved in managing reservoir levels in the Columbia River so that ecosystem function is optimized. A forester told me about his company’s best management practices for building bridges to protect salmon-bearing streams. An individual working for a non-profit water stewardship group discussed how they were using community-based water monitoring to improve the management

of sensitive shorelines. These, and countless more examples, shaped my understanding of “how things work” in water governance reform from an applied, versus merely academic, perspective.

### **Wildsight: a community-based stewardship organization in the Kootenays**

During the second and third stages of my research I continued to live in Golden, B.C. I was fortunate to have the opportunity to work with a community-based environmental organization, Wildsight Golden, which is a local branch of the larger Wildsight organization, which has several chapters throughout the Kootenay region. Through my role as Outreach Coordinator for Wildsight Golden, I collaborated with other community organizations in hosting local events, supported the development of community-based programs, applied for funding for projects, and managed communications with the public. Working for Wildsight also enabled me to put my Canadian Aquatic Biomonitoring Network (CABIN) training into practice through local community-based citizen science stream monitoring at three sites (e.g., see the Wildsight Golden 2014 water quality report).

Again, these concrete endeavours put the concepts I was exploring in the academic literature into context. For example, through my Wildsight work, concepts like “local knowledge” (e.g., Lockwood et al. 2010) and “community-based” (e.g., Agrawal & Gibsons 1999), began to take on a new and different meaning. I realized the true complexity of communities and how difficult it can be to coalesce people around important local water issues. I also saw community members’ incredible depth of knowledge (and passion) about the local landscape. I learned that complex backroom politics can determine funding for water projects. I learned how and why volunteers can become burnt-out. I experienced the challenge, as a citizen scientist myself, in drawing conclusions about a stream using water quality and CABIN data. I understood how geographic distance complicates governance initiatives. I observed that a stakeholder group can be entirely uninterested or resistant to engaging in discussion, which can de-rail a process. I mentally gathered examples of how an absence of base-line data leads to blind decision-making. I saw how “poisonous personalities” can negatively impact a collaborative process or organization (and conversely, in lucky instances where a “champion” exists, how people might connect in previously inconceivable ways).

As with the POLIS experiences, all of these learnings shaped my understanding of water governance, and influenced how I understood the literature I read, how I related to my research participants, and ultimately, how I interpreted my dataset. Altogether, these experiences, though constructing a “positionality”, make this a stronger piece of research, because it was not developed in a bubble. Rather, by being immersed in ‘doing’ water governance as I was researching water governance, this thesis represents a culmination of two years of intensive learning and professional development.

### **2.1.3. What techniques did I use to account for and control potential subjectivity and bias?**

Throughout the data collection process, I reflected upon and analyzed how my position, in relation to the people and governance processes that were the subjects of my research, actually affected my understanding of water governance (Mansvelt & Berg 2010, 339). I practiced “reflexivity” through taking detailed field notes and journaling, and then reading back and scrutinizing my own notes and writing to hopefully detect bias and subjectivity (Mansvelt & Berg 2010). These skills were developed through a Methods course (Geography 523) in the winter preceding my field study.

Through my data collection, I met with individuals from government, industry, and community organizations alike who are earnestly working to improve the health of the Elk River watershed. I was careful to highlight quotes from transcripts that stirred powerful emotions. For example, a member of the community-based water group passionately, articulately, and convincingly described her own personal motivation for working on watershed solutions:

*I just think the governance.... the way in, and who gets to make decisions these days is just broken. It is a broken system. It is just not working, and I don't know at all what that means, but I think our best hope is at the regional local level. And if we can't get it right... we have to stop or slow down, because – our responsibility – to my children and my grandchildren – I can't look at them in the eye and say, here's a big mess, clean it up, sorry, I'm out of here. That is just not fair. It is not fair. To young people. That people have been able to experience this growth in the quality of their life and materialism and all this on the backs of ...passing on a mess. It is just... intolerable. And young people should just be rising up and saying, that's it - you guys can't do this to us. And unfortunately, I think a lot of young people feel very marginalized, they're not able to feel empowered... We're at a precipice, we're at a threshold, things either need to turn around or they're going to get really bad really fast. And that scares me.*

It is not hard to imagine how a quote such as this one would strike a chord with me. In my reflexivity notes, following advice from Mansvelt & Berg (2010), I documented my emotional and intellectual responses to participants' words. For example, in the above quote, I documented that I felt admiration for the individual's passion and dedication to water stewardship work; as well as twin tremors of fear, and motivation, to find a way to use my life to positively influence change. Conversely to this example, where I related to my participant, I was also careful to document where I had instinctively disagreed with or *dismissed* a participants' viewpoint.

Then, in the qualitative data analysis process, as I wove together my understanding and argument using my data, and developed codes based on the data, I referred back to my reflexivity notes. I used the notes, and my transcripts, to cross-check whether codes were valid by ensuring that I was reflecting participants' voices by using their words, and not substituting my own views in their place. My notes were also an important way to ensure that I was not misrepresenting participants, or over-representing one individual— for example, the individual quoted above made a number of points that other participants also made. While it may have been tempting to rely on the quotes from this one individual, because she was especially eloquent, this would have not served the purpose of capturing a wide range of voices and perspectives. Because my reflexivity notes described how I emotionally related to the interviewee, they provided the “check” that this participant's voice and perceptions should not outweigh equally important voices, and that this would skew results. I aimed to be especially careful handling the data that I had initially dismissed, and spent time thoroughly revisiting data that I had initially felt was not useful. Through referring to my notes, I was able to evaluate my own causes and decisions for dismissing data by identifying if, indeed, the information truly irrelevant to my study (e.g., perhaps an interviewee truly side-tracked and great lengths of time were spent on topics truly unrelated to water governance), or, if I was intuitively avoiding data that could complicate or contradict my argument. If I decided the latter was occurring, I would revisit that data and consider its place in my argument.

Ultimately, my desire was to be as objective as possible in my data analysis, because to improve our governance structures we need to accurately understand their current dynamics,

opportunities, and challenges. Biasing my data based on an interaction with anecdotal evidence or individual passions would be unhelpful to the purposes of the thesis.

## **2.2. Research design rationale: Case study**

An exploratory case study research design was chosen for this project because this approach enables the collection of ideographic and context-specific knowledge, both of which are essential to this research (Baxter, 2010). An exploratory case study is well-suited to “how” questions, such as how different actors influence water governance processes and outcomes, and how relationships are developed between watershed actors (Yin 2009).

A lack of empirical analysis of how industry influences water governance has been repeatedly noted in the literature as a major knowledge gap (e.g., Booth & Skelton 2011). And, ‘new environmental governance’ (NEG) scholars have highlighted the need for in-depth case studies to provide empirical grounding for the NEG framework (Holley et al. 2012). A case study was therefore consistent with my goal of establishing how governance concepts and practices are applied and understood in a resource extraction context.

A number of criteria were used for selecting a case study, and the Elk River Valley matched each of these. Selection criteria are summarized in Table 2 below. The match between criteria and case will also become apparent in the next section, where I provide a detailed description of the case study context. In short, given that one goal of this study was to provide further practical insights into water governance in the B.C. context, it logically followed to use a case within B.C. A number of other cases were considered, including examples in northern B.C. where resource extraction is occurring (e.g., see Booth & Skelton 2011). and the Great Bear Rainforest (see Smith & Dobell 2009). My familiarity with potential B.C. case studies was enhanced through attending conferences during the development of the research proposal in 2013 and early 2014 (e.g. University of Northern British Columbia 2014, Watersheds 2014). From reading documents and attending conferences, I surmised that the Elk River valley case appeared to be unique, due to the presence of collaboration between a resource extraction industry and local actors, despite water quality concerns (i.e., conflict between industries and communities seems to be more the norm; see discussion in Chapter One, 1.1.4.)

**Table 2: Case Study Selection Criteria**

Case study selection criteria	How does the Elk Valley meet the selection criteria?
1 The presence of resource extraction activity by an MNC within the watershed	Coal mining is occurring at five sites in the watershed (EVWQP 2014).
2 The presence of either formal or informal collaboration and/or partnership between the MNC and other watershed actors	A collaborative cumulative effects management framework initiative is underway (EV-CEMF 2014). A community-based water group is collaborating with industry on education and research projects.
3 Presence of a community-based water monitoring organization or some other form of third party certification (e.g., independent monitoring organization) who is undertaking water-related programs in the watershed	The community-based water group is conducting stream monitoring and creating reports (e.g., a Valley Bottom Assessment).
4 Actors in the watershed are engaged in dialogue or development of alternative approaches to water governance (for example, cumulative effects analysis, watershed governance)	A collaborative cumulative effects management framework initiative is underway (EV-CEMF 2014).
5 The thesis research will be valuable to watershed actors and will assist them in thinking about their activities in the watershed	Numerous processes and initiatives related to water quality are underway in the Elk Valley, and the linkages between them are not always clear. This research will therefore be useful for watershed actors because it provides synthesis, as well as analysis, of water governance in the basin.
6 Case study analysis has potential to inform POLIS water governance research	Yes, potentially, because the Elk Valley is a B.C. case study, and the POLIS WSP is exploring lessons for water governance derived from on-the-ground examples of alternative approaches to decision-making.

The uniqueness of the Elk River valley case suggests it could be characterized as an “atypical case” (Flyvbjerg 2006). A criticism of case study research, generally, is that findings cannot be generalized to provide information or learnings that are beneficial and relevant beyond the case study group or region (Flyvbjerg 2006). Flyvbjerg (2006) contrasts the aims of producing “representative” research with the goal of producing in-depth research using a singular case study. Flyvbjerg defends the case study as an appropriate choice when the objective is to not to make broad generalizations, but rather to achieve the greatest possible amount of information on a given problem or phenomenon:

Atypical or extreme cases often reveal more information [than a representative or average case] ... because they active more actors and basic mechanisms. In addition, from both an

understanding-oriented and an action-oriented perspective, it is often more important to clarify the deeper causes behind a given problem and its consequences than to describe the symptoms of the problem and how frequently they occur. (13)

Despite the unique circumstances in the Elk River Valley, and the inherent challenges related to generalizing findings from one case study, results from this research are still applicable more broadly in the Province, and across Canada. Findings about the role of industry in water governance are relevant in watersheds where multinational companies are operating, and where companies are seeking to acquire a ‘social license’ to operate. Moreover, across B.C. and Canada, and elsewhere, collaborative watershed initiatives, as well as community-based water monitoring initiatives, are becoming increasingly common (e.g., Holley et al 2012, Morris & Brandes 2013). This research is therefore relevant to scholars and practitioners who are thinking about whether and how industry can be involved in such initiatives.

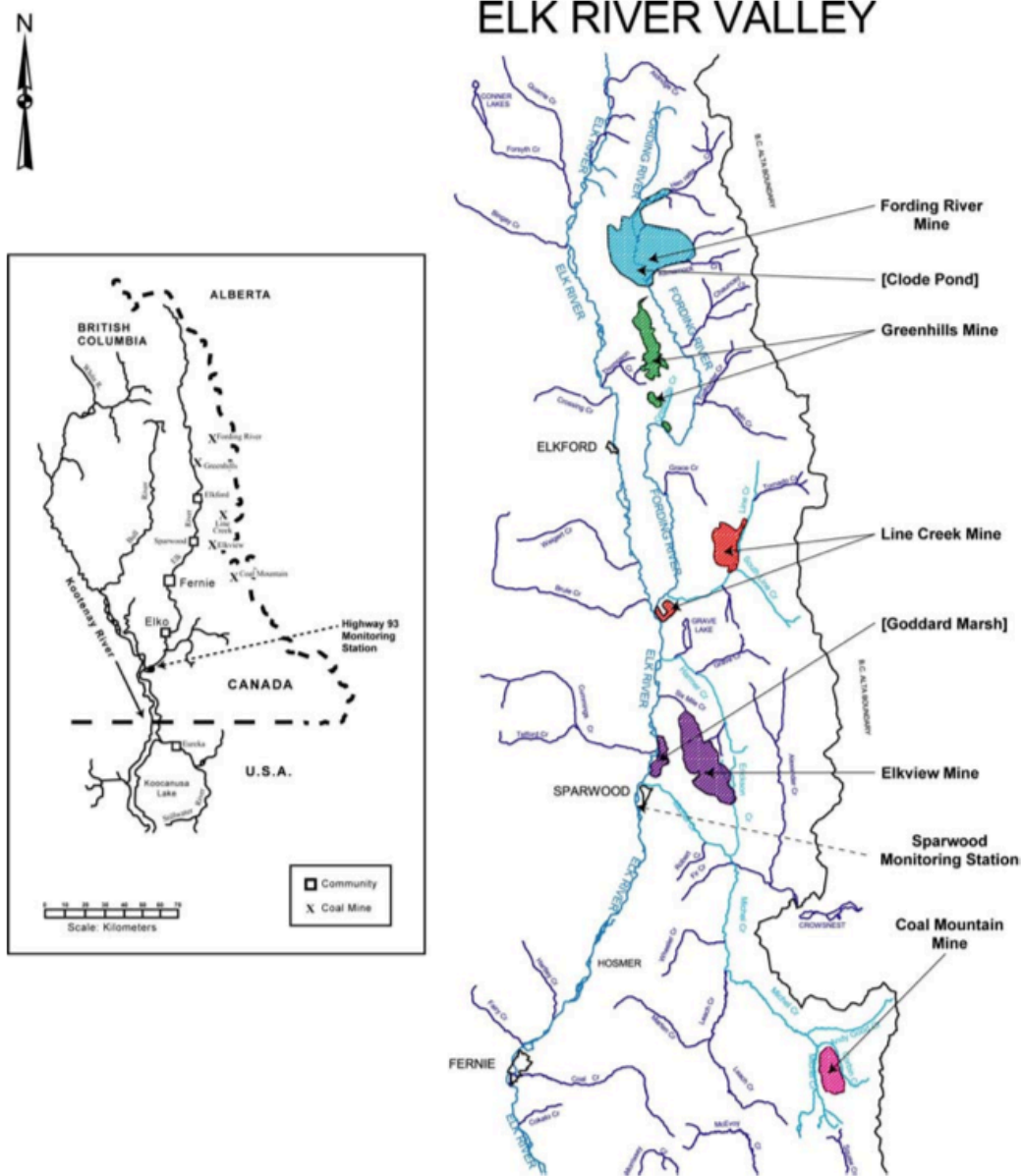
### **2.3. Case study description**

In this section I provide a thorough description of the physical geography of the Elk River watershed, identify key watershed actors, and describe different processes and initiatives at play in the region. Together, decision-making processes and activities of these actors make up the water governance ‘regime’ in the basin.

#### **Geography of the Elk River watershed**

The Elk River watershed is a relatively small and well-defined watershed located in the southeast corner of British Columbia. The Elk River is a tributary to the Kootenay River and Lake Kooconusa, trans-boundary waters that are a part of the broader Columbia River Basin. The Elk River watershed has been an important basin within the Indigenous traditional territory of the Ktunaxa Nation for time immemorial. The Ktunaxa Nation is comprised of Nation members band communities in B.C., including the ʔakisq̓nuk First Nation, the Tobacco Plains Indian Band, ʔaq̓am (St. Mary’s), yaq̓an nuykiy (Lower Kootenay Band); as well as two communities in the United States. Today, a non-Indigenous population of roughly 14,000 also lives in the watershed, primarily in the three municipalities of Fernie, Sparwood, and Elkford, which have an estimated population of nearly 11,000, and a steady gradual growth rate (McPherson et al. 2014).

Figure 2 Mine operations in the Elk River Valley (Source: Golder Associates 2010)



The Elk River Valley is known for its majestic landscapes, world-class recreation and fishing, and biodiversity (Hauer & Sexton 2013, McPherson et al. 2014). The region is home to some of B.C.'s most iconic and culturally significant species, including grizzly bears, mountain sheep, westslope cutthroat trout, and bull trout. Bull trout and westslope cutthroat trout are recognized as species of 'Special Concern' in BC, and under the federal *Species at Risk Act* (McPherson et al. 2014).

The Elk River Valley is also the source of substantial coal deposits, and mountain-top coal mining has a long history in the region. The communities of Sparwood and Elkford are products of the coal mining industry, as they were constructed in the 1960s and 1970s to house mining employees. Currently, five active open-pit mountain-top metallurgical coal mines operate in the Elk River Valley, and several applications are underway to expand coal extraction activities (EAO, 2014). Coal mining is the major source of employment in the region, with the operations directly employing roughly 4,000 people, as well as supporting secondary industries (EVWQP 2014).

The mines also provide significant municipal tax revenue through the Elk Valley Industrial Tax Base Sharing Agreement, which has been in place since 1983 and today provides millions of dollars in tax revenue to the towns of Elkford, Sparwood, Fernie, as well as a smaller sum to the Regional District (Laurie 2013). Diversification of the local economy and municipal tax base has been slow, and industrial taxes are relied on by local governments to provide quality of life amenities and other municipal services (Laurie 2013). Moreover, the company supports social programs (day care, housing) and provides funding support to local organizations and events in the watershed and broader Columbia Basin region.

### **Severe water quality issues**

Mountain-top open-pit coal mining is a large-scale, and irreversible form of land-use change. Upper elevation forest and vegetation are cleared, and explosives are used to break up rocks and lower watershed ridges to access buried coal. Unconsolidated rock is removed from mine pits and deposited in valleys, creating waste rock dumps that expose metals and minerals like iron, cadmium, sulphate, nitrate, and selenium (Se) to leaching or drainage into ground and surface waters, causing water quality degradation (Palmer et al. 2010, Berhardt & Palmer 2011). The scale of waste rock produced at the Elk Valley sites (i.e. the rock that remains as a result of the explosions and clearing) between 2006-2008 is estimated to equal 1.3 million kt. (Se Panel 2010, p.23). Reclamation of such large dumps can be challenging and in some cases impossible because of their massive scale, the steep angles of repose, and their instability, which can resist revegetation and be prone to slumping (see Polster & Howe 2006 for a discussion of mine reclamation in B.C.).

The Elk River Valley coal mine operations are associated with a range of severe negative, cumulative environmental impacts that stem from the recontouring of the landscape. Water quality contamination is a particular concern. Se levels routinely exceed B.C.'s water quality guidelines of 2 ug/L, the toxic threshold for sensitive aquatic species (MoE 2001). For example, levels of Se found in the Upper Fording River, a tributary to the Elk, have been measured at concentrations ranging from 5 – 113 ug/L (Hauer & Sexton 2013, Lemly 2014). Se is toxic to aquatic life in elevated amounts and has been found to cause reproductive failure and deformities in developing embryo of fish and aquatic birds (B.C. MoE 2001, McDonald 2009). In the Elk system, where westslope cutthroat trout (and other resident fish populations) are high-valued species, Se impacts on fish and other aquatic species are a serious concern (Haur & Sexton 2013, Lemly 2014). Concerns around impacts to human health through drinking water contamination have been less high-profile, but in 2014 a well in Sparwood, B.C. was closed due to Se exceeding drinking water guidelines of 10 ug/L (Sparwood 2014).

### **Watershed governance and management in the Elk River Valley**

Water governance in Elk River Valley involves a range of actors, authority, and decision-making processes. The following descriptions outline the main processes and actors that serve as an important context in which this research was conducted. Table 3 summarizes a chronological time-line of key water events and initiatives in the Elk Valley.

**Table 3: Chronology of events and initiatives in the Elk River Valley**

<b>Pre-1960s</b>	Mining begins in Elk Valley
<b>1960s - 1970s</b>	Towns of Elkford and Sparwood created to house mine employees
<b>1983</b>	Elk Valley Industrial Tax Base Sharing Agreement created
<b>1998</b>	Elk Valley Selenium Task Force (EVSTF), a joint government-industry committee, is formed because of concerns about environmental impacts related to mining (specifically increasing selenium concentrations). The EVSTF resulted in numerous reports and publications advancing the knowledge and understanding of selenium effects in the Elk Valley (Lemly 2014, Environment Canada 2014). Throughout the 2000s, numerous other Se studies were undertaken (e.g., see McDonald 2008).
<b>2008</b>	Mine operations are amalgamated under one MNC
<b>2009</b>	Proposals for mine expansions (EAO 2014a, b)
<b>2010</b>	Community-based water stewardship group (CBWG) is formed in the Elk Valley
<b>2012</b>	Elk Valley Cumulative Effects Management Framework, co-created by the Indigenous Nation and the MNC, begins engagement with watershed actors and data gathering and analysis for cumulative effects framework.
<b>2013</b>	Ministerial Order to create Elk Valley Water Quality Plan (Technical Advisory Committee operates 2013 - 2014)
<b>2014 (Summer)</b>	Environmental Assessment process underway for extension of coal mine operation (EAO 2014b)
<b>2014 (Winter)</b>	Elk Valley Watershed Valley Bottom Assessment report produced by CBWG in collaboration with industry and other actors (McPherson et al. 2014)
<b>2014 (Fall)</b>	Elk Valley Water Quality Plan approved by B.C. Minister of the Environment

*The 2013 Provincial Ministerial Order and the Elk Valley Water Quality Planning process*

In the spring of 2013, the Province of B.C., through the Ministry of the Environment, issued a Ministerial Order requiring the Company to develop an area-based management plan, the Elk Valley Water Quality Plan (EVWQP), within one year. The terms of reference of the EVWQP required the Company to provide a strategy to remediate water quality effects from past activities and prevent future contamination. The EVWQP required immediate, medium-term and long-term steps to reduce Se and other contaminant concentrations to acceptable levels (Province of British Columbia 2013). With respect to both the preparation and implementation of the EVWQP, the Order required the Company to consult with the public, all levels of government, First Nations, American Indigenous tribes, U.S. State and Federal governments, environmental and non-government organizations, and other industries in the Valley. The EVWQP also required the development of an oversight committee, the Technical Advisory Committee (TAC),

composed of specialized representatives from the Company, provincial government ministries, the federal government, the Indigenous Nation, US tribes, and an independent scientist.

*Se Panel: a voluntary industry-led initiative*

Since assuming ownership of the five mine operations in 2008, the Company has voluntarily initiated new approaches to managing Se and other water quality issues. For instance, the company developed a technical Se Advisory Panel, which led to a strategic plan for the management of selenium at the coal operations. The Se Panel was an independent body composed of multi-disciplinary experts who provided recommendations and action items for mitigating impacts and improving environmental performance (Se Panel 2010). The Panel consulted with a cross-section of stakeholders and Indigenous representatives to better understand “perceptions and attitudes with respect to selenium management” (Se Panel 2010) through its research and report development.

*Elk Valley Cumulative Effects Management Framework: a collaborative multi-stakeholder initiative*

The Elk Valley Cumulative Effects Management Framework (EV-CEMF) is a collaborative, multi-stakeholder initiative that intends to develop practical decision-support tools for addressing cumulative environmental impacts in the Elk River valley (EV-CEMF, 2014). EV-CEMF was developed in 2012 as a condition of approval for the Environmental Assessment for a mine expansion proposal (EAO, 2013). The initiative was driven by the Indigenous Nation and supported with financial resources by the Company.

The EV-CEMF has developed into a multi-stakeholder group with a two-tier structure: a number of broad representative meetings are held with a wide range of stakeholders, while a smaller Working Group comprised of representatives from the Company, the Indigenous Nation, the Ministry of FLNRO, municipalities, external experts, and a community-based water group, as well as a facilitator. The group is engaged in the complex task of coordinating and sharing information and data, selecting indicators to measure valued components in the watershed, and exploring how the Framework will inform management decisions made by regulators, the Company, other industries such as rail, and local government actors. In 2014, the Province

assumed a greater leadership role in the project, dedicating resources (a full-time staff person and several part-time staff) to the initiative.

### *Federal investigation*

The Canadian federal government holds statutory powers related to water quality protection and their role in water governance is therefore important. For example, Section 36 of the *Fisheries Act* makes it an offense to deposit deleterious substances into the water. Environment Canada enforces this provision through other regulations, like mine effluent regulations. However, given that the research is focused on the role of industry in water governance and their relationship with communities, the role of the federal government was not a significant focus of this investigation. Specifically, members of federal agencies do not have offices in the Elk Valley and data did not emerge during the data collection period indicating an active role of the federal government. However, towards the end of the data collection period and during the writing phase of this research, reports were released by Environment Canada and the Crown Prosecutor's Office indicating that federal researchers have been conducting on-going investigation into mining-related water quality issues in the Elk River watershed (e.g., Lemly 2014). The reports suggest that the role of the federal government may be of increased significance in the future.

### *The Ktunaxa Nation and their scientific advisory body*

The Ktunaxa Nation has developed scientific and technical capacity through a technical advisory body who works collaboratively across the Canadian-American border. This organization, composed largely of fisheries biologists and experts, is directed by the Nation's goals, values, priorities, and concerns. Technical staff officially represent the Nation in a number of regulatory processes (for example environmental assessments, permitting processes, EVWQP) and provide input into how legislation is administered in the traditional territory. However, because the advisory body is a separate entity (a non-profit organization), government or industry consultation and engagement requirements cannot necessarily be fulfilled *solely* through negotiation with these experts.

### *Local and regional government*

Decisions related to or affecting water resources are made by local and regional governments in the Elk River Valley. These include the towns of Fernie, Sparwood, and Elkford; as well as the Regional District of East Kootenay. Decisions are made primarily through land-use planning and zoning, such as permits for development in riparian areas, official community plans, conservation programs, and water infrastructure management (e.g., Fernie 2014, Sparwood 2014).

### *Community-based water group*

In the Elk River Valley, the role of a smaller community-based water monitoring and stewardship group, henceforth referred to as “the community-based water group” (CBWG) was one area of investigation. This group is monitoring stream quality, which could potentially be considered an accountability mechanism as part of a NEG approach to water governance. The CBWG was started in 2010, and shares close ties with a larger regional environmental organization that is known for its advocacy on environmental issues. The CBWG is engaged in a number of water governance processes in the region, including the EV-CEMF Working Group. The CBWG’s stated mandate, according to its website, is “to connect people to the Elk River ensuring it is drinkable, fishable and swimmable for future generations.” Their activities therefore aim to increase local knowledge and participation in watershed decision-making processes, engage and collaborate with diverse actors in the watershed (including industries, First Nations, community groups, local governments), and promote watershed health. The CBWG has specifically sought to develop a good working relationship with the MNC. The CBWG enlists ‘citizen scientists’ in collecting water quality data in a number of streams and aims to use their data and information to support decision-making by local government and developers (Bennett 2013). At the time of data collection, the CBWG had a multi-disciplinary board of directors that included Company staff, various experts (e.g., civil engineering, toxicology), and other community members.

#### **2.3.1. Temporal scope of the case study**

Examining a case that is underway, rather than a historical and completed case, is known to present potential challenges for the researcher because the case context is dynamic and evolving

during stages of data collection and analysis (Baxter 2010). For the purposes of this research, a temporal boundary was drawn around the case. This research presents findings based on a snapshot of the Elk River Valley between the mid 1990s, when water quality contamination was being recognized as a significant concern in the Valley (e.g., McDonald 2009), and November 2014. November 2014 represents the end of the data collection period and the beginning of the thesis writing period. This date also represents the time at which the Company's EVWQP was approved by the Provincial government.

Changes to the governance regime in the Elk River Valley are ongoing: for example, initial findings were recently released from a previously undisclosed federal investigation into the Elk River Valley water quality contamination issue (Lemly 2014). While the involvement of the federal government could potentially drastically affect governance of the Elk watershed in the long-term and possibly short-term future, events and changes after November 2014 were not included as a part of the investigation of this research. Regardless of the temporal constraints of this research, the Elk River Valley nevertheless can provide relevant insights into other water governance processes currently underway or in planning stages across B.C., Canada, and elsewhere.

## **2.4. Data collection methods**

Multiple methods were utilized to collect and analyze data relating to the case: semi-structured interviews provided the primary data for the study, but document review, as well as attendance and participation local conferences also informed this research.

### **2.4.1. Document analysis**

The first phase of this project involved literature review, and developing an understanding of the Elk River Valley's physical geography, socio-economic factors and trends, watershed actors, and legal and governance context. This was accomplished through grey literature, websites, documents, and informal conversations with a community member. Documentary information is almost always required in case study research (Yin 2009). In this research, documents were not coded in the same way as interview transcripts. Rather, "documents were cross-examined for verification of facts against data from interviews and vice versa" (Macharia 2005, 52). For example, corporate sustainability reports outline environmental and social responsibility

commitments, while community-based reports demonstrate how a community-based group seeks to influence the watershed through its research and activities. Document analysis also informed interviewee selections and interview questions.

Documents of interest in this research include but are not limited to: “decision documents” (statutes, legislation, regulation, environmental assessment documentation, industry management plans, local official community plans and supporting community engagement documents); “community documents” (community water monitoring reports, websites, and communication documents, annual reports, standardized protocol for community monitoring guidelines); and scientific research, particularly about selenium and mountain-top mining impacts (e.g., Bennett 2013, Lemly 2014). The role of the media in water governance is also worth noting in this case: media reports can provide people with information, as well as be the source or drivers of controversy, and therefore influence perceptions of relationships and decision-making processes. A flurry of local, provincial, and national media coverage has accompanied major water events in the Elk River Valley (e.g. see Hume 2014), and these were all catalogued for purposes of this thesis.

#### **2.4.2. Semi-structured interviews**

According to Ayres (2008) the semi-structured interview method results in interview data “that is a collaboration of investigator and informant. The development of rich, relevant data rests on the interviewer's ability to understand, interpret, and respond to the verbal and nonverbal information provided by the informant” (812). Thesis objectives (e.g., Objective #1, “Describe the nature of community-industry relationships”) required that data collection aimed to capture the diversity and variance in actors’ experiences and perspectives with regards to private actors’ involvement in water governance. Semi-structured interviews allow for perceptions of relationships, governance opportunities, barriers, and changes to be articulated by the individuals experiencing them (Ayres 2008, Dunn 2010).

A foundational premise of this project is that effective water governance regimes incorporate and accommodate the views, interests, needs, and rights of a broad suite of water users, decision-makers, and Indigenous peoples (Brandes et al. 2014). In determining the sample of this study, I

therefore sought to collect data from a wide range of individuals, governments, and organizations, including community members, tourism business operators, local and regional government staff and/or elected officials, independent consultants and/or facilitators, senior Company managers and local Company staff, Indigenous Nation members and scientific advisors, senior B.C. government officials from the Ministry of the Environment and the Ministry of Forests, Lands, and Natural Resource Operations, and academic experts.

In total, 23 interviews, distributed across the range of watershed actors listed above, were conducted between June and November 2014. Interviewees were selected based on their involvement in, and knowledge of specific water management implementation and water governance processes (e.g., the EVWQP or the EV-CEMF). Initial contact was made with 10 ‘key informant’ interviewees (Wengraf 2001) through following-up after an email introduction was provided by a community-member who is a long-time resident of the Valley, participant in the EV-CEMF workin group, as well as the director of the CBWG. These interviewees were able to provide rich, descriptive data (Wengraf 2001). Additional interviewees were found using a ‘snowball’ sample approach. The snowball approach involves interviewees recommending and introducing me to other actors with experience or involvement with the research topic (Morgan 2008). Writing about qualitative research design and rigour, Bradshaw and Stratford (2010) contend that “it is conceivable that conducting in-depth interviews with a small number of the ‘right’ people will provide significant insights into a research issue” (75). Morgan (2008) warns that “In practice, snowball sampling poses a distinct risk of capturing a biased subset of the total population of potential participants because any eligible participants who are not linked to the original set of informants will not be accessible for inclusion in the study” (3). My pre-emptive defense against this problem was to ensure that initial informants were diverse, and to re-apply the snowball approach with each new interviewee. I stopped snowballing when interviewees’ recommendations began to clearly and regularly overlap. The sample is not expected to be representative of all watershed actors, given that interviewees are more actively involved in water management activities.

A set of prepared general questions acted as an interview guide, but interviewees were encouraged to feel comfortable to speak openly and freely about whatever he/she felt was

important and relevant to the given context of water governance in the Elk River watershed (Ayres 2008, Dunn 2010). “Following” was a technique I relied upon heavily, which involves listening closely to the interviewee and forming your next question based on the interviewees’ trajectory (Dunn 2010). Through following, I found that interviewees usually presented segues into topics that I wanted to cover. For example, questions in my interview guide included: Can you tell me about yourself and the work you do here in the Elk Valley? Have you had experiences where you engaged with the CBWG? Have you had experiences where you worked with the Company? These questions enabled further digging into specific aspects of the value of community-based water monitoring, or the nature of the relationship between industry and community. On average, interviews lasted approximately one hour. This open-ended approach enabled new themes and topics to emerge. Limiting bias in the data was achieved in part through avoiding leading questions. Following Holley et al (2012), I mitigated the potential limitation that the interviewee sample may disproportionately reflect biases by seeking opinions of different and diverse respondents through interviews. Moreover, I referred to documents to double-check facts and ensure accuracy of information.

Interviews were audio recorded and transcribed by the researcher. Transcription of field notes and interviews occurred as soon as possible after interviews took place so that fine details could be included as notes in the transcripts (Dunn 2010). Analysis draws primarily from 230 pages of interview transcripts, but was also informed by field notes and document review.

#### **2.4.3. Conferences and workshop notes**

Over the course of the data collection period, I attended and/or participated in five conferences and workshops, three of which occurred locally in the Columbia River Basin. These events exposed me to presentations and discussions that yielded insights and sometimes documents for analysis. I systematically documented what I learned through these experiences through taking detailed notes. I later transcribed these notes for my own reference and inserted the information into my coding spreadsheet (see example in Table 4 below). Conference proceedings were reviewed upon release where possible, and follow-up phone calls and conversations were conducted to locate original documents. I also cross-referenced these notes in the third column of my coding sheet (see below Table 4).

## **2.5 Qualitative Data Analysis**

The focus of my qualitative data analysis was to understand and document peoples' perceptions, assumptions, and experiences (Strauss & Corbin 1990, Charmaz 2008). Data collection and analysis proceeded simultaneously through the period of June 2014 – November 2014. This iterative cycle involved comparing results and new findings, which then guided further data collection (Strauss & Corbin 1990). This section explains how I coded the data – refer to Table 4 for an example.

### **Phase one: Initial coding**

As discussed, data collection and analysis occurred simultaneously and in phases. Initial coding involved “naming the data” by looking for actions, definable ideas and issues in each segment of transcript data, and slotting these segments beneath a more generic and generalized code, according to methods described by Strauss & Corbin (1990), Charmaz (2008), and Dey (1993). I asked “sensitizing” questions about the data, as recommended by Charmaz (2008), including: what is at issue; how does this process develop; what does the person think/feel; what might his/her behaviour indicate? (Strauss & Corbin 1990, Charmaz 2008). In this phase, I went through each interview transcript paragraph-by-paragraph, drawing out sections of text that captured key actions, processes, behaviours, concerns, ideas, perceptions, and issues. This was done by-hand, and then collated and transferred into Excel. I preferred not to use expensive software because I could think through the data more clearly in its printed, hard-copy form. In this phase, the focus was on identifying patterns, themes, and internally contrary notions within individual interviews. In all phases of coding, I repeatedly referenced the transcripts to continuously ensure that codes were not misrepresenting interviewees' words or perceptions.

### **Phase two: summarizing and creating a narrative**

In this phase, a key objective of analysis was to summarize data in order to delineate more clearly their central characteristics (Dey 1993). As the data set grew, I employed techniques to “tell a story about the data” including summarizing events, focusing on key episodes, delineating roles and characters, setting out chronological sequences (Dey 1993). Codes and their data segments were compared within actor groups (i.e., provincial government, local government, Indigenous Nation advisory body, industry, community members, consultants, ENGO, CBWG).

I began to establish themes and perceptions that were shared across an actor group, as well as the exceptions within that actor group (e.g., local government interviewees described their relationship with the Company in positive terms, but one interviewee expressed mistrust; there were differences between locally elected politicians and their staff). In this phase, I also began to identify themes, counter-indications, and shared perceptions between actor groups. Altogether, this process helped construct an “illuminating narrative” (Dey 1993), which in turn facilitated my own progressive learning and helped identify themes and key issues. Analysis and identification of themes in early interviews helped define later interview questions by enabling me to ask more focused questions, about specific concepts.

### Phase three: focused coding and categorization

“Focused coding” (Charmaz 2008) occurred as new ideas and evidence required codes to be re-assigned or changed. In this phase, broader *categories* were constructed based on collating and comparison of codes. Codes (along with their attached data segments) were put into categories. For example, and as shown in Table 4 below, there may be numerous codes within a category. The example below shows that ‘fear/uncertainty about lack of government’ was one code that formed the category “Community perceptions of provincial government.” Each category housed several codes. In sum, coding and categorization enabled me to identify patterns, themes, discrepancies, within and between groups of watershed actors, and draw conclusions.

**Table 4: Example of qualitative data coding**

CATEGORY	CODE	EXAMPLES OF CODE/TEXT FROM TRANSCRIPT	FIELD NOTES AND IDEAS ABOUT CONCEPTS
		Community perceptions of provincial government	Fear / uncertainty about lack of government
Feel worried			
Feel very nervous			
what is in provincial government’s control? What is in federal government’s control?			
Lack of government engagement puts us at risk			
Cannot rely on provincial and federal governments to protect water			
Not a working system; broken system; just not working; hardest change will be government	** SEE NOTES FROM CMI CONFERENCE (K.S. Presentation – spoke to same point and gave example from forestry context)		
Re-electing new government doesn’t seem to help			
Best hope is at regional local level	* Watershed-scale governance; concept of local control; concept of multi-actor collaboration		

## Chapter Two References

- Agrawal, A., & Gibson, C.C. (1999). Enchantment and disenchantment: The role of community in natural resource conservation. *World Development*, 27(4), 629–649.
- Ayres, L. (2008). Semi-structured interviews. In Givens, L. (Ed.) *The Sage Encyclopedia of Qualitative Research Methods*, p. 811-813. Thousand Oaks, CA: Sage Publications.
- Bakker, K. (ed.) (2007). *Eau Canada: The Future of Canada's Water*. Vancouver, BC: UBC Press
- Baltutis, J., Brandes, L., Brandes, O.M., Moore, M-L., Overduin, N. & Plummer, R. (2014). Proceedings from Watersheds 2014: Towards Watershed Governance in British Columbia and Beyond. Duncan, B.C.: POLIS Project on Ecological Governance
- Baxter, J. (2010). Case Studies in Qualitative Research. In Hay, I. (ed.), *Qualitative Research Methods in Human Geography*, p. 81-98. Don Mills, ON: Oxford University Press
- Bennett, A. (2013). *Community-based water quality monitoring report: Lizard Creek and Alexander Creek*. Report for the Elk River Alliance. Retrieved from: <http://d3n8a8pro7vhmx.cloudfront.net/elkriveralliance/pages/35/attachments/original/1403734566/ERA-Report-FINAL-bw.pdf?1403734566>
- Bernhardt, E. S., & Palmer, M.(2011). The environmental costs of mountaintop mining valley fill operations for aquatic ecosystems of the Central Appalachians. *Annals of the New York Academy of Sciences*, 1223, 39–57.
- Booth, A. L., & Skelton, N. W. (2011). Industry and government perspectives on First Nations' participation in the British Columbia environmental assessment process. *Environmental Impact Assessment Review*, 31(3), 216–225.
- Bradshaw, M. & Stratford, E. (2010). Qualitative Research Design and Rigour. In Hay, I. (Eds). *Qualitative Research Methods in Human Geography, Third Edition*, 69-80. Oxford University Press.
- British Columbia Ministry of the Environment & B.C. Ministry of Forests, Lands, and Natural Resource Operations (2012). *Cumulative Effects Assessment Framework for Natural Resource Decision Making - Project Charter*.
- British Columbia Ministry of the Environment. (2001). *Water Quality Ambient Water Quality Guidelines for Selenium*. Prepared pursuant to Section 2(e) of the Environment Management Act, 1981., 2.

- Charmaz, K. (2008) “Grounded theory”. In Smith, J. (ed). *Qualitative psychology. A practical guide to research methods, second edition*, p. 81 – 11. Thousand Oaks, CA: Sage Publications
- Dey, I. (1993). *Qualitative Data Analysis: A User Friendly Guide for Social Scientists*. New York: Taylor and Francis
- Dunn, K. (2010). Interviewing. in Hay, I. (Ed), *Qualitative Research Methods in Human Geography, Third Edition*, p.101-137. Oxford University Press.
- Elk River Alliance.(2014). Silver Springs Stewardship Solutions Report. Retrieved from: <http://www.elkriveralliance.ca>
- Elk River Alliance (2014). *About Us*. Retrieved from: <http://www.elkriveralliance.ca>
- Elk Valley Cumulative Effects Management Framework. (2015). *Approach*. Retrieved from: <http://www.elkvalleycemf.com>
- Elk Valley Water Quality Plan. (2014). Teck Resources. Retrieved from: <http://www.teckelkvalley.com>
- Environmental Assessment Office (2014)a. Line Creek Operations Phase II. Project Information Centre. Accessed online: [http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic\\_project\\_home\\_352.html](http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_project_home_352.html)
- Environmental Assessment Office (2014)b. Baldy Ridge Extension. Project Information Centre. Accessed online: [http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic\\_project\\_home\\_413.html](http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_project_home_413.html)
- Flyvbjerg, B. (2006). Five Misunderstandings about case study research. *Qualitative Inquiry*, 12 (2), p.219-245.
- Golder Associates (2010). *Selenium Status Report 2008/2009*. Reported prepared for the Elk Valley Selenium Task Force, September, 2010.
- Hauer, R. & Sexton, E. (2013). Transboundary Flathead River : Water Quality and Aquatic Life Use Final Report. Prepared for: Glacier National Park, West Glacier, MT
- Herbert, S. (2000). For ethnography. *Progress in Human Geography*, 24(4), 550–568.
- Holley, C., Gunningham, N. & Shearing, C. (2012). *The New Environmental Governance*. Earthscan.
- Hume, M. (2014). Elk Valley watershed: Why has this unfolding disaster been ignored? *The Globe and Mail*. Vancouver.

- Laurie, M. (2013). *An Overview: Sharing Benefits From Natural Resources with Local Stakeholders in British Columbia*. Jointly prepared by: Columbia River Treaty Local Government's Committee and the Columbia Basin Trust.
- Lemly, D. (2014). *Interim Report: Review of Environment Canada's Teck Coal Environmental Assessment and Evaluation of Selenium Toxicology Tests on Westslope Cutthroat Trout in the Elk and Fording Rivers in Southeast British Columbia*. Expert Report, Environment Canada. Retrieved from:  
[http://www.teckelkvalley.com/res/vpl/documents/\\_ces\\_portal\\_meta/\\_portal\\_pages/documents/review\\_environment\\_canada.pdf](http://www.teckelkvalley.com/res/vpl/documents/_ces_portal_meta/_portal_pages/documents/review_environment_canada.pdf)
- Lockwood, M., Davidson, J., Curtis, A., Stratford, E., & Griffith, R. (2010). Governance Principles for Natural Resource Management. *Society & Natural Resources*, 23(10), 986–1001.
- Macharia, S. (2005). *A Framework for Best Practice Environmental Impact Assessment Follow-up: A Case Study of the Ekati Diamond Mine, Canada* (Master's Thesis). Department of Geography, University of Saskatoon.
- Mansvelt, J., & Berg, L.D (2010). Writing Qualitative Geographies, Constructing Geographical Knowledges. In Hay, I. (ed.), *Qualitative Research Methods in Human Geography*, p. 333-355. Don Mills, ON: Oxford University Press
- Mauthner, N. S., & Doucet, A. (2003). Reflexive Accounts and Accounts of Reflexivity in Qualitative Data Analysis. *Sociology*, 37(3), 413–431.
- McDonald, L. (2009). *Survey of Selenium in water, zooplankton and fish in Lake Koocanusa, B.C. 2008*. Report prepared for Environmental Protection, Kootenay Region, British Columbia Ministry of Environment on behalf of the Elk Valley Selenium Task Force
- McPherson S., G. Duke, M. Robinson, K. Grant, and L. Walker. 2014. *Elk River watershed, valley bottom assessment – Report to residents on river health, phase 1*. Prepared by Lotic Environmental Ltd., GranDuke Geomatics Ltd. and Elk River Alliance for the Columbia Basin Trust.
- Morgan, D. (2014). Snowball Sampling. In Given, L. (Ed.), *The SAGE Encyclopaedia of Qualitative Research Methods*, p. 1044–1045. Thousand Oaks, CA: SAGE Publications
- National Round Table on the Economy and the Environment. (2010). *Changing Currents: Water sustainability and the future of Canada's natural resource sectors*. Retrieved from:  
<http://nrt-trn.ca/water/water-sustainability-and-the-future-of-canadas-natural-resource-sectors-2/changing-currents>

- Nowlan, L. & Bakker, K. (2007). Delegating Water Governance: Issues and Challenges in the BC Context. *Paper for the BC Water Governance Project., UBC Program on Water Governance*
- Parfitt, B., Baltutis, J. and Brandes, O. M. (2012). *From Stream to Steam: Emerging Challenges for B.C.'s Interlinked Water and Energy Resources. Environmental science & technology* (Vol. 45). University of Victoria.
- Polster, D., & Howe, D. (2006). Mine Reclamation in British Columbia: Accolades and Issues. In *British Columbia Mine Reclamation Symposium*.
- Protect the Peel (2015). *Protect the Peel: Yukon's Great Boreal Wilderness*. [www.protectpeel.ca](http://www.protectpeel.ca)
- Province of British Columbia. (2013). Order of the Minister of Environment Section 89, Environmental Management Act.
- Se Panel. (2010). *The Way Forward: A Strategic Plan for the Management of Selenium at Teck Coal Operations*. Retrieved from: [http://www.swansonenviro.ca/portfolio/SES\\_TeckStrategicAdvisoryPanelFinalReport2010.pdf](http://www.swansonenviro.ca/portfolio/SES_TeckStrategicAdvisoryPanelFinalReport2010.pdf)
- Sheelanere, P., Noble, B. F., & Patrick, R. J. (2013). Institutional requirements for watershed cumulative effects assessment and management: Lessons from a Canadian trans-boundary watershed. *Land Use Policy*, 30(1), 67–75.
- Smith, M., & Dobell, D. (2009). *Place of Power: Lessons from the Great Bear Rainforest*. Vancouver, B.C.
- Sparwood. (2014a). *District of Sparwood Temporarily Shutting Down Well #3*. Retrieved from <http://www.sparwood.ca/government/news/announcements/district-of-sparwood-temporarily-shutting-down-well-3>
- Sparwood. (2014b). Sparwood Official Community Plan.
- Strauss, A. L., & Corbin, J. (1990). *Basics of qualitative research: grounded theory procedures and techniques*. Newbury Park, CA: Sage Publications
- Wengraf, T. (2001). *Qualitative research interviewing: biographic narrative and semi-structured methods*. Thousand Oaks, CA: Sage Publications
- Wildsight (2015). Current campaigns. Retrieved from: <http://wildsight.ca/campaigns>
- Wildsight Golden (2014). *Upper Columbia Water Quality Monitoring Report 2009-2012*. A Columbia Basin Water Quality Monitoring Project. Prepared by Lotic Environmental Ltd. for Wildsight Golden.

Yin, R. K. 2009. *Case Study Research: Design and Methods*. Thousand Oaks, CA: Sage Publications

## Chapter Three: Exploring the role of private actors in water governance

### Abstract

This article explores whether and how private actors shape different approaches to water governance. It is unclear how collaborative approaches to water governance are implemented in resource extraction contexts, and how accountability mechanisms function, if industry is an important actor in the governance of the watershed. Empirical evidence from the Elk River Valley in B.C. illustrates, first, how a multi-national company (MNC) and watershed actors successfully collaborate and develop relationships; second, how the MNC provides resources that sustain collaboration; third, the complications that arise when parallel governance approaches are simultaneously applied to address water issues; and fourth, accountability challenges that arise when an MNC has an influence in shaping both collaborative and conventional approaches to water governance.

### 3.0 Introduction

British Columbia, Canada exhibits both the challenges and opportunities for water governance reform in a resource extraction context. New approaches to water governance are emerging in B.C.: recently updated water legislation, the *Water Sustainability Act*, will potentially enable the devolving of water decision-making to non-government entities; and watershed-scale organizations are increasingly seeking greater local authority and control over their home waters (Baltutis et al. 2014, Brandes et al. 2014). At the same time, resource extraction is expanding across B.C. (e.g., Parfitt et al. 2012). New and existing projects are associated with a range of environmental impacts, as well as socio-economic and cultural consequences including: water quality contamination (e.g., Hendryx et al. 2010), fish and wildlife population declines (e.g., Bradshaw et al. 2009); and loss of the lands that support traditional Indigenous practices (e.g., Garvie 2013). Governance systems that exist to regulate resource extraction activities have been criticized for their inadequate enforcement and oversight functions (Auditor General 2010a,b, Haddock 2010, Parfitt et al. 2012, FPB 2014, B.C. Office of the Ombudsperson 2014). Conflicts between communities (both Indigenous and non-Indigenous), government, and industry actors around proposed developments is an obvious pattern observable in both the media (e.g. Woo 2014, Hume 2014) and at natural resource management conferences (e.g., Columbia Mountains Institute of Applied Ecology 2014, UNBC 2014).

A dearth of empirical research investigates if and how private actors from the mineral resource sector shape different approaches to water governance. This knowledge gap is problematic because, first, mining can have adverse impacts on water because it is typically land intensive and therefore inherently risky (e.g. Hendryx et al. 2010, Bernhardt & Palmer 2011). For example, mining often involves blasting and displacement of tons of rock, creation of tailings and waste ponds, diversion of water, and removal of vegetation (Bernhardt & Palmer 2011). Therefore, the owners and operators of this sector potentially have a significant role in physically shaping the watershed. Second, private actors, including large multi-national companies (MNCs), are often primarily responsible for managing water resources at their operating sites, deciding on how risks should be determined and mitigated to meet various land and water protection laws in a given jurisdiction, and consulting with communities and Indigenous Nations on development (Haddock 2010, FPB 2013, 2014).

As the shift to “governance” rather than “government” is underway in B.C., and elsewhere, (Baltutis et al. 2014, Brandes et al. 2014), it is important to understand if, and how, private actors are already shaping water governance at different scales so that we can in turn understand how water governance reform can be facilitated in resource extraction contexts. The “new environmental governance” (NEG) framework offers one model for understanding how ‘good governance’ of natural resources can be achieved (Holley et al. 2012). Collaboration, participation, deliberation, learning, and new approaches and mechanisms for accountability are the five cornerstone governance principles within NEG (Holley et al 2012, see Ch.1 for an overview of how NEG relates to water governance). This article focuses specifically on understanding how two key NEG principles - accountability and collaboration - manifest in a watershed with active mineral resource extraction. It remains unclear how private actors might affect collaborative decision-making processes, and how accountability mechanisms may function, if industry is an important actor in the governance of the watershed.

The purpose of this article is to empirically assess whether and how private actors shape different approaches to water governance at the watershed scale. I investigate a case study in southeast B.C., where two parallel approaches to water governance have simultaneously developed in response to water quality contamination that has resulted from mountain-top coal mining. I

examine the form, function, relationships, and outcomes that characterize governance processes and/or initiatives, including the MNCs' relationship with a water group, an Indigenous-Industry led cumulative effects management framework, and a government initiated water quality planning process. I demonstrate that industry is indeed shaping watershed governance in the Elk Valley. The MNC exerts influence informally, through developing positive industry-community relationships, providing resources that initiate and sustain collaborative governance, and helping build capacity of a local community-based water group to engage in governance. The Company also exerts influence formally through shaping a top-down water quality planning process. While findings suggest that industry has an enabling role in collaborative approaches to watershed governance, data also reveals that accountability challenges remain around water quality contamination related to mining. I relate findings back to the two principles of collaboration and accountability in the five-tiered NEG framework and discuss how this case has broader implications for building the NEG model. I also identify how lessons learned from this case may advance our knowledge about facilitating water governance reform in a resource extraction context in B.C.

### **3.1 Methods**

#### **3.1.1. Data Collection**

This study focuses on the results of 23 semi-structured interviews that were conducted from June – November, 2014. Participants were selected on the basis of whether they had been involved in water management, stewardship, and water decision-making processes in the watershed, and this included: small business owners; staff of local community-based environmental organization, staff of a local community-based water group; senior government regulators, scientists, and researchers from B.C.'s Ministry of the Environment (MoE) and Ministry of Forests, Lands, Natural Resource Operations (FLNRO); consultants contracted to facilitate multi-actor processes; staff and members of the Indigenous Nation, including senior scientific and technical advisors who provide advice to the Indigenous nation and participate in regulatory initiatives on the Nation's behalf, and; local government politicians and staff. Interviewees were initially identified with assistance from local community members, and further interviewees were found using a 'snowball sample' technique (Morgan 2008). Interviews focused on individuals' perspectives of the nature of the relationship between industry and community, contributions of

different watershed actors in local governance processes, and the benefits and challenges related to regulatory and non-regulatory initiatives and processes. All interviews were recorded and transcribed and coded using qualitative data analysis methodology (Strauss & Corbin 1990, Dey 1993, Charmaz 2008). Methodology is described in detail in Chapter 2 of this thesis.

To protect confidentiality, interviewees and their organizations are referred to either by a general position title (e.g. senior scientist) or by organizational type. The aim is to promote the generalizability and relatable nature of the lessons that emerge from this research (i.e., this research does not intend to critique or promote a particular company or organization specifically). Interview data was supplemented by document analysis of relevant development plans, reports, and scientific research from the Elk Valley, and attendance/participation in three local conferences.

### **3.1.2. Case study context**

This research examines water governance processes that occur in traditional Indigenous territory in B.C.'s Elk River watershed, located in southeast B.C. (See Chapter 2 case context for an in-depth description of the case study context). Severe water quality contamination is present in the watershed as a result of mountain-top coal mining activities. Specifically, levels of Se routinely exceed water quality guidelines (e.g. Hauer & Sexton 2013, Lemly 2014). Se is toxic to aquatic life in elevated amounts and has been found to cause reproductive failure and deformities in developing embryos of fish and aquatic birds (B.C. MoE 2001, McDonald 2009). The mines provide significant employment and municipal tax revenue to the region (Laurie 2013).

According to Environmental Impact Assessment documents (as well as personal communications), several major applications by this corporation are under development to expand coal extraction activities in the watershed. According to industry and independent research documents, the operations were historically owned by individual, smaller companies, but they came under single ownership in 2008 by a multinational mining corporation, henceforth referred to as 'the Company' or 'the industry'.

As a result of water quality concerns, the Province of B.C., through the Ministry of Environment (MoE) issued a Ministerial Order to the Company, requiring the Company to develop an area-

based management plan, referred to as the Elk Valley Water Quality Plan (EVWQP), within one year (Province of British Columbia 2013). The terms of reference of the EVWQP required the Company to provide a strategy to remediate water quality effects from past activities and prevent future contamination. The EVWQP was required to include immediate, medium-term and long-term steps to reduce Se and other contaminant concentrations to acceptable levels (Province of British Columbia 2013). With respect to both the preparation and implementation of the EVWQP, the Order required the Company to consult with the public, all levels of government, Canadian and American Indigenous Nations, U.S. State and Federal governments, environmental and non-government organizations, and other industries in the Valley.

The Ministerial Order and EVWQP represents one approach to water governance in the watershed: a number of other processes and water-related initiatives are also underway, including a Cumulative Effects Management Framework initiative that has been co-led by the Company and the Indigenous Nation, and community-based initiatives (e.g. McPherson et al. 2014, EV-CEMF 2015). Altogether, the water governance regime in the Elk River Valley is composed of these different initiatives and decision-making processes, which occur at multiple scales and do not necessarily integrate or overlap. Understanding these processes, and the MNCs' role in shaping their form, function, and outcomes, was a key focus of this investigation.

## **3.2. Results**

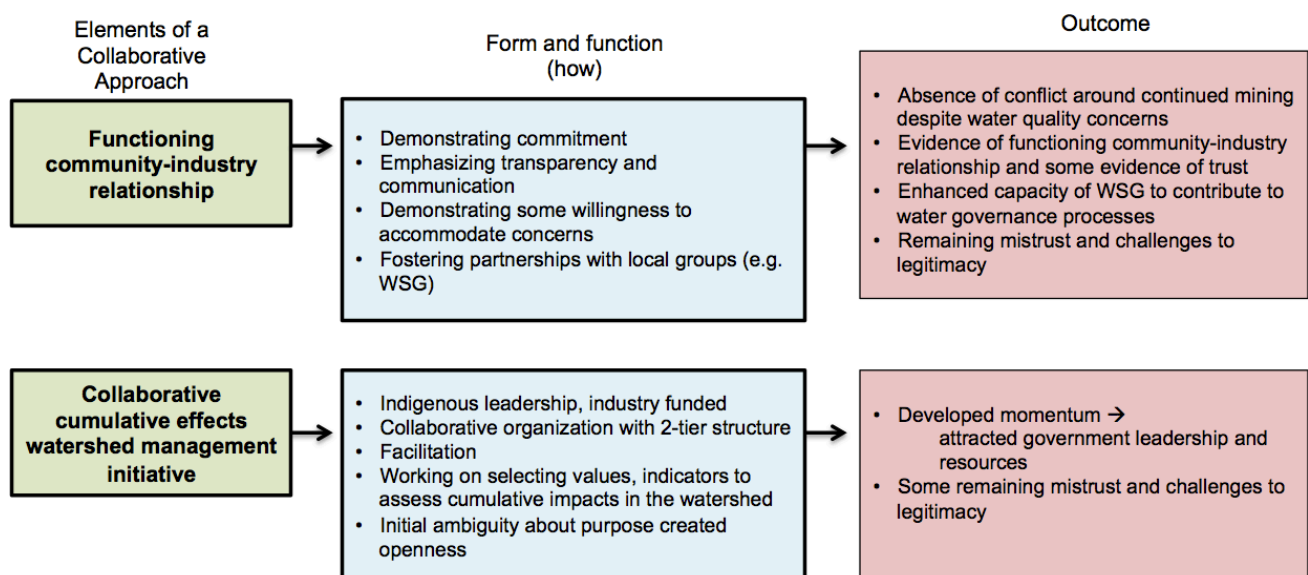
### **3.2.1 Parallel governance approaches**

Key themes that emerged from this study demonstrated that two different, parallel approaches to water governance are being simultaneously undertaken in the Elk Valley in relation to water quality concerns. I have characterized these approaches as 1) the Collaborative model, because it shares qualities described as “ideal” in the NEG framework (Holley et al. 2012), and 2) the Conventional model. Elements of the Collaborative model include a functioning community-industry relationship, and the collaborative industry-Indigenous led cumulative effects initiative. The Conventional model is composed of the top-down Ministerial order and threats of litigation. Figure 2 and 3 provide concept maps which overview the different components and themes of each model. In reality, processes and initiatives in the Elk Valley are not so neatly ordered: but this analytical approach provides a way of understanding governance in the basin.

Each model is discussed in turn, beginning with the collaborative model. The form and function of the key elements within each model are presented in this discussion of findings. Specific themes that emerged from each approach are assessed with the intention of understanding the role of the private actor in the governance of the watershed. The following discussion examines how this case informs our understanding of private actors' role in water governance in B.C. more broadly, and explores implications for water governance reform and for the NEG framework.

### 3.2.2. Model 1: An collaborative approach to water governance

**Figure 3: Overview of the collaborative approach**



#### **Element #1: Functioning community-industry relationship**

Building trust, relationships, and mutual understanding between actors is often deemed necessary for NEG approaches to water governance (Pahl-Wostl et al. 2007, Dale & Onyx 2005, Newman & Dale 2005, Armitage & Plummer 2013). If collaborative organizations cannot reliably function, come to agreement, and develop mutually beneficial shared goals and visions, their ability to influence decision-making around their home waters will be compromised (Hunter et al. 2015). Private actors' involvement in collaborative watershed initiatives is important, given that issues in a watershed may well be related to their activities. However, it is unclear whether meaningful collaboration with private actors is possible. Existing community-industry

relationships studied and described in the literature are often those that have been conflict-ridden, thus perpetuating the idea that there is little potential for communities and industries to form positive, functional relationships (e.g., Noble & Birk 2011, Garvie 2013). In B.C., case studies demonstrate that conflict, mistrust, and evidence of disingenuous industry behaviour appear to be the norm (e.g., Booth & Skelton 2011).

Data emerging from this study suggests that the Elk River Valley stands in contrast to other regions in B.C. that have been characterized in scholarly studies. In spite of the well-known water quality contamination that has been documented in the Valley (e.g., McDonald 2009, Se Panel 2010) locally affected actors defined the relationship between the industry and the community generally in positive or improved terms, especially relative to the previous coal companies. When asked to describe the relationship between the industry and the community, one interviewee – a biologist who advises the First Nation on water and resource management issues – pointed to a “fairly significant shift, in terms of attitudes and interest in working collaboratively with the community and First Nations and governments” that occurred with the MNC’s amalgamation of the mine operations. The previous mine operators were described by an interviewee from the community-based water group as being “insular”, “incredibly nasty...powerful... extremely intimidating.” For example, an negative tactics were used: “they would dress you down in front of the public, humiliate you, name-call, lie in the paper”.

Thus, the new Company had improved relations, as described by a local ENGO member, whose opinion was:

“we’re lucky here to have [the Company], I wouldn’t want to be a community group trying to do [environment stewardship and conservation] work with a different kind of company. There’s a lot of less responsible mining companies out there that aren’t necessarily willing to be a good corporate citizen like [they] try to be.”

As initial coding of interview data emphasized positive perceptions, this led to exploration of *why* the relationship between the community and the Company was perceived positively, and *how* – through what means and by what strategies – relationships were developed. Results revealed that relationships were developed in part through four key industry approaches: i) demonstrating commitment on sustainability, ii) emphasizing transparency, iii) demonstrating

responsiveness in communications, and iv) demonstrating some willingness to accommodate local concerns. These related means are summarized in Table 5, and are discussed below in more depth.

**How are functioning community-industry relationships developed?**

*Perceptions that industry is demonstrating commitment on sustainability*

First, the Company was perceived by community actors to be demonstrating a commitment to taking meaningful action on environmental issues and on meeting their own corporate sustainability goals. Demonstrating commitment was achieved through a number of actions (see table 1, below). Together, these actions suggested to watershed actors that industry promises, such as achieving “net positive change in biodiversity” constituted more than “just buzzwords” – in the view of one fisheries biologist, “they’re walking the talk.” For instance, an action that was perceived as being particularly indicative of the industry’s commitments was the company’s commissioning of a “Strategic Advisory Panel” on water quality management in 2010. This was a voluntary approach to dealing with Se that began prior to an explicit government order. The Panel invited a broad range of interests and experts to explore the Se issue. According to an industry Panel member, the Company used the Panel to demonstrate that they were “taking ownership of the issue and ensuring people understood we recognized it was an issue related to mining, and we were taking ownership of it, and were committed to deal with it.”

**Table 5 Community engagement strategies**

<b>Industry strategies to build trust and relationships</b>		<b>Interviewee examples</b>
		Demonstrating commitment on environmental sustainability
Emphasizing transparency and responsiveness in communications		Quick turn-around time in responding to email, phone-calls
		Transparent about impacts e.g. that selenium is related to mining
Demonstrating some willingness to accommodate local concerns		Responsive to concerns about local issues (e.g., mud from mine vehicles in town)
		Accommodating First Nations’ time-lines
Fostering partnerships with community groups		CBWG

### *Emphasizing transparency in communications*

The Company was perceived by all participants as emphasizing ownership and responsiveness in its communications. Company staff were perceived by all interviewees as being readily available to discuss concerns or address questions. A local government interviewee explained:

Well the opportunities [for consultation] have been abundant – for anybody to claim otherwise I don't think would be true. They made themselves available at various public events – again, at our suggestion – they had a display in the mall for about a week that explains what they're doing.....they've been at our farmers markets... they have representatives there, if you have any questions you have lots of opportunities to access [Company] staff people to give you information. They provide opportunities for people to comment on anything in their operations, multiple public open houses...

In addition, the Company has a website, phone number, drop-boxes, extensive literature (e.g. brochures), and a local office; Company staff can be reached by email or phone for conversations. Communications and engagement strategies were designed to “take ownership” of water quality issues (e.g., honesty about the link between mining and water quality contamination), and explain mitigation efforts. An industry interviewee explained the Company undertook these strategies because

“we recognized, for our continued operation, that [a lack of engagement in the community] represented a social risk, because if you weren't being open and transparent – we ran the danger of people thinking we were hiding something, and that's just not good management.”

### *Demonstrating some willingness to accommodate concerns*

Third, the Company demonstrated some willingness to accommodate concerns of local government and the Indigenous Nation. Local government interviewees provided numerous example of how the industry was providing support for a wide range of issues, including employee housing, child-care; as well as making efforts to mitigate problems like excess mud being tracked into town from mining vehicles, which a local government interviewee explained are concerns for the town.

So [those issues] would be extremely challenging projects to manage, from local government perspective, to look at that broad-reaching issue, from a regional perspective. So without having [the Company] at the table to organize, coordinate, pay for [it], the work probably wouldn't get done.

Additionally, from the perspectives of an Indigenous Nation member and resource manager, the Company was perceived as demonstrating a degree of willingness to accommodate several of the Nation's requests and/or interests. For example, the interviewee explained that, to some extent, the Company adjusted the timing and nature of in-person meetings to better suit the Nation. The Company was also perceived to be responsive by answering to the Nation's request to have "real conversations and discussions... [with] people who have the authority to negotiate." The interviewee went on to explain,

"We need to understand their process - they understand that we want to have knowledge, understanding, be informed about things, not just be consulted. We need time to talk to our membership, get their input, make sure they are informed – this takes time! This might take several community meetings, one-on-one discussions.... It takes time. [The Company] is now respecting this timeline, and this is key to building our relationship. At the beginning they did not, they would say, 'This all needs to happen now.' Well, regardless of the EIA process, we need more time, it's too fast. [The Company] has grown to learn and respect this regardless of EIA timelines. And is accommodating this."

In addition to taking action to accommodate concerns and the time-lines of the Indigenous Nation Council, interviewees across different groups acknowledged their appreciation of the Company's quick response times. Participants, particularly those from local government, community groups, and small business, stressed how Company staff would respond more quickly to their emails or phone calls than government staff. For example, one business owner explained, "When I write to the government, I send them emails, and I don't get a reply for EVER. And I'll email [Company staff], and [he] will at least reply and get back to me and say, 'I'll look into that and see what I can find for you.'"

Altogether, the Company's local presence and communications, along with their tendency to respond quickly to community concerns and willingness to accommodate these concerns in some cases, created an environment in which the industry was perceived by one member of the CBWG as more present and trustworthy than government. The individual stated: "I have more trust in [the Company], in some ways, than I do the legislated authority that's monitoring their operations." Likewise, in 6 interviews, participants contrasted government staff with industry staff, and in doing so, the Company often seemed to be relatively "better" in terms of their responsiveness and community engagement. Conversely, government staff were described consistently by community and local government participants as being "absent" and "limited in

their resources.” More critical perspectives were offered by three community members who used the words “secretive”, “guarded”, “apologetic”, and “disempowered” in describing their perceptions of provincial government actors.

### *Developing partnerships with community organizations*

Another approach the Company has taken to build relationships and networks in the community is to develop partnerships with community organizations, including a community-based water group (CBWG). The CBWG has undertaken a number of activities in the watershed, including water education programs and community-based water monitoring. Information is collected on several streams with the intention of a) influencing local land-use development planning; b) improving knowledge and information of local water bodies; and, c) engaging citizens in the water science in order to promote watershed literacy. The CBWG has also coordinated the development of a “Elk River Valley-Bottom Assessment” report, an initiative which required data sharing with the Company. The report demonstrates the total range of impacts in the valley-bottom from different land uses and development, and highlights where opportunities exist to protect and conserve remaining undisturbed areas (see McPherson et al. 2014). The Company supports the CBWG by providing funding, as well as participating on the Board. An interviewee from the CBWG explained how money is provided, and how it has enabled them to carry out their activities:

We’ve been lucky, to have some [industry] investment in what we’ve done and what we’ve been able to achieve because without it, we would not be where we are right now. They give us money, no strings attached. They don’t say, we wanna see your program proposal, and we wanna see that you say this. No, they just write the cheque, thank you for your good work. Done.

From the perspective of three industry interviewees, there are also numerous benefits related to supporting the CBWG. For example, the CBWG has been supportive of the industry’s engagement and planning activities around water issues, nominating the Company for an engagement and governance award and commending the industry through letters to the editor when water quality issues were negatively portrayed in national media. Moreover, one interviewee explained that the benefit of community-based water monitoring lies in having an “independent validator” through a

“group of citizens who are so keenly interested and paying such close attention and understanding the facts and able to provide commentary, provide opinion.... [The CBWG can confirm], it’s not just business-as-usual up there. I’ve been there, I’ve seen it. I helped do part of that monitoring.”

While the CBWG maintains that funding they receive is “no strings attached”, the way they operate (e.g., working with Industry) may perpetuate perceptions that they are biased towards the Company. The CBWG’s focus on neutral topics, such as watershed health, as well as their use of federal monitoring protocols in stream sampling, and a multi-disciplinary Board, intends to deter such perceptions. Yet, the CBWG faces legitimacy challenges as a result of their partnership, which are discussed in the next section below.

### **Outcomes emerging from Element #1 of the Collaborative model**

In sum, the above findings illustrate how the MNC develops positive relationships in the watershed. To understand the link between positive relationships and watershed governance, it is important to consider the outcomes and implications of the functioning relationship for water governance.

#### *Theme #1. Absence of conflict around continued mining despite water quality concerns*

In this case, the Company’s strategies to build trust and relationships helped ease conflict around water quality contamination. Moreover, by taking concerted steps to be a ‘good corporate citizen’, and develop good relationships, the Company case positioned itself as an actor with whom collaboration is possible (as evidenced through their collaboration with the CBWG). These related outcomes are relevant for water scholars, as well as practitioners, because they suggest that dominant ideas about MNCs lacking interest in engaging with community (e.g. Banerjee 2008, Carmin & Agyeman 2011) do not apply evenly to all companies.

Another implication of this finding is that a lack of conflict can be perceived by government as a signal that industry has achieved a ‘social license to operate’, i.e., support or buy-in for its activities (Gunningham et al. 2004). In turn, firms who hold their ‘social license’ may

experience fewer regulatory barriers when seeking licenses from government for development (Gunningham et al. 2004).

### *Theme #2. Enhanced capacity of CBWG*

Another outcome of this element of the Collaborative approach is the MNC enabling capacity-building in a local CBWG. Data indicated that the CBWG itself is emerging as an important actor in the watershed. First, the CBWG is perceived by local and regional governments to be providing valuable inputs into decision-making at a local and regional level. In one participant's words the CBWG is "an important piece of the puzzle", when referring to the puzzle of collaboration about managing water quality issues in the watershed. Local government interviewees identified the CBWG's Valley Bottom Assessment Report (along with other research documents) as being "useful planning tools," and commented on how a lack of data about water resources is a barrier for local governments' ability to protect water. In one municipality, an interviewee suggested that the valley-bottom assessment helped motivate the development of more robust riparian protection regulations:

[The CBWG] did a state-of-the-watershed report, and you know, that's a good planning tool for us. Recognizing that we have a lot of natural stream-sides that have not been disturbed that we have an opportunity to preserve... I guess you could say that [the Valley Bottom Assessment] probably had some effect in creating those development protection areas [in the recently updated Official Community Plan] as, now we have some data, basically about the health of the river and riparian area... And any time you have data that says where it is [healthy], you have something that gives you a goal to maintain it.

Moreover, the CBWG's water education programs are perceived by local authorities as being valuable and critical because a lack of provincial enforcement of local water law requires that 'soft' approaches, like education, are also necessary to achieve desired water management results. At the regional district government level, an interviewee explained that the CBWG has the potential to expand its influence in decision-making as time proceeds, because

"that's where the resources exist, in terms of manpower... [and] social, economic capital. So long as the citizen-based groups, those entities, maintain connectivity and connections with legislated authority and those with know-how, we have minor success stories along the way that show it is possible."

Furthermore, the CBWG is acting as a “community water voice” in governance processes at higher scales because they are participating in processes like EV-CEMF (described subsequently), and in government and industry led engagement processes related to water quality planning. According to a senior government interviewee who is involved in EV-CEMF,

“[the CBWG] is very involved [in EV-CEMF and in water issues generally], puts a lot of energy in, they’re very interested in the health of aquatic ecosystems... to the point where they've done some work on their own and they have a certain amount of local energy behind them, quite a few volunteers, actually achieved some fairly substantive levels of work; they’re more local than the [regional ENGO].... [and], they don’t appear to be politically motivated.

By demonstrating a high level of knowledge around local water issues and achieving substantive work (e.g., the valley-bottom assessment and water quality monitoring), the CBWG has gained credibility to be engaged in water governance more broadly and at higher levels, such as the EV-CEMF initiative (discussed in the next section). Both a government interviewee as well as the EV-CEMF facilitator perceive the CBWG as adding “energy” and valued perspective to discussions within this process.

This theme reveals an important contribution that private actors can make to water governance at the watershed scale. A well-known obstacle for community-based water groups is a lack of reliable revenue to support activities and capacity-building (Brandes et al. 2014, Holley et al. 2012). In turn, this represents an obstacle to reforming water governance, in B.C. and elsewhere (Brandes et al. 2014). In an era where governments are cash-strapped and competition for resources is fierce, research findings from this case identify industry funding as a means to overcome the constant limitation of sparse resources for capacity building that supports water governance reform.

### *Theme #3. Remaining mistrust and challenges to legitimacy*

While one of the main themes in the data was that the community-industry relationship was consistently perceived as positive across participants and different types of organizations, interview data also provides evidence of some remaining mistrust and criticism of industry. Participants are still highly cognizant of the company’s profit-driven motives, and suspicious that potential decreases in global coal prices would result in corresponding decreases to the firms’

community investments. According to one participant, “private industry doesn’t do things out of benevolence, they do it because of their bottom-line.” There is also mistrust about the Company’s claims that they can be counted on to operate in the watershed for as long as water quality issues remain a concern. Interviewees in all groups were very familiar with the scale of the waste rock dumps created by the coal mines. These dumps will continue to leach contaminants for centuries. Participants questioned whether the Company truly has a long-term vision of sustainability, or whether they can transcend borders. For example, the Company’s claims of longevity were questioned by one participant who pointed out, “it’s fine for [the Company] to say, ‘we’re here for the next 100 years’ but at the end of the day, Indigenous peoples have been there for over ten thousand years. 100 years is nothing... if the coal price bottoms out and stays below that, they’ll be gone.”

The most strongly-worded critiques of the Company in this dataset are associated with an interviewee from the commercial fly-fishing sector. A business owner explained how, from their perspective, the industry’s engagement with community tended to portray bias towards mining, as well as obscure facts and realities about the severity of water quality issues. The interviewee expressed frustration with the Company’s ability to continue and expand operations despite demonstrably exceeding water quality guidelines. In his view, the Company’s willingness to “put their name on good things in the community” was a result of the fact that water quality had become a problem. The interviewee explained that in the absence of contamination, “I don’t think they would be as generous as they are. I think they’re trying to buy environmental points.”

Finally, findings suggested that some watershed participants have remaining mistrust of industry-funded initiatives, and specific examples related to the Company’s funding of the CBWG. In spite of the CBWG (and the Company’s) efforts to be transparent about funding, one local government interviewee raised concerns about the legitimacy of the CBWG’s work because of their funding relationship with the industry. The interviewee agreed that the organization could provide third-party verification through their water quality data, but only if “they’re very transparent in what they’re doing, for example, releasing all their information publicly or on their website...” However, this interviewee went on to explain,

“...there’s still some mistrust in that too – if the funding for that work is coming from [the Company]. Then there’s the concern, can we really trust these results... [if] their funding is coming from the company that they’re supposed to be monitoring.”

An interviewee from the CBWG acknowledged that they had received criticism for being “a mouthpiece” or “sell-out” for the company, and for accepting industry funds. The interviewee explained how the approach of building relationships was based on the premise that developing solutions to water quality issues requires a broad base of community support, engagement, and awareness (water literacy). The interviewee explained that going into “critical response mode” would be warranted if “we don’t see reducing levels of Se on a trajectory that shows that they’re getting this problem under control. ... which would be very detrimental to their business.” The interviewee did not indicate what a ‘critical response’ would entail. However, similar environmental organizations in the region have taken actions against large industries in the past, including leading public campaign programs (E.g. Wildsight, 2015). And, in Canada, ENGOs have taken litigious approaches to protesting resource development in their watersheds (e.g., protectpeel.ca 2015). The CBWG is taking a more conciliatory approach in the hope that the company “acts with integrity” and fulfills its obligations and promises. Furthermore, the predicament of funding shortages was identified as an obstacle to developing and implementing water-related projects: “So call it blood money, call it water money – I don’t care – it’s helping us do the work that we do. We’ve gotten nothing from the government, zero, nada, not a cent... What are we going to do?”

An important take-away revealed by this data is that industry funding – even if it is provided in a blank cheque format with “no strings attached” – can carry implications for recipients. In this case, the legitimacy and impartiality of the CBWG was challenged by other watershed actors in part due to their acceptance of industry funds. From a technical or legal point of view, it might be labeled a typical “conflict of interest” situation. Furthermore, this issue highlights an important paradox surrounding the role of private actors in watershed governance. While a key contribution or role of industry can be the capacity-building that will result directly when resources are provided to a community, those same resources serve as a source of suspicion, regardless of the recognized efforts and growing knowledge and credibility of the CBWG and their volunteers. Therefore, while existing scholarship describes collaboration as being essential (e.g., Pahl-Wostl

2009, Holley et al. 2012) and identifies that industry should be included (de Løe & Murray 2012), scholars of collaborative water governance models need to recognize that different roles and different strategies will be critical to determining how well community-industry collaborations can function.

### **Element #2: Collaborative cumulative effects initiative**

A second element that comprises the Collaborative model in the Elk Valley is the development of the Elk Valley Cumulative Effects Management Framework (EV-CEMF), a collaborative, multi-actor initiative that intends to develop practical decision-support tools for addressing cumulative environmental impacts in the Elk River valley (EV-CEMF 2015). Collaboration (and related, participation of actors within collaborative processes, and co-governance with Indigenous Nations) is a central feature of effective collaborative water governance (Ansell & Gash 2007, Holley et al. 2012, Brandes et al. 2014). Collaborative approaches to governance recognize that all actors in a watershed have impacts and water demands, and that actors must coordinate their actions to improve water outcomes (Calbick et al. 2004, Wilson 2004, Nowlan & Bakker 2007, NRTEE 2011). Results from this case provide insight into how collaboration can be initiated and sustained in a context where a private actor is an influential actor.

### **Form and function of the EV-CEMF**

The EV-CEMF was developed in 2012 as a condition of approval for the environmental impact assessment (EIA) certificate for one of the numerous expansion activities being proposed for more coal mining (EAO 2014). The initiative was driven by the Indigenous Nation, whose members were allegedly “sick of talking about one-offs”, and wanted to look at losses from a more holistic and cumulative standpoint. Interviewees unanimously credited the Nation for showing vision and leadership in driving the initiative. The Company was also credited for agreeing to fund the development of the framework (e.g., providing resources for facilitation, research support, transaction costs) and participate in data coordination efforts.

At the end of the data collection period for this project, the 6-member EV-CEMF “Working Group” has expanded to include 14 individuals representing several provincial ministries, the Nation, the Company, two forestry companies, local government, and the CBWG discussed

above. The Working Group, with help from a neutral facilitator, has used a consensus-based approach to “develop a practical approach to supporting decisions about the cumulative effects of human actions on things that we value” (EV-CEMF 2015). A list of valued components (e.g., riparian zones, westslope cutthroat trout) was selected by the Working Group with input obtained from broader CEMF workshops in the Elk Valley. Work was then done to select indicators that could be used to measure the valued components. In order to ensure that the initiative represented more than a “data stockpiling exercise” and actually helped shape management, a list of key questions from decision-makers in government, industry, and community groups was developed with regard to the valued components.

### **Themes related to the collaborative initiative**

#### *Momentum despite ambiguity and uncertainty*

A first key theme emerging from this element of the Collaborative model is that watershed actors, including the Company, supported and engaged in the EV-CEMF process despite not having a clear idea of how the initiative would be beneficial for operations management. A senior industry participant explained,

It’s not totally clear, how – if or how – CEMF will inform management decisions... The intended outcomes [of the EV-CEMF] weren’t necessarily clearly defined in the beginning of the process. The question would have to come – what extra value is this group giving that is not in current environmental assessments? Can we make pre-project decisions on this? What are we doing here, how can we involve other parties? Talking about what’s important is great, but – what do we DO with what’s important?

According to the interviewee, the value for the industry in supporting the initiative lay more in the group being “kind of a stakeholder interaction group.” EV-CEMF was regarded by industry as lacking clear purpose in the early stages of the project. This is due, in part, because it lacked meaningful government involvement and authority, which was seen as necessary (from both industry and other actors’ perspectives) to move the initiative towards implementation.

Moreover, from industry’s point of view, EV-CEMF was limited by the fact that other actors in the watershed – especially other industries, such as the rail industry or forestry companies in the Valley – lacked incentives to be engaged in the process. These companies lacked regulatory pressure, social pressure, image pressures and incentives to participate. An industry interviewee considered this was because “there’s a perception out there that [EV-CEMF] is [our] baby... And

you know, we're going to focus on [our] interests only. Therefore, why would I, if I was a [rail or forestry company], or anybody else, put time or money into a process that I'm not going to get benefit out of?"

Although the Company was uncertain about the value of the process, and concerned that other industry actors were not involved, their own ambiguity may have created an opportunity, by helping create a collaborative environment perceived as being open. Participants valued the opportunity to engage in productive discussions and consensus-based decisions about how to develop the cumulative effects framework. One EV-CEMF participant voiced his approval of the Company's approach to the process, saying,

"I would toot [their] horn to say that [the Company] didn't really come to the table with an agenda. Other than, we want to increase understanding and knowledge. It was very much a collaborative, open dialogue process from the outset. The question was very much, what would this [specific] table like this process to do?"

Moreover, notwithstanding initial ambiguity, EV-CEMF later gained momentum and broader participation from other industries and government. Initially, government declined to invest resources or leadership into the process, which a senior government official explained was in part due to the fact that the region was not an "ideal place to test new things - when there are official legislated processes at place and potential litigation in the air."

By the end of the data collection phase of this research, however, the project had purportedly become well-resourced by government, with full-time staff, part-time analysts and financial resources dedicated to the initiative. Apart from the important fact that the government is pursuing a broader CEAMF for the Province, four senior provincial government interviewees explained the shift in interest as being related to the fact that EV-CEMF had "created momentum." The initiative had achieved substantive levels of work (e.g., identified valued components, and begun identifying indicators to start understanding cumulative effects in the watershed), as well as "achieved buy in and support" from involved participants representing broad sectors of the community, and from the Indigenous Nation. Commitment to the process from a range of watershed actors was perceived by government as ultimately increasing the chances of the framework's successful implementation in the long-run. Given government's acknowledged lack of resources and staff, EV-CEMF was described by one government interviewee as seeming

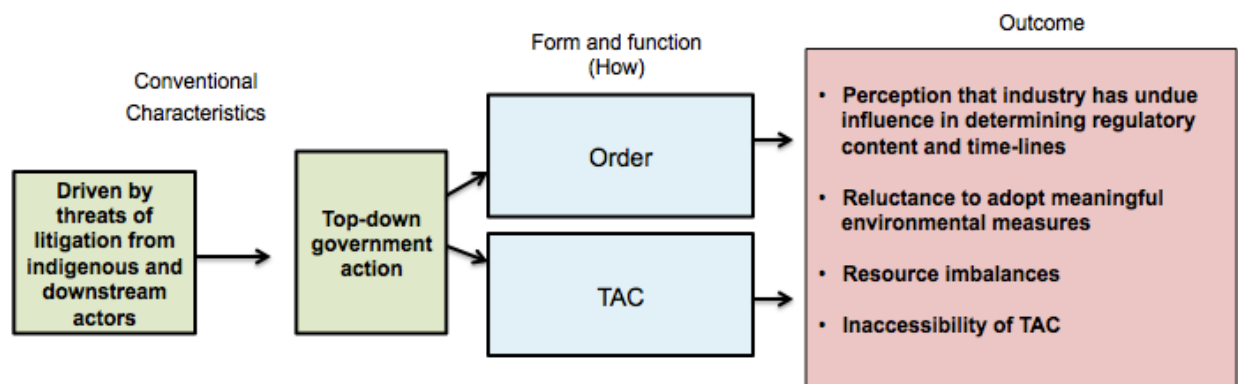
“less risky, in terms of investment of government time, money and personnel.” Provincial engagement was viewed by all watershed actors interviewed as being a positive development, and the rightful place where leadership should rest. From the perspective of an industry interviewee, “provincial leadership [i]s a definite step towards further legitimizing the group, coordinating approaches, making better use of the resources and information to date, and developing incentives for other industries to participate locally.”

### Legitimacy concerns with EV-CEMF

Another theme relating to this element of the Collaborative model is, again, related to perceptions of illegitimacy of industry funding. One key informant explained how EV-CEMF was “still faced with a considerable amount of that credibility/trust issue, which is, ‘you guys, you’re obviously still being influenced by the fact that [the Company] is paying all the bills.’” However, the interviewee went on to explain that credibility was earned in part through “a working group, who is pretty effective at keeping us honest because they’re representing very broad interests.” Furthermore, obtaining additional financial assistance and leadership (e.g. from government) and other watershed actors was implied to be a way of gaining greater legitimacy. Further potential responses to the challenge of funding are posed in the following discussion section.

### 3.2.3. Model 2: Conventional approach

Figure 4: Overview of the conventional approach



Having described how the governance of water resources in the Elk Valley is being approached in a holistic, participatory, and bottom-up fashion in the Collaborative model, I now turn to examine a parallel governance approach that has been simultaneously applied in the watershed with respect to water quality management. The main elements comprising the Conventional model are the Ministerial Order and EVWQP process (simplified in a concept map above, see Figure 2), and the fact that these processes were driven by the threat of litigation from Indigenous and downstream actors.

### **Form and function of the conventional model**

The Order represents a top-down approach and is more typical of a conventional approach to water governance because, first, it is a prescriptive order that focuses chiefly on controlling the six contaminants that are most problematic for water quality (e.g., selenium, cadmium, etc.) as opposed to holistic watershed management. Second, it clarifies government's oversight role in decision-making around natural resources; and third, it establishes a traditional hierarchical line of accountability – the Minister was required to approve or not approve the Plan. A senior government interviewee explained that the Order's prescriptive specificity, in terms of requirements for consultation, process, and content in the EVWQP

“has held [the Company] accountable to show how they consulted with those groups, how they were informed by the Technical Advisory Council, what that advice was, how they responded to, and if they didn't respond to it, why, as well. And that is all getting compiled into a summary document for the Minister as she considers the Plan for approval.”

Finally, the Order required the development of an oversight committee, called the Technical Advisory Committee (TAC), composed of specialized representatives from the Company, provincial government ministries, the federal government, the Indigenous Nation, US tribes, and an independent scientist. TAC was intended, according to a senior government interviewee, to take the science “out of [the Company's] realm” and into a more objective scientific panel: it “wouldn't be enough in this area-based management plan process for the [Company] to simply dust off its valley-wide plan from 2012 or 2013 and put a new cover on it.” In other words, the Company's voluntary approaches to managing water quality (such as the Se Panel created in

2010) were not seen as sufficient for addressing water quality concerns or withstanding potential future litigation.

However, the TAC process was perceived by a senior scientific advisor to the Indigenous Nation as being unduly influenced by the industry. Industry influence was perceived to present barriers to the creation of a robust plan and effective oversight mechanisms. These barriers will be discussed below to provide additional insights into how a private actor shapes water governance.

### **Themes emerging from the Conventional Model**

#### *Theme #1: Perception of undue influence in determining regulatory content and time-lines*

A senior biologist who represents the First Nation in regulatory processes suggested that industry has a “high degree of influence” on how water resources are governed, as evidenced by their ability to shape the contents, terms of reference, and time-lines of the EVWQP. The interviewee explained that the Nation was able to collaborate with many government regulators, but nonetheless, perceived an underlying challenge throughout regulatory negotiations to be the government demonstrating responsiveness to industry concerns. There was a remaining sense that the Provincial government was perceived to be “always trying to find a solution that would be acceptable to [the Company] – so [the Company] continued to have influence that way.” Moreover, this interviewee perceived that “there was continual resistance [from the Company] to all the things that we saw as essential to make the Plan acceptable.”

#### *Theme #2: Reluctance to adopt meaningful environmental measures*

Two salient examples were documented of how the Company demonstrated reluctance to adopt meaningful environmental measures advocated for by the First Nation. First, a key interest of the Indigenous Nation, and the B.C. government, was to maintain the condition of tributaries that are currently uncontaminated, because they are essential to dilution of the contamination from their mine sites. Maintaining tributary integrity is also critical because extensive damage and destruction to other tributaries and creeks proportionately increases the importance of remaining clean tributaries from a fish habitat perspective. A scientific advisor to the Nation explained,

“[the Company] pushed back hard on many of the details of that that we saw as essential to make the Tributary Protection program effective. So, they fought back on the

definition of unimpaired versus impaired streams, and geographic scope, and timing of getting this work done.”

A second area of conflict was around the creation of an independent environmental monitoring agency, patterned after the independent environmental monitoring agencies that have been established in the NWT diamond mine contexts (e.g., Ross 2003, Noble & Storey 2005). The Nation was looking for “a truly independent organization” with autonomous scientists reviewing all of the monitoring work, bringing a variety of expertise to bear, and providing recommendations to government, to the Company, and to the public, about the adequacy and acceptability of the results of the monitoring program. One advisor to the Nation interviewed perceived that the company and the government both resisted this, and it was unclear whether “there was more pushback for that from the Company or from the Province, frankly.” A key manager from the company, who had worked with the diamond mines in the Northwest Territories, was perceived to be particularly resistant and “really pushed back and opposed the idea of an independent environmental monitoring agency.” The participant summarized this view:

“I think it’s fair to say that on all of the things that we tried to impose, opposed after the fact, that they were resistant to it.... [The Company] did not lead the way on this whatsoever, they were dragged kicking and screaming into every aspect of this.”

#### *Theme #3: Resource imbalances*

Resource imbalances were also identified as a challenge. For example, an observer to the TAC process perceived that the Company held greater knowledge than government or other actors and explained how it seemed as though “[The Company] has all the expertise about mitigation in terms of what is and what is not possible.” And the Indigenous Nations’ scientific representatives and the Land Manager pointed to the remaining challenges of “capacity issues because of the volume of work.” At the same time, these interviewee noted improvements, explaining that from their perspectives, “things are moving in the right direction. And I think that the level of engagement has generally improved, and also, the capacity within the Nation.” For example, it was noted by several interviewees that industry funding, in part, enabled the Nation to enlist the expertise they needed to effectively participate in processes like the TAC.

#### *Theme #4: Inaccessibility of TAC*

A notable aspect of the TAC was its inaccessibility to non-experts. Observers could be invited to attend TAC sessions, but generally, these were not public meetings, as it was not intended to be a public forum. Progress and technical work was posted on a website, but the highly technical nature of the work made its analysis for community members or non-experts relatively impossible (pers. observation). As an accountability mechanism, the TAC did not earn, or perhaps even seek to achieve, broad-based community trust.

### **Summary**

In sum, outcomes of the top-down government-led approach to managing water quality included perceptions of weak and inadequate oversight mechanisms. An outcome of this approach, from the perspective of a key informant, was that industry's undue influence in regulatory negotiations related to water quality management was perceived to create barriers for the Nation in achieving critically important water quality protection measures and oversight mechanisms.

A general outcome of dual approaches to water governance is the notable lack of integration between initiatives. Research participants were generally unclear about how processes like the EV-CEMF and EVWQP might converge in the future. Similarly, it was unclear to regulators and watershed actors alike how broad provincial legislation, like B.C.'s new *Water Sustainability Act*, could affect local initiatives. Another by-product of overlapping processes was that for local government and community-members, a plethora of different initiatives with "Elk Valley" in the title was perceived as confusing. Coding indicated that the purpose or significance of different engagement events, reports, plans, research initiatives, and organizations was often unclear. Interestingly, some participants felt that the creation of the Order was a disruption to the positive progress being made around community-industry relationships, and the EV-CEMF cumulative effects initiative. From the perspective of a EV-CEMF member, the Order and EVWQP "diverted resources from something that had the potential to be productive in the long-run." In her view, the "chemical-by-chemical" approach in the EVWQP represented a "step backwards" and was a "perfect example of what cumulative effects assessment is not: it is not watershed scale, it is not thinking ecologically, and it will revert us back to technical disagreements."

### **3.3. Discussion**

In this discussion I summarize the main findings about private actors and their role in shaping water governance, and discuss implications for water governance reform in B.C. broadly.

#### **#1: Industry's contributions to shaping water governance at the watershed scale**

The Elk Valley is an unusual case because industry and community relationships are described in largely positive terms by local watershed actors, despite severe water quality concerns, ecological uncertainties, and concerns over the funding relationships in the community. These findings are interesting because private actors have been largely cast as a homogenous sector in the scholarship, and in popular media, with a focus on their environmental injustices and environmental degradation (e.g., Ballard & Banks 2003, Banerjee 2008, Bridge 2004, Coumans 2011, Fulmer et al. 2008, Carmin & Ageyman 2011, Gilberthorpe & Banks 2012, Hume 2014). This case demonstrates that companies should be viewed as varied, and that in some cases, a company may make positive contributions to initiating and sustaining governance initiatives.

The MNC in this case contributes positively to governance by helping build capacity of a CBWG, who in turn has their own role in shaping water governance (e.g., improve the ability for the broader community to have a “voice” in water governance processes). Community-based water groups in B.C. and elsewhere have demonstrated value in water governance: such organizations lead important water-related engagement, education, restoration, conservation, advocacy programs, can provide positive inputs into decision-making, and become leaders for water governance reform (Whitelaw et al. 2003, Yarnell & Gayton 2003, Sharpe & Conrad 2006, Berkes et al. 2007, Conrad & Hilchey 2011, Brandes et al. 2014). A consistent stumbling block for stewardship groups is the challenge of securing reliable funding, which in this case is partly resolved through the role and engagement of industry.

Similarly, the private actor contributed to governance in the watershed through initiating and sustaining collaboration in the EV-CEMF initiative. In this case, industry willingness to engage with First Nations leadership was key to the emergence of an innovative governance arrangement. EV-CEMF was able to gather momentum and attract government leadership. The EV-CEMF initiative is a leading example of a water governance practice, because it is an

example of one way in which First Nations are driving water governance processes. Indigenous Nations in B.C. (as well as elsewhere in Canada) are exploring how they can be involved in water governance (Porter 2006, von der Porten 2015, Moore et al. 2015), and have developed innovative arrangements elsewhere in B.C. (e.g., in the Great Bear Rainforest, see Smith & Dobell 2009). This case provides another example of how First Nations can lead water governance processes and work collaboratively with industry.

Researchers have found that industries in Canada are seeking involvement in collaborative approaches to decision-making. Murray and de Løe (2012) surveyed twenty-two firms from resource extraction sectors (e.g., mining, forestry, oil and gas) and find that companies may see additional value in supporting collaborative initiatives. They found a high degree of consensus around benefits of collaboration, which included: “being able to communicate with and shape the perceptions of other participants, and participating in the decision/policy-making processes to shape outcomes. Results indicated that collaborative approaches create a more interactive and relationship-driven approach to decision/policy-making” (3). This case confirms Murray and de Løe’s (2012) findings, as well as shows that a collaborative initiative can create momentum and substantive results, even without immediate support or involvement from government, and thereby create a space for later government leadership, implementation, or even funding.

Altogether, this suggests that initiatives like EV-CEMF could potentially be scaled up elsewhere in British Columbia, particularly in resource extraction contexts. However, a complicating factor for collaboration in other watersheds may be the presence of multiple resource extraction developments and private actors. The Elk River watershed is unique in that water quality concerns are related *primarily* (though not solely) to mountain-top coal mining; and the mines are owned by *one* company. Elsewhere – for example, in B.C.’s Horn River basin (Parfitt et al. 2012, Garvie et al. 2013) the cause or culprits of environmental degradation may not be as clear, and collaboration may be complicated by the fact that responsibility is dispersed across multiple companies and sectors (UNBC 2014). Scaling-up of local initiatives also requires careful thought about integration with existing provincial-scale initiatives in order to avoid duplication of efforts, ensure efficient use of resource, and maximize learnings (Cumming et al. 2006). At the time of data collection, it remained unclear to research participants how the broader Provincial

cumulative effects management program currently being implemented in B.C. will affect the EV-CEMF initiative, and, conversely, how insights from the Elk Valley may influence or shape the direction of the provincial policy.

And moreover, as mentioned above, potential conflicts of interest can emerge when industry funds watershed initiatives. Data from this case revealed that industry funding – even if it is provided in a blank cheque format with “no strings attached” – can carry implications for recipients. In this case, the legitimacy and impartiality of the CBWG was challenged by other watershed actors in part due to their acceptance of industry funds. Data suggested that EV-CEMF also faced these challenges, though to a lesser degree (perhaps due to the initiative’s broad base of involvement and endorsement from watershed actors and the First Nation, and the expert and neutral facilitation of a trusted individual). For water governance practitioners and scholars, this tension suggests that leveraging of industry resources to build momentum and gain support for multi-actor governance processes may carry costs.

Mechanisms are needed to address the legitimacy challenges associated with industry funding of community groups and collaborative initiatives. Transparency measures – such as disclosure of environmental monitoring information, or reporting sources of funding and funding stipulations – may be ineffectual when criticisms are based more fundamentally on displeasure with industry, and with the organizations’ acceptance of industry funds (e.g., accusations of ‘selling-out’). Data suggests that some watershed actors may remain inherently and unconditionally suspicious and unsupportive of industry funded organizations and initiatives. To circumvent legitimacy challenges, industry could consider establishing a formalized non-profit funding intermediary (such as a foundation or trust) to administer funds to local community groups and non-profits (Benjamin 2010). In the case of the Elk Valley or other resource extraction contexts where private actors seek to make contributions – but run into legitimacy concerns – an independent, community-based, non-profit granting foundation could carry responsibility of allocating funding to further distance itself from any risks of influence or bias. Benjamin (2010) argues that non-profit funding intermediaries can “mediate accountability” (601). Continued research is needed to understand the potential and challenges for such third-party organizations in shaping the legitimacy and relationships between actors in a resource extraction context.

**#2. Challenges remain when a private actor exerts influence in decision-making: accountability mechanisms are needed**

Where severe water quality contamination persisted, industry self-regulatory approaches, improved community-industry relationships, community-based water monitoring, and a multi-actor collaborative initiative (EV-CEMF) seemingly could not allay accountability pressures and concerns, some of which came from outside the watershed (downstream actors in USA, for example). The result was top-down accountability controls as mandated through additional and prescriptive planning and consultation process, and oversight from a Technical Advisory Committee (TAC). However, the top-down Order and TAC processes were also perceived to be problematic: first, in the sense that these hierarchical processes disturbed the momentum that was being created through bottom-up approaches in EV-CEMF; and second, from the perspective of scientific advisors of the Indigenous Nation, the TAC did not fulfill its intended accountability function. TAC was perceived to be prone to various problems. For instance, highly technical meetings and communications were largely inaccessible to the average individual. And, the Company was perceived to resist aspects of its planning that the Indigenous Nation stated were critical to accelerating improvements in water quality management.

This case highlights that in making a transition to “governance” rather than “government”, a critical question becomes how to design and integrate accountability processes for each of the new actors – including industry and community watershed organizations. More government, more regulations, and more top-down control mechanisms are not typically considered part of the NEG approach to water governance. However, this case suggests that an incremental, parallel approach might be appropriate: conventional aspects of governance, such as government oversight, could be strengthened, as well as supplemented with additional “new” accountability mechanisms, such as independent monitoring, and community-based third-party verification and communication. The NEG framework proposes numerous new strategies and approaches to accountability, which are arguably needed to enable flexibility and innovation (Holley et al. 2012). Within the NEG framework, the collaborative multi-actor EV-CEMF initiative, or programs like community-based water monitoring, could be considered accountability mechanisms. Yet, as discussed in the results above, industry actors felt that EV-CEMF lacked a

formal accountability structure. Likewise, community-based water monitoring, though it held potential to provide third-party verification, faced remaining legitimacy concerns. Therefore, additional measures need to be taken to enhance accountability.

In this case, an accountability solution was put forward by the Indigenous Nation – establish an objective, independent, scientific monitoring and review regime that reports publicly and makes recommendations to government and industry; separate from the CBWG’s community-based monitoring initiatives. Models for this type of independent “watchdog” environmental monitoring agency have been experimented with and experienced mixed success elsewhere in Canada and in the United States (Ross 2003, Storey & Noble 2005, Olszynski 2012, Rolston 2015). Examples of weak, ineffective, and contentious approaches are documented in the Alberta oil sands, where so-called ‘independent’ monitoring programs have been harshly criticized for their capture by industry, lack of legitimacy, lack of ‘teeth’, lack of scientific accuracy, and failure to meet First Nations’ requirements (Brownsey & Rayner 2009, Schindler 2010). A more positive example from the Northwest Territories Ekati Diamond Mine may provide a model for independent monitoring that could be applied more broadly in resource extraction contexts. That project required the creation of an independent environmental monitoring agency to oversee both the project and the project’s government regulators (Ross 2003). The Agency reports to the public and makes recommendations, including in a public language format, and includes traditional knowledge and Indigenous perspectives (e.g., see IEMA 2013-2014). While this process has its own limitations (Ross 2003), it may have the potential to be improved and applied as an effective accountability mechanism.

### **3.4 Conclusion**

As long as mining remains a reality, so too does the need to understand how to minimize the impacts of development on water resources. An important starting point for improving the governance and management of water in resource extraction contexts is to understand the various ways in which industry actors shape water governance. This article has described the nature of community-industry relationships, the form and functions of governance processes in the Elk River watershed, and analyzed the outcomes of these relationships and processes for watershed

governance. Findings from this research indicate that, contrary to the literature the portrays private actors narrowly, large companies can make positive contributions in a watershed. Particularly, this MNC provided much-needed resources that support collaborative initiatives and community-based water groups. This finding is important because as collaborative and community-focused approaches to governance are increasingly underway in B.C. and elsewhere (e.g., Baltutis et al 2014, Brandes et al. 2014), acquiring industry support may be a potential way to accelerate progress.

At the same time, this research finds that, while collaboration has benefits for stakeholders and Indigenous Nations, conventional governance approaches are neither displaced nor unnecessary. On the contrary, a lack of government presence in the Elk River watershed was perceived as problematic. This research emphasizes that challenges remain for enhancing water governance when controls and accountability of a private actor are insufficient. Although the NEG framework emphasizes the roles of ‘new’ actors in governance (and roles for Indigenous Nations, industry, and community-based groups were clearly exemplified through this study), this research suggests that government actors’ oversight role in decision-making over resource extraction activities can be strengthened. Moreover, for many core water decisions (i.e., drinking water protection rules, mine effluent regulations, water licenses), authority and accountability will remain with government and may not be devolved to lower levels or watershed entities. ‘New’ accountability mechanisms may strengthen traditional accountability mechanisms: for example, independent third-party verification may provide a greater degree of trustworthy, objective scientific expertise; while community-based ‘report cards’ may help communicate watershed issues to the public. However, as stand-alone initiatives, these mechanisms may be inadequate for ensuring robust decision-making and outcomes and should be designed to compliment (not duplicate) existing mechanisms. Further research is needed to explore integration between accountability mechanisms at different scales.

### **Chapter Three References**

Archibald, R., Eastman, D., Ellis, R., & Nyberg, B. (2012). Trends in Renewable Resource Management in BC. *Journal of Ecosystems & Management*, 14(3), 1–10.

- Ansell, C., & Gash, A. (2007). Collaborative Governance in Theory and Practice. *Journal of Public Administration Research and Theory*, 18(4), 543–571.
- Ballard, C., & Banks, G. (2003). Resource Wars: The Anthropology of Mining. *Annual Review of Anthropology*, 32, 287–313.
- Baltutis, J., Brandes, L., Brandes, O.M., Moore, M-L., Overduin, N. & Plummer, R. (2014). Proceedings from Watersheds 2014: Towards Watershed Governance in British Columbia and Beyond. Duncan, B.C.: POLIS Project on Ecological Governance
- Banerjee, S. B. (2008). Corporate Social Responsibility: The Good, the Bad and the Ugly. *Critical Sociology*, 34(1), 51–79.
- Benjamin, L. M. (2010). Mediating Accountability. *Public Performance & Management Review*, 33(4), 594–618.
- Berkes, F., Berkes, M. K., & Fast, H. (2007). Collaborative Integrated Management in Canada's North: The Role of Local and Traditional Knowledge and Community-Based Monitoring. *Coastal Management*, 35(1), 143–162.
- Bernhardt, E. S., & Palmer, M.(2011). The environmental costs of mountaintop mining valley fill operations for aquatic ecosystems of the Central Appalachians. *Annals of the New York Academy of Sciences*, 1223, 39–57.
- Booth, A. L., & Skelton, N. W. (2011). Industry and government perspectives on First Nations' participation in the British Columbia environmental assessment process. *Environmental Impact Assessment Review*, 31(3), 216–225.
- Bradshaw, C. J., Warkentin, I. G., & Sodhi, N. S. (2009). Urgent preservation of boreal carbon stocks and biodiversity. *Trends in Ecology & Evolution*, 24(10), 541–548.
- Brandes, O.M, O'Riordan, J., O'Riordan, T., & Brandes, L. (2014). *A Blueprint for Watershed Governance in British Columbia*. POLIS Project on Ecological Governance: University of Victoria.
- Bridge, G. (2004). Contested Terrain: Mining and the Environment. *Annual Review of Environment and Resources*, 29(1), 205–259.
- British Columbia Ministry of the Environment & B.C. Ministry of Forests, Lands, and Natural Resource Operations (2012). *Cumulative Effects Assessment Framework for Natural Resource Decision Making - Project Charter*.
- Brownsey, K., & Rayner, J. (2009). Integrated land management in Alberta: From economic to environmental integration. *Policy and Society*, 28(2), 125–137.

- Carmin, J. & Agyeman, J. (eds). (2011). *Environmental Inequalities Beyond Borders. Local Perspectives on Global Injustices*. Cambridge, MA: MIT Press
- Charmaz, K. (2008) “Grounded theory”. In Smith, J. (ed). *Qualitative psychology. A practical guide to research methods, second edition*, p. 81 – 11. Thousand Oaks, CA: Sage Publications
- Coumans, C. (2011). Alternative Accountability Mechanisms and Mining: The Problems of Effective Impunity, Human Rights, and Agency. *Canadian Journal of Development Studies*, 37–41.
- Columbia Mountains Institute of Applied Ecology. (2014). *Conference proceedings: Solving Wicked Problems – Using Human Dimensions to Inform Natural Resource Management*. Sept. 30 – October 1, Kimberley, B.C.
- Conrad, C. C., & Hilchey, K. G. (2011). A review of citizen science and community-based environmental monitoring: issues and opportunities. *Environmental Monitoring and Assessment*, 176(1-4), 273–291.
- Cumming, Graeme., Cumming, D.H.M., Redman, C. L. (2006). Scale Mismatches in Social-Ecological Systems: Causes, Consequences, and Solutions. *Ecology and Society*, 11(1).
- Dale, A. and Onyx, J. (Eds). (2005). *A dynamic balance: social capital and sustainable community development*. UBC Press: Vancouver
- de Loë, R., & Murray, D. (2012). *Understanding the Current and Potential Role of the Natural Resources Sector in Collaborative Approaches to Water Governance : Summary of Survey Findings*. Waterloo, Ontario: Water Policy and Governance Group.
- Dey, I. (1993). *Qualitative Data Analysis: A User Friendly Guide for Social Scientists*. New York: Taylor and Francis
- Elk Valley Cumulative Effects Management Framework. (2015). *Approach*. Retrieved from: <http://www.elkvalleycemf.com>
- Environmental Assessment Office (2014)a. Line Creek Operations Phase II. Project Information Centre. Accessed online: [http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic\\_project\\_home\\_352.html](http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_project_home_352.html)
- Environmental Assessment Office (2014)b. Baldy Ridge Extension. Project Information Centre. Accessed online: [http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic\\_project\\_home\\_413.html](http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_project_home_413.html)
- Forest Practices Board. (2013). Laird Creek Landslide. *Complaint Investigation 111006*, February.

- Forest Practices Board. (2014). Balancing Risk Across Resource Values in Forest Operations. *Board Bulletin*, 16(March).
- Fumler, A., Godoy, A.S., & Neff, P. (2008). Indigenous Rights, Resistance, and the Law: Lessons from a Guatemalan Mine. *Latin American Politics and Society*, 50(4), 91–121.
- Garvie, K. H. (2013). *Beyond consultation: First Nations and the Governance of Shale Gas in British Columbia* (Master's Thesis). School of Environmental Studies, University of Victoria.
- Gilberthorpe, E., & Banks, G. (2012). Development on whose terms?: CSR discourse and social realities in Papua New Guinea's extractive industries sector. *Resources Policy*, 37(2), 185–193.
- Gunningham, N., Kagan, R. A., & Thornton, D. (2004). Social license and environmental protection: why businesses go beyond compliance. *Law and Social Inquiry*, 29(2), 307–341.
- Haddock, M. (2010). *Environmental Assessment in British Columbia*. University of Victoria: Environmental Law Centre
- Hauer, R. & Sexton, E. (2013). Transboundary Flathead River : Water Quality and Aquatic Life Use Final Report. Prepared for: Glacier National Park, West Glacier, MT
- Hendryx, M. S., Lemly, A. D., Likens, G. E., Loucks, O. L., Power, M. E., White, P. S., & Wilcock, P. R. (2010). Mountaintop Mining Consequences. *Science and Regulation*, 327, 148–149.
- Holley, C., Gunningham, N. & Shearing, C. (2012). *The New Environmental Governance*. Earthscan.
- Hume, M. (2014). Flurry of B.C. court battles threaten to drive away investment. *The Globe and Mail*. Vancouver.
- Hunter, R., Brandes, O. M., & Moore, M-L. (2014). *A Watershed Governance Case Study: The Cowichan Watershed Board, An Evolution of Collaborative Watershed Governance*. University of Victoria, POLIS Project on Ecological Governance
- Independent Environmental Monitoring Agency. (2013-2014). Plain Language Annual Report 2013-2014: A Public watchdog for environmental management at Ekati Diamond Mine. Retrieved from: [www.monitoringagency.net](http://www.monitoringagency.net)
- Laurie, M. (2013). *An Overview: Sharing Benefits From Natural Resources with Local Stakeholders in British Columbia*. Jointly prepared by: Columbia River Treaty Local Government's Committee and the Columbia Basin Trust.

- Lemly, D. (2014). *Interim Report: Review of Environment Canada's Teck Coal Environmental Assessment and Evaluation of Selenium Toxicology Tests on Westslope Cutthroat Trout in the Elk and Fording Rivers in Southeast British Columbia*. Expert Report, Environment Canada. Retrieved from:  
[http://www.teckelkvalley.com/res/vpl/documents/\\_ces\\_portal\\_meta/\\_portal\\_pages/documents/review\\_environment\\_canada.pdf](http://www.teckelkvalley.com/res/vpl/documents/_ces_portal_meta/_portal_pages/documents/review_environment_canada.pdf)
- Moore, M-L., Shaw, K., Castleden, H. with R. Breiddal, M. Kot, and M. Murray. (2015). *Building capacity to build trust: Key Challenges for Water Governance in Relation to Hydraulic Fracturing*. Report prepared for: Canadian Water Network, Waterloo ON.
- Morgan, D. (2014). Snowball Sampling. In Given, L. (Ed.), *The SAGE Encyclopaedia of Qualitative Research Methods*, p. 1044–1045. Thousand Oaks, CA: SAGE Publications
- McDonald, L. (2009). *Survey of Selenium in water, zooplankton and fish in Lake Koocanusa, B.C. 2008*. Report prepared for Environmental Protection, Kootenay Region, British Columbia Ministry of Environment on behalf of the Elk Valley Selenium Task Force
- McPherson S., G. Duke, M. Robinson, K. Grant, and L. Walker. 2014. *Elk River watershed, valley bottom assessment – Report to residents on river health, phase 1*. Prepared by Lotic Environmental Ltd., GranDuke Geomatics Ltd. and Elk River Alliance for the Columbia Basin Trust.
- Newman, L., & Dale, A. (2005). The role of agency in sustainable local community development. *Local Environment*, 10(5), 477–486.
- Noble, B., & Birk, J. (2011). Comfort monitoring? Environmental assessment follow-up under community–industry negotiated environmental agreements. *Environmental Impact Assessment Review*, 31(1), 17–24.
- Noble, B., & Storey, K. (2005). Towards increasing the utility of follow-up in Canadian EIA. *Environmental Impact Assessment Review*, 25(2), 163–180.
- Office of the Auditor General of British Columbia. (2010a). *An audit of the management of groundwater resources in British Columbia*. Retrieved from  
<http://www.bcauditor.com/pubs/2010/report8/audit-management-groundwater-resources-british-columbia>
- Office of the Auditor General of British Columbia. (2010b). *Oil and Gas Site Contamination Risks: improved oversight needed*. Retrieved from  
<http://www.bcauditor.com/pubs/2010/report8/oil-and-gas-site-contamination-risks-improved-oversight-n>
- Olszynski, M. Z. P. (2012). Environmental Monitoring and Ecosystem Management in the Oil Sands : Spaceship Earth or Escort Tugboat? *McGill JSDLP (10) 1*

- Pahl-wostl, C., Craps, M., Dewulf, A., Mostert, E., Tabara, D., & Taillieu, T. (2007). Social Learning and Water Resources Management. *Ecology And Society*, 12, 5.
- Parfitt, B., Baltutis, J. & Brandes, O. M. (2012). *From Stream to Steam: Emerging Challenges for B.C.'s Interlinked Water and Energy Resources*. POLIS Project on Ecological Governance and Canadian Centre for Policy Alternatives.
- Plummer, R., & Armitage, D. R. (2013). Adaptive Co-management and Its Relationship to Environmental Governance, *Ecology and Society*, 18(1).
- Porter, E. (2006). Planning in (post)colonial settings: challenges for theory and practice. *Planning Theory and Practice*, 7:4, 37–41.
- Protect the Peel. (2015). *Protect the Peel: Yukon's Great Boreal Wilderness*. Retrieved from: [www.protectpeel.ca](http://www.protectpeel.ca)
- Province of British Columbia. (2013). Order of the Minister of Environment Section 89, Environmental Management Act.
- Rolston, J. S. (2015). Turning Protesters into Monitors: Appraising Critical Collaboration in the Mining Industry. *Society & Natural Resources*, 28,165–179
- Ross, W. (2003). The Independent Environmental Watchdog: A Canadian Experiment in EIA Follow-up. In Morrison-Saunders, J., & Arts, A. (Eds.), *Assessing Impact: Handbook of EIA and SEA Follow-up* (pp. 178–197).
- Schindler, D. (2010). Tar sands need solid science. *Nature*, 468, 499–501.
- Se Panel. (2010). *The Way Forward: A Strategic Plan for the Management of Selenium at Teck Coal Operations*. Retrieved from: [http://www.swansonenviro.ca/portfolio/SES\\_TeckStrategicAdvisoryPanelFinalReport2010.pdf](http://www.swansonenviro.ca/portfolio/SES_TeckStrategicAdvisoryPanelFinalReport2010.pdf)
- Sharpe, A., & Conrad, C. (2006). Community based ecological monitoring in Nova Scotia: Challenges and opportunities. *Environmental Monitoring and Assessment*, 113(1-3), 395–409.
- Smith, M., & Dobell, D. (2009). *Place of Power: Lessons from the Great Bear Rainforest*. Vancouver, B.C.
- Strauss, A. L., & Corbin, J. (1990). *Basics of qualitative research: grounded theory procedures and techniques*. Newbury Park, CA: Sage Publications
- University of Northern British Columbia. (2014). *Cumulative Environmental, Community and Health Effects of Multiple Natural Resource Developments in Northern British Columbia Colloquium and Workshop*. Hosted by Natural Resources And Environmental Studies

Institute, Health Research Institute, and Community Development Institute. Prince George, January 10-11 2014.

Wildsight (2015). Current campaigns. Retrieved from:: <http://wildsight.ca/campaigns>

Von der Porten, S., & de Loë, R. (2014). How Collaborative Approaches to Environmental Problem Solving View Indigenous Peoples: A Systematic Review. *Society & Natural Resources*, 27(10), 1040–1056.

Whitelaw, G., Vaughan, H., Craig, B., & Atkinson, D. (2003). Establishing the Canadian Community Monitoring Network. *Environmental Monitoring and Assessment*, 88, 409–418.

Yarnell, P & Gayton, D. (2003). Community-based Ecosystem Monitoring in British Columbia. *Forest Research Extension Partnership*.

## **Chapter Four: Social license to operate: a proxy for accountability?**

### **Abstract**

‘Social license to operate’ refers to community acceptance or approval of a resource extraction project and implies that an accountability relationship exists directly between communities and industry. Through empirical study of B.C.’s Elk River Valley, where water quality contamination is primarily the result of mining, this article finds that social license to operate is vaguely understood and operationalized by watershed actors. Rather than enhance the accountability of the private actor, this study identifies major challenges in implementing social license as a governance principle. Social license cannot guarantee efforts to improve ecological outcomes. It is unclear whether and how its terms can be defined and enforced; and therefore, social license cannot be considered a robust accountability mechanism.

### **4.0 Introduction**

In mineral resource extraction contexts in Canada and elsewhere, firms are increasingly seeking a “social license to operate” from communities who are affected by mine operations (Bunnell 2013, Parsons & Moffat 2014, Boutilier 2014, Goss et al. 2015). Compared to a regulatory license, a social license refers to community acceptance or approval of a project (Nelson 2006, Parsons & Moffat 2015). Securing acceptance from communities generally requires industries to go beyond regulatory compliance, and behave in a transparent and responsible manner, in order to meet community commitments and expectations and earn trust and legitimacy (Gunningham et al. 2004, Thomson & Boutilier 2011, Owen & Kemp 2013, Boutilier 2014, Dare et al. 2014, Goss et al. 2015).

In Canada, where resource extraction is expanding (e.g., Parfitt et al. 2012), social license is becoming a common, popular buzzword, used by industry, First Nations leaders, governments, and communities alike (Bunnell 2013, and see media examples, e.g., Mason 2012, CBC News 2013, Hussain 2014, Gerson 2014, Simpson 2014, McCarthy 2015). Initial evidence indicates how provincial governments support industry efforts to acquire a social license. Goss et al. (2015) note that the Alberta Energy Minister publicly mentioned the need for members of the unconventional oil and gas industry to obtain social license not long after shale gas technology was introduced in Canada. In New Brunswick, a moratorium has been placed on hydraulic fracturing; a condition of this moratorium being lifted is that industry earns social license (Bisset 2014). Similar examples of B.C. politicians’ usage of the term can be found in the media (e.g., Mason 2012, Hussain 2014, McCarthy 2015). Social license also earns a mention in some key

policy documents (e.g., B.C.'s Project Charter for the Cumulative Effects Assessment Framework for Natural Resource Decision Making, 2012 p. 1).

Social license is important for water governance because industry's attempts to uphold social license principles is shaping ideas about how mining industries should be governed, and how that industry is operating in our watersheds (See discussion and definition of 'water governance' in Chapters 1 and 3). When used in reference to mining activity in a watershed, social license implies that an accountability relationship exists between the owner/operators of the mines and those that live in, or near, the watershed who are affected by industry's activities (Nelsen 2006). Accountability is notoriously difficult to define (e.g., Wallington & Lawrence 2009), but in this article refers to *specific social relationships between actors*, where an actor (e.g., a mining company), has the *obligation to explain and to justify conduct* to another actor (e.g., a government, and/or a community) (Bovens 2007, p. 450). Bovens (2007, p. 450) states that accountability relationships are effective when they involve a "*process or mechanism through which actors can pose questions, pass judgement, and impose formal or informal sanctions which in turn have consequences*". Transparency – the "public disclosure of key decisions and the information necessary to assess those decisions" (McAllister 2012, p.13) – is understood to enable effective accountability relationships (Bovens 2007).

Effective accountability mechanisms are critically important in watersheds where resource extraction occurs, given that such activities can adversely impact freshwater ecosystems (Hilson & Murck 2001, Schindler 2010, Bernhardt & Palmer 2011). Recent water-related crises in B.C. – tailings pond breaches (e.g. see Report on Mount Polley Tailings Storage Facility Breach, 2014), salmon run declines (Peterman & Dorner 2012), or severe water quality contamination from open-pit and mountain-top mining (Hendryx et al. 2010, see Chapter 3) – have underscored that it is often unclear to whom an account is required, who is giving the account, about what issue, why, and through what mechanisms or processes (Mashaw 2006). Moreover, private actors from the resource extraction sectors – and particularly multinational mining firms – have been criticized for evading accountability of the detrimental impacts their operations have on water quality and ecosystems. For example, scholars have argued that 'accountability deficits' are a result of multinational firms strategically exerting their economic clout with governments,

avoiding personal liability, and moving operations strategically across borders (Benner et al. 2004, Blumberg 2000, Lobina & Hall 2003, Bovaird 2004, Koenig-Archibugi 2004, Chan & Pattberg 2008, Carmin & Agyeman 2011, Hahn 2011, Zyglidopoulos & Fleming 2011, Brandsma & Schillemans 2012). Cases like the BP oil spill in the Gulf of Mexico (Bader 2013), and allegations that industry is denying contamination in the Canadian oil sands (Schindler 2010) provide tangible evidence that industry's sustainability commitments may be suspect.

As the shift from top-down-only governance approaches begins to include more diverse decision-making arrangements (e.g., Karkkainen 2004, Gunningham 2009, Bäckstrand et al. 2010, Holley et al. 2012, Newell et al. 2012, de Løe & Murray 2012, Brandes et al. 2014, van der Heijden 2014) effective water governance regimes will require an integration of both traditional, hierarchical accountability mechanisms, such as government enforcement of prescriptive regulations; and new accountability mechanisms (Holley et al. 2012). A range of accountability mechanisms will best reflect a governance landscape where multiple actors are involved in decision-making (van der Meer 2006, Black 2008, Wallington & Lawrence 2009, Schillemans 2010, Holley 2010, Holley et al. 2012).

Social license appears to be one such mechanism for enhancing the accountability of industry for its environmental and social impacts. Theory-building by scholars for social license has begun (e.g., Gunningham et al. 2004, Thomson & Boutilier 2011, Dare et al. 2014, Moffat & Zhang 2014). A small number of case studies and discourse analyses provide some initial evidence of how the term is used and how it is experienced (Prno 2012, Slack 2012, Dare et al. 2014, Bice 2014, Parsons & Moffat 2014), and the history of the term's usage has been documented in B.C. (Bunnell 2013, Goss et al. 2015). However, the scholarship has not yet examined the value of social license as an accountability mechanism. Further empirical research is required to ground-truth assumptions that social license represents a valuable new approach to holding industries to account.

The purpose of this article is to explore if and how social license is being used as an accountability mechanism at the watershed scale in a case study, and assess its potential and limitations as a principle for effective water governance more broadly.

In the first half of this article, I discuss how social license is being used by actors in a watershed where severe water quality issues are a result of mining activities. Findings indicate that there is a desire for greater accountability of both government and industry in water decision-making, but there is a lack of clarity around whether the social license concept is a robust mechanism for accountability. Rather, themes in the data support the argument that social license is not a proxy or silver bullet for enhancing accountability. Instead, its strength as an accountability mechanism is limited by several factors: first, social license principles do not necessarily extend to operations management and therefore cannot guarantee efforts to improve ecological outcomes, and second, there are challenges related to enforcing the social license. This article concludes by briefly discussing how these challenges might be addressed so that social license could be applied as a concrete principle in water governance, and identifying further research directions.

## **4.1. Methods**

### **4.1.1. Data collection**

This study focuses on the results of 23 semi-structured interviews that were conducted in-person from June - November 2014. Data collection and analysis proceeded simultaneously through the data collection and early data analysis. This iterative cycle involved comparing results and new findings, which then guided further data collection (Strauss & Corbin 1990). Attendance as well as participation in three local conferences also informed this research. Participants were selected on the basis of whether they had been involved in water management and water decision-making processes in the watershed, and this included: small business owners; staff of local community-based environmental and water stewardship groups; senior government regulators, scientists, and researchers from the Ministry of the Environment and Ministry of Forests, Lands, Natural Resource Operations (FLNRO); consultants contracted to facilitate multi-actor processes; a staff member (lands manager) and member of the Indigenous Nation; senior scientific and technical advisors who provide advice to the Indigenous Nation and participate in regulatory initiatives on the Nation's behalf, and; local government politicians and staff (e.g., planning staff).

Interviewees were initially identified with assistance from local community members, and further interviewees were found using a 'snowball sample' technique (Morgan 2008). Interviews focused on individuals' perspectives of the nature of the relationship between industry and

community, contributions of different watershed actors in local governance processes, and benefits and challenges related to regulatory and non-regulatory initiatives and processes. All interviews were recorded and transcribed and coded using a qualitative grounded theory approach (Strauss & Corbin 1990, Dey 1993, Charmaz 2008). Methodology is described in detail in Chapter 2 of this thesis.

To protect confidentiality, interviewees and their organizations are referred to either by a general position title (e.g. senior scientist) or by organizational type. The aim is to promote the generalizability and relatable nature of the lessons that emerge from this research (i.e., this research does not intend to critique a particular company or organization specifically). Interview data was supplemented by document analysis of relevant development plans, reports, and scientific research from the Elk Valley, and attendance/participation of local conferences.

The dataset used in this study was also used to inform a case study analysis of the Elk River Valley, which explored, generally, how the private actor in the watershed, a multi-national company, is shaping different approaches to water governance (See chapter 3 in this thesis). Social license to operate (SLO) was a strong theme that emerged from the data, and led to this in-depth investigation and analyses of how the term SLO is being used and understood by watershed actors in the Elk Valley.

#### **4.1.2. Case study context**

The Elk River Valley is located in southeast British Columbia and is the location of five mountain-top coal mines, which are owned and operated by one multi-national mining company (MNC). As a result of decades of mining, concentrations of selenium and other contaminants in the Elk River watershed have been found to exceed safe levels for aquatic life. Current levels of selenium and other contaminants pose a risk to aquatic species, including the high-valued, federally listed westslope cutthroat trout (e.g. Lemly 2014). Mining is continuing to expand in the watershed despite water quality and other ecological issues (EAO 2014a,b).

Recently, a top-down Ministerial Order from the Province of B.C. required the Company to develop an Elk Valley Water Quality Plan (EVWQP) to address water quality issues. This

process required community consultation, but the MNC had already undertaken several steps to build relationships in the watershed including, demonstrating commitment on environmental sustainability; emphasizing transparency and responsiveness in communications; demonstrating some willingness to accommodate local concerns; and fostering partnerships with community groups (see Ch.3 for an in-depth description of these activities). In addition, an industry-Indigenous led initiative to assess cumulative impacts in the watershed has acquired government support and leadership. As a result of these actions, there is reduced conflict around mineral extraction, improved relations between industry and community, increased capacity for community stewardship organizations, as well as economic benefits (e.g. jobs, tax revenue) in the watershed. (see Chapter 3). In short, the Company's efforts to gain social license influences how industry is perceived by watershed actors, which has implications for water governance in the basin. The following results section demonstrates that it remains unclear whether SLO actually constitutes a meaningful and effective accountability relationship between industry and community.

## **4.2. Results and Analysis**

In this results section, I illustrate the varied ways that watershed actors define and describe the concept of social license, and discuss the relevance of these findings for water governance. First, I describe how actors are using social license in the context of describing the Company's 'good corporate citizen' actions and contributions to the watershed. Interviewees spoke about the need for greater accountability and some participants expressed that government, too, requires a social license beyond the regular election cycles. Yet across the board, it was unclear how social license is defined or measured, and the term is not used in relation to specific technical aspects of mining operations. Finally, it is unclear who enforces the social license – Indigenous peoples, community, or ENGOs. The data reveals issues related to each of these groups as the social license enforcer.

### **4.2.1. "Beyond regulation"**

As discussed, social license is defined as industry going "beyond regulation" to meet community demands (e.g. Gunningham et al. 2009). This basic understanding of social license was echoed by community and industry interviewees. For example, an industry interviewee defined social license as "the industry is understanding that just meeting the regulations is not going to be good

enough to obtain social license.” In terms of the “something more” that industry must do beyond “just meeting regulations” to achieve social license, community members and local governments pointed to a range of ways in which the MNC is a “good corporate citizen” and showing leadership in the watershed. For example, the Company voluntarily convened a research panel to investigate selenium, they have purchased land to set aside for conservation purposes, Company staff respond quickly to local government concerns, and they have funded a cumulative effects management initiative. During such processes of engagement and collaboration, community members expressed how they believed their “input was valued,” and that their concerns were being heard by the Company. A community member explained that,

They put a lot of money into the community, too. And they contribute a lot of money to environmental and community organizations and they’ve talked about working with rod and gun clubs and organizations like that as well. They fund a lot of activities in various communities in the Elk Valley and I think that’s a big part of trying to maintain their social license and being good corporate community citizens and members.

Giving back to the community in a way that further distributes the wealth and benefits of mining is undoubtedly important, and such actions do go “beyond” regulatory license requirements. Other cases where industry works to acquire social license tell similar stories of how industries attempt to apply social license principles, and how this builds trust and relationships in the watershed (e.g., Prno 2013).

#### **4.2.2. A social license for whom?**

A surprising finding that emerged from this case study was the data in which community actors suggested that government too needs to acquire a social license. For example, one senior government interviewee explained how “I hear all the time that ‘government needs to be acting within their social license’.” Likewise, a community member explained how rising Se concentrations in the watershed are “putting the social license to operate, and also putting the government, in a very precarious position.” These findings underscore the importance of accountability where resource extraction occurs. This evidence may also speak to the fact that communities want government to uphold the same principles that industry is applying through its community engagement.

Government interviewees acknowledged that building relationships in the community is important, but there are restraints that prevent government staff from being as engaged as community members desire. One key informant, a senior government interviewee, explained that community members had expressed their wish for more government presence in the watershed. The interviewee explained that when a group of Ministry staff visited the Elk watershed to participate in a meeting,

people commented, they were really glad the [Ministry of the Environment] is here. “The Ministry isn’t usually at these meetings, it’s usually [the Company], giving us their spiel and we have no choice but to.. there’s no other opinion or point of view. Or accountability.” So that made a difference in the community’s eyes, [they said], “we need to see the ministry to more of these meetings.”

The interviewee went on to explain that although it sounds like a “no brainer” for Ministry and regional ministry staff to be more present in the watershed, it “just doesn’t happen like that” when government staff have large workloads, are managing a number of files, and need to travel several hours from the regional centre to attend a community meeting. The participant explained that an effort was made to have government be more present, and “that was really embraced and appreciated and it starts to build that relationship between the community and the Ministry.”

Nevertheless, many of the watershed actors interviewed complained that government was insufficiently responsive, present, and engaged in local issues. “They’ve been totally absent from [the water quality contamination] issue,” said one key participant; a perception shared by five other local watershed actors. Interviewees also questioned the lack of enforcement and oversight of government. For example, a staff person of a community-based water group explained that she

“puts a lot of responsibility on the legislated authority for the problem we’re in. Because how was it that the government, the “monitors”, the people responsible for the permits, didn’t blow the whistle on these guys sooner – like, when water quality went over [the Se guideline]?”

Local watershed interviewees commented that government was “under-resourced”, “seemed disempowered”, and was characteristically unresponsive to concerns (e.g., slow to respond to emails). Government was contrasted with industry, who was perceived as doing a better job in communications and engagement around mining and water quality. One participant expressed

the view that “I have more faith in [the Company] than I do the B.C. government: but it is still that fox in the henhouse scenario.”

Communities logically desire greater accountability from government for decision-making in their home watersheds, as well as communication, transparent information, and engagement. Interviewees felt that government lacked that responsiveness— in terms of being available for discussions, responding to emails, understanding the nature of local issues, enforcing breaches of small-scale water legislation. Through efforts to acquire a social license, industry becomes more responsive and communicative, and this is appreciated by communities, but further emphasizes the need for greater government engagement with watershed actors in processes of water governance.

#### **4.2.3. Too intangible to measure**

Interviewees were unclear about how to know if a social license has or has not been acquired. Three government interviewees acknowledged this, and one individual summarized by saying, “How do you know when a mining company achieves social license? You can’t. I can’t see how you would ever know that. What would you even measure it with?” Similarly, another government informant conceded that government doesn’t have a “standard definition” of social license. The interviewee suggested, it might have some defining principles, such as transparency, but ultimately “what it might take to have the license of multiple actors in a given area might be different than what it takes in a different area.”

Social license has been proposed as being inherently context-dependent (e.g. Boutilier 2014). The localized nature of social license makes it attractive as accountability mechanism, because it can accommodate watershed complexities in a flexible way. It thus poses a contrast to traditional regulatory rules, for example, which are applied to industries under a range of contexts. However, its place-based nature may also weaken it as an accountability mechanism, because it means there is not a rigorous if system for defining, measuring, and enforcing the license terms.

### 4.2.3. Does not guarantee ecological improvements

While industry's 'beyond regulation' measures are appreciated by local watershed actors in the Elk Valley, social license actions do not usually relate directly to mine operations management and related water management activities. One community member and ENGO staff-person recognized how the notion of social license to operate is only indirectly connected to mining activities and related environmental impacts. The individual expressed concerns about mine expansions, and referring to the conclusions drawn in a 2010 report about how Se could be managed in the watershed, questioned whether the MNCs approach to managing water quality had really changed:

... this expert's panel report says mining practices need to change so you don't create the same problem you are trying to deal with from all the historical mining... is that happening? That's the biggest question. Is all the new mining that you're doing now, are you doing it any differently, or is it going to cause the same problems in the future? Can it be done without a treatment plant in a way that is going to reduce the Se levels? Because treatment plants aren't sustainable.

Similarly, one senior government interviewee expressed his skepticism of the value of social license, as he summarized:

Sure, industry does things, and government does things, to be nice people... or to look good, or improve social welfare of residents in the area. And, [the Company] obviously has to because they've created three towns for people to live in, so they have to be aware of that. But I don't know where... Where does social license affect conservation or environmental risk or stuff like that? I don't know if you can rely on that.

One participant involved in regulatory negotiations as a scientific advisor of the Indigenous Nation explained the viewpoint that the Company was resistant to making substantial changes needed to protect the watershed and enhance accountability. The individual provided several examples of how the Company had to be pushed to change management practices (for instance, the Company "pushed back" on a tributary management program the Indigenous Nation felt was necessary to protecting valuable ecosystems). Furthermore, the Indigenous Nation proposed that an independent monitoring organization was needed to ensure scientific credibility and to provide objective and trustworthy recommendations to government (and industry) about mining practices and development decisions. The key informant explained how there was considerable "resistance" and "pushback" from both government and industry on this and other proposals.

This finding suggests that while activities to build SLO may lead to reduced conflict and improved community-industry relations, SLO may be only superficially connected to mining activities. Findings from Prno's (2013) case study are indicative of a similar phenomenon. In their study, stakeholders and the corporation worked together, and trust and cooperation were established. However, downstream water users were continuously affected by water quality contamination, and brought the MNC to court.

#### **4.4.4. Unclear who enforces the social license**

Accountability relationships, according to Bovens (2007) definition, require enforcing actors to carry a sanctioning element and the ability to impose consequences – either formal or informal – on an industry. The social license concept implies that community is the enforcing actor (Nelsen 2006). Gunningham et al. (2004) explain that communities' sanctioning power lies largely in their ability to 'name and shame', cause reputational damage, and engage in protests and conflict. As discussed above, social risks represent financial costs in that they can lead to delays, or withdrawals, of regulatory approval, or civil lawsuits (Franks et al. 2014). However, reputational pressures is only an effective sanction when companies are sensitive to their image, which may not always be the case (Gunningham et al. 2004). In the Elk Valley, interviewees held different ideas about which actor was the primary 'enforcer' of the social license: the Indigenous Nation, the community, and local ENGOs were all suggested. Here I describe potential issues related to each of these groups' being the social license enforcer.

##### *The Indigenous Nation as the enforcer?*

The Indigenous Nation in the watershed was repeatedly singled out from other actors, such as the community or ENGOs, as a potential social license enforcer. For example, one government interviewee suggested,

“[the Company] realized they would have to be willing to be innovative and work with First Nations.... Even though government might be able or willing to provide a [regulatory] license, they weren't going to get social license with First Nations and they needed to do this; if [the Nation] didn't support it, it wouldn't go anywhere.”

Likewise, another government interviewee mentioned the need for the industry to get “cultural license,” in reference to having support from the Nation – again, setting the Indigenous Nation apart as a social licensor. A biologist, who is an advisor to the Nation, suggested,

“from a legal standpoint, First Nations traditionally have a very strong legal backing... [and] the recent decision about the Tsilquotin lands - those are constitutional rights. And in some ways, it gives First Nations a bit more leverage to push.”

Given the statutory rights of Indigenous Nations, arguably, social license should not be conflated with the very different notion of consent. “Free, prior and informed consent” has a long history in international law, and embodies a legal right to reject projects (Parsons & Moffat 2014). Differentiating between the concepts is critical, because accepting consent as a basic operating standard arguably sets a higher bar for companies seeking to extract resources (Slack 2008). Generally, neither government nor industry are willing to equate social license with consent (Slack 2008, Wilburn & Wilburn 2011, Bunnell 2013, Parsons & Moffat 2014). Consent has legal connotations, and is resisted because companies and governments fear losing access to areas of operation, or extending a veto over development to a small group of individuals (Slack 2008, Syn 2014). Yet, in Canada, the landmark Tsilquotin Supreme Court decision in June 2014 found that consent is required from Indigenous Nations where development is proposed on unceded traditional Indigenous territory (Nelson et al. 2014). Acquiring community consent requires that communities are viewed as equal partners, and implies that they must have adequate resources, information, and time to assess their interests and make a decision (Slack 2008, Syn 2014). The vague social license to operate concept does not require this (Slack 2008).

#### *Communities as the enforcer?*

Communities are often presented in the literature as the primary “enforcer” of the social license (e.g., Prno & Slocombe 2012, Boutilier et al. 2014) However, this is potentially problematic, because as Agrawal and Gibsons (1999) point out, communities (both non-Indigenous and Indigenous communities) are not homogenous, but composed of many different groups, interests, and institutions. Power differentials within communities may give louder voices to more powerful individuals over those who are marginalized (Agrawal & Gibsons 1999, Newell & Dale 2005). Therefore, simply knowing who the “community” is can be difficult. Related, it is unclear what level of community support is required to say a social license has been issued (Prno 2012, Dare et al. 2014, Rooney et al. 2014, Simpson 2014). Prno (2012) raises the question of whether majority of support suffices, and how dissenting views should be dealt with. The social license concept implies that communities are homogenous units from whom approval can be sought.

Intra-community accountability and representation are important notions that are neglected by the social license concept (Newell & Dale 2005, Dare et al. 2014). Community heterogeneity is one reason why community may struggle to enforce a social license.

Another possibility revealed in data from this case study, suggests that community may not be a stalwart enforcer of a social license in the Elk Valley because the mining industry is so important to the local economy. The Company was described by a local government interviewee as being “engrained in the social and economic fabric of the watershed”, due to the long history of mining in the region, municipal governments’ reliance on tax revenues, the number of jobs the Company creates in the region, and the Company’s contributions to various social programs (e.g., daycare, housing). Another local government interviewee explained,

Well you know [the water quality contamination] is stressful but I think that coal mining started here just over 100 years ago and over that century, history is known to have peaks and valleys, ups and downs. But, we’re seeing this as a short-term problem. And likely that coal will be in demand for many years into the future, steel will be. And really there’s no good attainable, affordable product that would duplicate what coal provides in the steelmaking process.

A senior biologist perceived that “[because of] preponderance of [coal mine] employees and suppliers in the Elk Valley, they have a high degree of social license already.” Altogether, this data suggests that social license is limited as an accountability mechanism in the Elk River Valley, because there is some social apathy towards severe water quality threats, due to the industry’s significant economic contributions in the watershed. This may lessen the pressures on a Company to change the way in which they operate, and makes it difficult for the community to enforce social license terms.

#### *ENGOS as the enforcer?*

Finally, ENGOS were identified as potential enforcers of social license. A government interviewee indicated that “seeing discontent from certain groups, whether its ENGOS or NGOs, or just the public, writing letters to the ministers” is a signal that social license is not earned. However, the interviewee acknowledged,

When there’s hot spots in the province it generally corresponds quite well but I think that in many places, the public and ENGOS can be quite quiet. That doesn’t mean that there aren’t problems to deal with or that we’re conducting natural resource management in a

way that meets the expectations of the people of British Columbia – which we’re supposed to be doing on their behalf.

This point illustrates how ENGOs are often assumed to be enforcers of a social license. It also relates to the above challenge about difficulties in measuring social license. Although conflict can be a signal that a social license has not been achieved, a *lack* of conflict does not equate to a social license. However, an advisor for the Indigenous Nation pointed out that in the Elk Valley, ENGOs may not be fulfilling this function. Rather than acting as a watchdog and enhancing the accountability of the MNC, the individual saw social license as an approach for co-opting other watershed actors. For example, the interviewee perceived that the Company “buys” social license through providing community groups, including the local ENGO and the community-based water group, with funding. The individual explained situations where the Company had received support from local environmental organizations:

I have frustration with [the ENGO] *giving* [the Company] a lot of social license, saying, your Plan is good, bravo to [the Company]... in media relations, sending letters to the editor etc. saying ‘[the Company] is doing a great job.’ Look, this is NOT helpful, so let’s not give them any more social license than they’re due. I would have thought that the strongest local ENGO would have been really holding [the Company’s] feet to the fire... So that represents some considerable buying of social license.

In other words, when having social license means acquiring the support of critics, such as an ENGO, this can be detrimental to enhancing accountability because it reduces or eliminates outspoken criticisms, and disempowers “watchdog” actors.

#### **4.4.5 Summary**

In sum, findings from the Elk Valley demonstrate a number of potential problems with the social license concept as it pertains to accountability. In the following section, I discuss the implications, or, what this means, for water governance in B.C. and more broadly, and identify areas where further research is needed to corroborate on and improve the applicability of social license as a governance principle.

#### **4.3. Discussion**

The Elk Valley case study illustrates the contested nature of social license and demonstrates how, in practice, social license is widely applied and understood. This article argues that social

license is limited in its strength as an accountability mechanism, and questions whether it effectively enhances water governance.

Findings from the Elk Valley confirm problems noted by other authors: social license is vaguely understood and defined (Owen & Kemp 2013, Bice 2014, Moffat & Parsons 2014), and enforcement of any license terms is complicated by the lack of a clear enforcing agent (Prno 2013, Parsons & Moffat 2014). Data suggested that “good corporate citizen” activities, such as investing in community initiatives, developing effective communications that emphasized transparency and ownership of environmental problems, and upholding commitments to community actors, were perceived as positive social license measures, and were successful in building positive community-industry relationships (See chapter 3). Yet, severe water quality contamination is a persistent problem in the Elk River Valley, and mine operations are slated to expand in the watershed.

A paradoxical implication here is that while sophisticated companies may exhibit willingness to collaborate and “go beyond compliance” when there is a chance their social reputation will be threatened (Gunningham et al. 2004, Franks et al. 2014), these same leaders may also be skilled in acquiring social acceptance for their activities, in spite of threats to long-term aquatic health. Positive community-industry relationships and a lack of conflict and social pressure may actually detract from the social pressure that acts as one important incentive in achieving ‘beyond compliance’ industry behaviour. Besley (2010) as well as Moffat and Zhang (2014) explain that when decision-making is perceived to be fair (e.g., when people feel heard, respected and perceive that a company is responsive and acts with integrity), they may be willing to accept decisions that are not in their favour. Findings from case studies in Alaska (Prno 2012) and the Pacific Northwest (Rolston 2015) demonstrate instances in which community actors agree that a social license was earned, yet downstream interests initiated a litigious process due to water contamination.

Underlying the problems described above is the issue that social license as an accountability mechanism depends on the notion that affected interests (i.e., local watershed actors including communities and Indigenous Nations) have power to influence the direction and/or outcomes of

mineral resource development (Morrison 2014). Yet, when researchers have examined who is using social license, and to what end, they have found that the concept tends to maintain existing power relations between industry and local watershed actors (Owen & Kemp 2013, Coumans 2011, Bice 2014, Parsons & Moffat 2014). Owen and Kemp (2013) examine cases where mining companies seek a social license, and conclude that ‘the contemporary application of social licence is more about reducing overt opposition to industry than it is about engagement for long-term development’ (p. 34). Similarly, in discourse analyses of corporate sustainable development reports, Parsons & Moffat (2014) and Bice (2014) find a focus and emphasis by companies on maintaining existing practices. For example, Parsons & Moffat (2014) explain that companies “obfuscate processes of acquiring a social license to operate by making irrefutable assertions that present contestable claims as established facts” (p. 353). They also point out that no company discusses the prospects or consequences of failing to acquire a social license, and the premise is generally that social license is already possessed, and must simply be maintained. Moreover, Indigenous peoples were severely overlooked, mentioned only once in the 62 reports analyzed (Parsons & Moffat 2014). Coumans (2011) argues that this means it represents “a movement firmly controlled by the corporations whose abuses it was meant to restrain” (45). These obfuscations maintain power dynamics that favour powerful industries over those affected by mining in the long term.

For social license to be a robust accountability mechanism, fundamental steps must be taken to redress power imbalances. While more research is needed to identify how to equalize the playing field between powerful MNCs and communities, this case suggests that three immediate concrete options are available to make social license a more meaningful principle:

First, as suggested by the Indigenous Nation, an independent third-party monitoring body could provide a useful check-and-balance on a company’s operations management. Such an organization could provide thorough and objective recommendations to government and industry, based on scientific conclusions, to guide decision-making. Examples from the Northwest Territories provide models of such independent monitoring schemes (Ross 2003, IEMA 2013-2014). Second, and related, ENGOs could potentially play a greater ‘watch-dog’ role if their legitimacy was not challenged by watershed actors who view industry funding as a

way of “buying social license”. Benjamin (2010) argues that non-profit funding intermediaries can “mediate accountability” (601) by impartially distributing corporate funds at an arms-length from the Company. Most importantly, social licence needs an “enforcer”, and in this case, varying perceptions existed about who was playing that role. Without clarity on roles and responsibility, social licence will fail to be a meaningful accountability mechanism. Continued research is needed to understand the potential for such third-party organizations in shaping the accountability environment in a resource extraction context at the watershed scale. For example, in creating a new body, it must be considered how a new organization’s activities integrate with other activities, so that another ‘silo-ed’ organization, working at cross-efforts or duplicating activities, is not inadvertently created (Ross 2003).

Second, findings indicated that not only would communities welcome a greater government presence in the watershed, but government is perceived as requiring a social license as well as industry. This finding is interesting because it implies that strengthening governments’ more traditional oversight role may be a necessary first step before additional new approaches to accountability can be developed (Auditor General 2010, Haddock 2010, BC Office of the Ombudsperson 2014). Moreover, the desire for greater relationships and communication with government suggests that government staff should be empowered and resourced to engage with communities.

Third, the notion of acquiring consent from Indigenous Nations should be elevated and incorporated into industry and government dialogue, and decision-making, around resource extraction. Given the legal rights and title of Indigenous peoples in Canada, considering social license to operate as an equal substitute or replacement for the now legally enshrined concept of consent may undermine and underestimate the rights and title of Indigenous communities. Slack (2008) argues that corporate fears of consent are unfounded. On the contrary, when communities have a sense that their views do not have any real weight with a company, they are “less likely to want to engage in dialogue, thus making it difficult for companies to get an accurate read on new situations” (para.10).

In addition to these tangible steps, which could potentially strengthen social license, additional research should explore how social license can be conceptually refined. While recognizing that its fluidity is in part what makes it useful, because it can apply to different watershed contexts, there needs to be better consistency in how social license is applied if it is going to be a useful accountability mechanism for water governance in B.C. or elsewhere. More research is needed to determine which social license principles could be more formalized. For example, it is clear from this case study and others (e.g., Prno & Slocombe 2012) that going ‘beyond regulation’ to earn a social license should apply not only to community engagement but to mine operations and environmental commitments.

In sum, considerable improvements and research are required before social license represents a tangible and meaningful principle for water governance in resource extraction contexts. In the meantime, it is not a proxy or silver bullet for accountability.

#### **4.5 Conclusion**

As mining firms recognize that social conflict and risk can translate into business costs, many companies are seeking a social license to operate from the communities and Indigenous Nations affected by their operations. Emerging corporate strategies to gain social license represents a new phenomenon – but it is unclear whether social license fundamentally changes how mining companies have traditionally operated (Jenkins 2004, Canel et al. 2010, Franks et al. 2014). On the surface, social license seems to represent an opportunity for accountability relationships to form between a company and those affected by mine operations. However, this empirical critique provides evidence that in practice, social license is murkily understood, difficult to enforce, and may not lead to tangible improvements in ecological health. Addressing these problems is a requisite for further application of the social license concept, and will require concerted efforts on the part of industry, government, communities, and scholars alike.

#### **Chapter Four References**

Agrawal, A., & Gibson, C.C. (1999). Enchantment and disenchantment: The role of community in natural resource conservation. *World Development*, 27(4), 629–649.

- Bader, C. (2013). Business and Human Rights: An Insider's Journey with BP and Beyond. In E. Heinze (Ed.), *Justice, Sustainability, and Security: Global Ethics for the 21st Century*. Palgrave Macmillan.
- Black, J. (2008). Constructing and contesting legitimacy and accountability in polycentric regulatory regimes. *Regulation & Governance*, 2(2), 137–164.
- Blomquist, W., & Schlager, E. (2005). Political Pitfalls of Integrated Watershed Management. *Society & Natural Resources*, 18(2), 101–117.
- Blumberg, P. I. (2000). Accountability of Multinational Corporations: The Barriers Presented by Concepts of the Corporate Juridical Entity. *Hastings International and Comparative Law Review*, 24, 297–320.
- Bebbington, A. J., & Bury, J. T. (2009). Institutional challenges for mining and sustainability in Peru. *Proceedings of the National Academy of Sciences*, 06(41), 17296–17301.
- Benjamin, L. M. (2010). Mediating Accountability. *Public Performance & Management Review*, 33(4), 594–618.
- Benner, T., & Reinicke, Wolfgang H, Witte, J. N. (2004). Multisectoral Networks in Global Governance: Towards a Pluralistic System of Accountability. *Government and Opposition*, 39(2), 191–210.
- Besley, J. C. (2010). Public Engagement and the Impact of Fairness Perceptions on Decision Favorability and Acceptance. *Science Communication*, 32, 256–280.
- Bernhardt, E. S., & Palmer, M. a. (2011). The environmental costs of mountaintop mining valley fill operations for aquatic ecosystems of the Central Appalachians. *Annals of the New York Academy of Sciences*, 1223, 39–57.
- Bice, S. (2014). What Gives You a Social Licence? An Exploration of the Social Licence to Operate in the Australian Mining Industry. *Resources*, 3, 62–80.
- Bisset, K. (2014). New Brunswick introduces fracking moratorium. *The Globe and Mail*. Fredericton, N.B.
- Boutilier, R. G. (2014). Frequently asked questions about the social licence to operate. *Impact Assessment and Project Appraisal*, 32(4), 263–272.
- Booth, A. L., & Skelton, N. W. (2011)a. Industry and government perspectives on First Nations' participation in the British Columbia environmental assessment process. *Environmental Impact Assessment Review*, 31(3), 216–225.

- Booth, A. L., & Skelton, N. W. (2011)b. “You spoil everything!” Indigenous peoples and the consequences of industrial development in British Columbia. *Environment, Development and Sustainability*, 13, 685–702.
- Bovaird, T. (2004). Public-Private Partnerships: from Contested Concepts to Prevalent Practice. *International Review of Administrative Sciences*, 70(2): 199-215.
- Bovens, M. (2007). Analysing and Assessing Accountability: A Conceptual Framework. *European Law Journal*, 13(4), 447–468.
- Brandes, O.M, O’Riordan, J., O’Riordan, T., & Brandes, L. (2014). *A Blueprint for Watershed Governance in British Columbia*. POLIS Project on Ecological Governance: University of Victoria.
- Brandsma, G. J., & Schillemans, T. (2012). The Accountability Cube: Measuring Accountability. *Journal of Public Administration Research and Theory*, 23(4), 953–975.
- Bridge, G. (2004). Contested Terrain: Mining and the Environment. *Annual Review of Environment and Resources*, 29(1), 205–259.
- Brisbois, M.C. (2014). *Power and influence: assessing the impact of natural resource industries on collaboration for water governance*. Concurrent session ‘Water and the Natural Environment: Regional Collaboration’. Canadian Water Resources Annual Congress, “What is the Future We Want?” Hamilton, Ontario, June 2-4, 2014.
- Brisbois, M.C. & de Loë, RC. *in press*. Power in collaborative approaches to governance for water: a systematic review. *Society and Natural Resources*.
- British Columbia Ministry of the Environment & B.C. Ministry of Forests, Lands, and Natural Resource Operations (2012). *Cumulative Effects Assessment Framework for Natural Resource Decision Making - Project Charter*.
- Bunnell, F. (2013). Social Licence in British Columbia : Some Implications for Energy Development. *Journal of Ecosystems & Management*, 14(2), 1–16. Retrieved from <http://jem.forrex.org/index.php/jem/article/viewFile/550/492>
- Canel, E., Idemudia, U., & North, L. (2010). Rethinking Extractive Industry: Regulation, Dispossession, and Emerging Claims. *Canadian Journal of Development Studies*, 20 (December 2014), 37–41.
- Carmin, J. & Agyeman, J. (eds). (2011). *Environmental Inequalities Beyond Borders. Local Perspectives on Global Injustices*. Cambridge, MA: MIT Press
- CBC News. (2013). Mining firm seeks ‘social licence’ with First Nations. *CBC News*.

- Chan, S. & Pattberg, P. (2008). Private Rule-Making and the Politics of Accountability: Analyzing Global Forest Governance. *Global Environmental Politics*, 8(3), 103–121.
- Charmaz, K. (2008) “Grounded theory”. In Smith, J. (ed). *Qualitative psychology. A practical guide to research methods, second edition*, p. 81 – 11. Thousand Oaks, CA: Sage Publications
- Coumans, C. (2011). Alternative Accountability Mechanisms and Mining: The Problems of Effective Impunity, Human Rights, and Agency. *Canadian Journal of Development Studies*, 37–41.
- Dare, M., Schirmer, J., & Vanclay, F. (2014). Community engagement and social licence to operate. *Impact Assessment and Project Appraisal*, 32, 188–197.
- de Loë, R., & Murray, D. (2012). *Understanding the Current and Potential Role of the Natural Resources Sector in Collaborative Approaches to Water Governance : Summary of Survey Findings*. Waterloo, Ontario: Water Policy and Governance Group.
- Dey, I. (1993). *Qualitative Data Analysis: A User Friendly Guide for Social Scientists*. New York: Taylor and Francis
- Environmental Assessment Office (2014)a. Line Creek Operations Phase II. Project Information Centre. Accessed online:  
[http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic\\_project\\_home\\_352.html](http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_project_home_352.html)
- Environmental Assessment Office (2014)b. Baldy Ridge Extension. Project Information Centre. Accessed online:  
[http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic\\_project\\_home\\_413.html](http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_project_home_413.html)
- Franks, D. M., Davis, R., Bebbington, A. J., Ali, S. H., Kemp, D., & Scurrah, M. (2014). Conflict translates environmental and social risk into business costs. *Proceedings of the National Academy of Sciences of the United States of America*, 111(21).
- Gerson, J. (2014). Rise of “social licence”: Claiming they speak for their community, protest groups are undermining the law. *Financial Post*.
- Goss, G., Alessi, D., Allen, D., Gehman, J., Brisbois, J., Kletke, Sharak, A.Z., Notte, C., Thompson, D.Y., Hong, K., Junes, V., Barroso, W., Neto, G., Prosser, C. (2015). *Unconventional wastewater management: a comparative review and analysis of hydraulic fracturing wastewater management practices across four North American basins*. [Draft Report prepared for the Canadian Water Network].
- Gunningham, N., Kagan, R. A., & Thornton, D. (2004). Social license and environmental protection: why businesses go beyond compliance. *Law and Social Inquiry*, 29(2), 307–341.
- Gunningham, N. (2009). Environment Law, Regulation and Governance: Shifting Architectures. *Journal of Environmental Law*, 2(April), 179–212.

- Hahn, T. (2011). Self-Organized Governance Networks for Ecosystem Management : Who Is Accountable ? *Ecology and Society*, 16(2).
- Hilson, G., & Murck, B. (2000). Sustainable development in the mining industry : clarifying the corporate perspective. *Resources Policy*, 26, 227–238.
- Holley, C. (2010). Facilitating Monitoring, Subverting Self-Interest and Limiting Discretion: Learning from “New” Forms of Accountability in Practice. *Columbia Journal of Environmental Law*, 35, 127.
- Holley, C., Gunningham, N. & Shearing, C. (2012). *The New Environmental Governance*. Earthscan.
- Hume, M. (2014c). Flurry of B.C. court battles threaten to drive away investment. *The Globe and Mail*. Vancouver, B.C.
- Hussain, Y. (2014). B.C. Premier Christy Clark confident of Petronas decision in 2015. *The National Post*. Vancouver, B.C.
- Independent Environmental Monitoring Agency. (2013-2014). Plain Language Annual Report 2013-2014: A Public watchdog for environmental management at Ekati Diamond Mine. Retrieved from: [www.monitoringagency.net](http://www.monitoringagency.net)
- Jenkins, H. (2004). Corporate social responsibility and the mining industry: conflicts and constructs. *Corporate Social Responsibility and Environmental Management*, 11, 23–34.
- Karkkainen, B. (2004). Post-Sovereign Environmental Governance. *Global Environmental Change*, 4(1), 72–96.
- Koenig-archibugi, M. (2004). Transnational corporations and public accountability. *Government and Opposition*, 234–259.
- Lemly, D. (2014). *Interim Report: Review of Environment Canada’s Teck Coal Environmental Assessment and Evaluation of Selenium Toxicology Tests on Westslope Cutthroat Trout in the Elk and Fording Rivers in Southeast British Columbia*. Expert Report, Environment Canada. Retrieved from: [http://www.teckelkvalley.com/res/vpl/documents/\\_ces\\_portal\\_meta/\\_portal\\_pages/documents/review\\_environment\\_canada.pdf](http://www.teckelkvalley.com/res/vpl/documents/_ces_portal_meta/_portal_pages/documents/review_environment_canada.pdf)
- Mashaw, J.L. (2006). Accountability and Institutional Design: Some Thoughts on the Grammar of Governance. In Dowdle, M.W. (ed). *Public Accountability: Designs, Dilemmas and Experiences*, 115–156. Cambridge, UK: Cambridge University Press
- Mason, G. (2012). B.C. Premier Christy Clark warns of national crisis over pipeline. *The Globe and Mail*.

- McAllister, L. (2012). Regulation by third-party verification. *Boston College Law Review*, 53, 1–76.
- McCarthy, S. (2015). Leave action on climate policy to provinces, B.C. tells Ottawa. *The Globe and Mail*.
- Moffat, K., & Zhang, A. (2014). The paths to social licence to operate: An integrative model explaining community acceptance of mining. *Resources Policy*, 39, 61–70.
- Morrison, J. (2014). *The Social License: How to keep your organization legitimate*. UK: Palgrave MacMillan
- Nelsen, J. L. (2006). Social license to operate. *International Journal of Mining, Reclamation and Environment*, 20, 161–162.
- Nelson, J., Robertson, K., & Borrows, J. (2014). Aboriginal title and provincial regulation: the impact of the Tsilhqot'in Nation v. B.C. Webinar and panel discussion. Hosted by: University of Victoria Faculty of Law, POLIS Water Sustainability Project, Centre for Global Studies, September 25, 2014. Retrieved from: <http://poliswaterproject.org/webinar/767>
- Newell, P. (2005). Citizenship, accountability and community: the limits of the CSR agenda. *International Affairs (Royal Institute of International Affairs)* 81 (3), 541-557
- Newman, L., & Dale, A. (2005). The role of agency in sustainable local community development. *Local Environment*, 10(5), 477–486.
- Nova Scotia Department of Energy (2014). Hydraulic Fracturing Review: Government's Decision on Hydraulic Fracturing in Nova Scotia. Retrieved from: <http://energy.novascotia.ca/oil-and-gas/onshore/hydraulic-fracturing-review>
- Office of the Auditor General of British Columbia. (2010a). *An audit of the management of groundwater resources in British Columbia*. Retrieved from <http://www.bcauditor.com/pubs/2010/report8/audit-management-groundwater-resources-british-columbia>
- Office of the Auditor General of British Columbia. (2010b). *Oil and Gas Site Contamination Risks: improved oversight needed*. Retrieved from <http://www.bcauditor.com/pubs/2010/report8/oil-and-gas-site-contamination-risks-improved-oversight-n>
- Office of the Ombudsperson of British Columbia. (2014). *Striking a Balance: The challenges of using a professional reliance model in environmental protection - BC's Riparian Areas Regulation*. Public Report No. 50 to the Legislative Assembly of B.C.

- Owen, J. R., & Kemp, D. (2013). Social licence and mining: A critical perspective. *Resources Policy*, 38(1), 29–35.
- Parfitt, B., Baltutis, J. & Brandes, O. M. (2012). *From Stream to Steam: Emerging Challenges for B.C.'s Interlinked Water and Energy Resources*. POLIS Project on Ecological Governance and Canadian Centre for Policy Alternatives.
- Parsons, R., & Moffat, K. (2014). Constructing the Meaning of Social Licence. *Social Epistemology*, 28(March 2015), 340–363.
- Peterman, R. M., Dorner, B., & Rosenfeld, J. S. (2012). A widespread decrease in productivity of sockeye salmon populations in western North America. *Canadian Journal of Fisheries and Aquatic Sciences*, 69, 1255–1260.
- Prno, J. (2013). An analysis of factors leading to the establishment of a social licence to operate in the mining industry. *Resources Policy*, 38(4), 577–590.
- Prno, J., & Slocombe, S.D. (2012). Exploring the origins of “social license to operate” in the mining sector: Perspectives from governance and sustainability theories. *Resources Policy*, 37(3), 346–357.
- Province of British Columbia. (2015). Report on Mount Polley Tailings Storage Facility Breach. *Independent Expert Engineering Investigation and Review Panel*.
- Rooney, D., Leach, J., & Ashworth, P. (2014). Doing the Social in Social License. *Social Epistemology: A Journal of Knowledge, Culture and Policy*. 28:3-4, 209-218
- Ross, W. (2003). The Independent Environmental Watchdog: A Canadian Experiment in EIA Follow-up. In Morrison-Saunders, J., & Arts, A. (Eds.), *Assessing Impact: Handbook of EIA and SEA Follow-up*, p. 178–197. Earthscan.
- Schillemans, T. (2010). Redundant Accountability: the Joint Impact of Horizontal and Vertical Accountability on Autonomous Agencies. *Public Administration Quarterly*, 34(3), 300–337.
- Simms, B. R. (2014). “All of the water that is in our reserves and that is in our territory is ours”: Colonial and Indigenous water governance in unceded Indigenous territories in British Columbia. (MA Thesis). Department of Resource Management and Environmental Studies: University of British Columbia.
- Simpson, J. (2014). Define “consultation” and “social licence”. *The Globe and Mail*.
- Slack, B. K. (2008). *Corporate Social License and Community Consent*. Policy Innovations: Commentary. Para. 1 – 12. Retrieved from <http://www.policyinnovations.org/ideas/commentary/data/000094>

- Schindler, D. (2010). Tar sands need solid science. *Nature*, 468, 499–501.
- Strauss, A. L., & Corbin, J. (1990). *Basics of qualitative research: grounded theory procedures and techniques*. Newbury Park, CA: Sage Publications
- Syn, J. (2014). The Social License: Empowering Communities and a Better Way Forward. *Social Epistemology: A Journal of Knowledge, Culture and Policy*, 28:3-4, 318-339,
- Thomson, I., & Boutilier, R. (2011). The Social Licence to Operate. In *SME Mining Engineering Handbook*. Colorado: Society for Mining, Metallurgy, and Exploration.
- Van der Heijden, J. (2014). Regulatory failures, split-incentives, conflicting interests and a vicious circle of blame: the New Environmental Governance to the rescue? *Journal of Environmental Planning and Management*, 1–24.
- Van der Meer, F.B. (2006). Evaluation in Multi-Actor Policy Processes: Accountability, Learning and Co-operation. *Evaluation*, 12(2), 201–218
- Wallington, T., & Lawrence, G. (2009). Accounting for performance : public environmental governance in the shadow of the future. In Lane, M., Robinson, C.J., Bruce, T. (eds). *Contested Country: Local and Regional Natural Resources Management in Australia* (pp. 91–107).
- Wilburn, K., & Wilburn, R. (2011). Achieving Social License to Operate Using Stakeholder Theory. *Journal of International Business Ethics*. 4(2), 3–16.
- Zyglidopoulos, S., & Fleming, P. (2011). Corporate accountability and the politics of visibility in “late modernity.” *Organization*, 18(5), 691–706.

## Chapter 5: Conclusions

*It is true that the mind does wander a bit once in a while. Towards the end of our last afternoon, I found myself looking out the window, past the panel of earnest speakers, and a few words came to me:*

### *THE FORUM*

*The chattering continues.*

*But beyond the window the sun emerges.*

*The river flows onwards.*

*Inattentive. Unmoved.*

*I think maybe these words came to me because it is so important to recognize that the fundamental challenge for us now will be to convert all the comfortable chatter here into change out there: renewal for the river, progress for the people of the river.*

– Rod Dobell, Watersheds 2014 Forum Witness

During the time I spent working on my Master's coursework and thesis research, the water governance regime in B.C. was in flux. Opportunities for new decision-making structures appeared increasingly viable with the passing of B.C.'s new *Water Sustainability Act*, which introduced a policy direction geared towards sustainability, and the potential for regulations that will enable alternative approaches to decision-making (British Columbia *Water Sustainability Act* 2014). An equally important development was the Supreme Court of Canada's Tsilquotin decision. The Supreme Court affirmed Indigenous rights and title, and directed that governments and industries must obtain consent from Nations for development decisions in unceded territory, as opposed to merely consulting with them (Nelson et al. 2014). In addition, across B.C., community-based water groups were actively expressing their interest in being meaningfully involved in decision-making; and in some cases, advocating for more local control of their home waters (e.g., Baltutis et al. 2014, Simms 2014). These trends appeared to be congruent with what is described as "new" approaches to governance by Holley et al. (2012) in the "new environmental governance" framework. At the same time, numerous proposals for new resource extraction projects were underway (for one example, see B.C. Ministry of Energy and Mines LNG Strategy 2012). Both proposed and existing projects were often mired in conflict and mistrust due to the high-risk nature of many of these industrial activities (e.g., pipelines, hydraulic fracturing, liquefied natural gas facilities), evidence of environmental degradation (e.g.

Bernhardt & Palmer 2011, Sanford et al. 2011, Report on Mount Polley Tailings Storage Facility Breach 2014), and criticisms that governments are failing to provide adequate objective oversight of resource extraction (e.g. Auditor General 2010a,b, 2013, Bunnell 2013, Hume 2014b, FPB 2014).

In a context where tension exists between water sustainability goals and continued economic reliance on natural resource extraction, it is unclear how water governance reform can be expediently facilitated. In this thesis, I set out to investigate how private actors, and particularly MNCs, shape water governance at the watershed scale currently, and in turn, how their influence may affect key governance principles and approaches. This thesis represents my attempt to contribute to a critical conversation about how new approaches to water governance can be implemented in resource extraction contexts.

This research was motivated by concerns I heard from community water organizations, local governments, and Indigenous Nations' staff members about impacts of resource extraction on their home watersheds, and perceptions that a lack of accountability around private actors' resource extraction activities is a barrier to enhancing water governance. Grounded in an empirical examination of B.C.'s Elk River Valley, this study revealed that at least one MNC operating in B.C. is contributing positively to governance at the watershed scale, primarily due to the capacity building function they enable for local actors and resourcing they provide to a collaborative cumulative effects management initiative. However, findings also emphasized that challenges remain for enhancing water governance when controls and accountability of a private actor are insufficient; and highlighted how the Indigenous Nation needed to push a "partnership" in order for a collaborative effort that respected the rights, title, and relationship with Indigenous Nations to emerge.

In this final chapter, I summarize the conclusions reached in this thesis, and identify how I met my five research objectives. I discuss how my findings contribute to the NEG and water governance scholarship, as well as the practical implications for understanding water governance in B.C. I also acknowledge limitations of this research, and highlight research questions that deserve further investigation.

## 5.1. Summary of major findings

The first chapter of this thesis identified problems and gaps in the environmental and water governance literature: namely, a lack of understanding of how new, emerging approaches to water governance can be applied in resource extraction contexts, where the role of private actors in shaping governance has been understudied. In a review of the existing literature, I focused on the concepts of collaboration and accountability, which are two pillars in Holley et al. (2012)'s new environmental governance framework. While collaboration is often heralded as a key governance principle and a necessary element in both decision-making processes and institutions (e.g., Calbick et al. 2004, Wilson 2004, Nowlan & Bakker 2007, NRTEE 2011, Baltutis et al. 2014, Baird et al. 2014, Simpson & de Løe 2014) it is unclear whether collaboration between powerful multinational companies and watershed actors is possible or beneficial, and often seems unlikely (e.g. Ansell & Gash 2007, Fabricius et al. 2007, Thom & Washbrook 2007, Kemp et al. 2011, Purdy 2012, Smith et al. 2012, Brisbois & de Løe 2015). Similarly, new approaches to accountability are being implemented in Canada, and other jurisdictions (e.g., Godfrey et al. 2012, McAllister 2012). Conventional approaches are arguably inefficient and ill-suited to the governance landscape, which is composed of layers of complex accountability relationships between a range of actors (Bovens 2007, Chan & Pattberg 2008, van der Meer 2006, Holley 2010, Schillemans 2010). However, the application and value of new accountability mechanisms has not been widely explored. This is especially the case with a new mechanism, social license to operate, which has been developed and promoted by private actors (Parsons & Moffat 2014).

Chapter three provided an in-depth description and analysis of water governance in the Elk River Valley, where mountain-top mining is the primary cause of water quality contamination. I described the nature of community-industry relationships, the form and function of governance processes in the watershed, and analyzed the outcomes of these relationships and processes for watershed governance (Thesis Objective #1). Findings revealed that two approaches to water governance have developed simultaneously in the watershed – a “bottom-up” collaborative approach and a more conventional top-down approach – and that the mining company, an MNC, is heavily involved in both approaches. One element of the collaborative approach was positive community-industry relationships. A majority of interviewees spoke about how the MNC in the

watershed demonstrated commitment to upholding goals around sustainability and community engagement, and behaved like a “good corporate citizen.” I focused on how a community-based water group was partnering with the Company in water research and education projects; and how a collaborative cumulative effects management initiative was being co-led by the Indigenous Nation and the Company. Alongside this collaborative approach to water governance, a top-down water quality planning process was simultaneously initiated by the Province. This included a Technical Advisory Committee process that was intended to provide review and oversight of the Company’s research and proposed valley-wide water quality plan. Thus, the MNC engages both formally and informally to affect decisions made at the community level, and to implement more conventional forms of water governance by creating formal management plans that meet the basic Provincial regulations. While scholarly evidence has documented cases where industries supplant a governments’ authority entirely through influencing deregulation (e.g. Carmin & Agyeman 2011, Hilson 2012) or engaging in self-regulatory behaviour, such as the Forest Stewardship Council (e.g., Cashore, et al. 2003, Walter 2003, Siry et al. 2005, Chan & Pattberg 2008), in this case study, the MNC was still being “governed” by the Province. However, research demonstrated that the company was able to influence the direction and form of the processes and rules that constrain their mining activities, and watershed actors perceived a lack of government presence in the watershed.

I identified and described the Company’s role and contributions in different approaches to water governance (Thesis Objective #2), and concluded that the Company is contributing positively in the collaborative approach. For example, the Company was providing funds that initiated and sustained collaboration; data revealed that Company demonstrated willingness to develop positive relationships in the community and with the Indigenous Nation; and industry funds and support were a factor in enabling a community-based water group to build its capacity to participate and contribute in water governance process. However, data also showed that the Company was still displaying resistance to undertaking management activities deemed essential by the Indigenous Nation for improving ecological health in the watershed. I therefore concluded that while the collaborative approach has benefits and potential, enhancing watershed governance requires robust accountability mechanisms in cases where a private actor’s activities pose a risk to watershed health.

Chapter four focused on how one such new accountability principle, social license to operate, is being implemented in the Elk River Valley (Thesis Objective #3). Social license to operate represents a new accountability relationship because it refers to community acceptance or approval of a project (e.g., Nelsen 2006), therein connoting that industry is accountable to communities directly for its impacts and activities, and not solely to governments through regulatory licenses (e.g., mining permits, water licenses) (Gunningham et al. 2004, Thomson & Boutilier 2011, Bunnell 2013). The chapter documented how the concept of ‘social license to operate’ is operationalized and understood by watershed actors. Findings demonstrated that while there was a desire for greater accountability of both government and industry in water decision-making, there was a lack of clarity around whether the social license concept represents a robust mechanism for accountability. Industry attempts to acquire social license can be seen as an improvement in the mining sector, which is historically characterized as uncommunicative and bullying (e.g., Coumans 2011, Owen & Kemp 2013). However, this research concludes that social license does not represent an accountability mechanism in and of itself. Rather, themes in the data supported the argument that, first, social license principles did not necessarily extend to operations management and therefore could not guarantee efforts to improve ecological outcomes, and second, there were challenges related to enforcing the social license. Critical questions remain unanswered about how communities and Indigenous Nations can enforce social license “terms” (assuming these can be defined in the first place), and whether enforcement is possible when resource extraction is integrally embedded in the socio-economic fabric of a watershed.

The research contributions described below should be considered in light of some limitations and challenges of this research. This study was constrained by the short time frame of a Master’s program, which was in tension with the fact that the water governance regime in the Elk River was undergoing a period of change. As described in the methods section (Chapter 2), this research is an investigation of the Elk River Valley within a snapshot of time (historically from the 1990s until November 2014) and therefore does not capture important events that have occurred more recently, such as an increased role of the federal government in the watershed. I recognize that additional interviews with Indigenous Nation members, the provincial

government, and community members would have provided a more complete and nuanced discussion of the perceptions of the industry-community relationship and collaborative approach to water governance. Furthermore, it is important to reiterate that my positionality (described in methods in Chapter 2), contributed to shaping my analysis and interpretation of the data, though concrete reflexivity measures were taken to ensure that analysis was rigorous.

## **5.2. Contributions and looking forward**

Despite the widely recognized environmental issues associated with resource extraction (Schindler 2010, Parfitt et al. 2012), and the significant economic clout of large private actors, little research examines how private actors, and MNCs in particular, shape different approaches to water governance. Empirical evidence provided in this research is thus valuable, because it explains the ways in which one MNC is indeed shaping governance at the watershed scale. These findings are particularly salient for British Columbia, where resource extraction continues to expand (e.g., Parfitt et al. 2012, B.C. Ministry of Energy and Mines LNG Strategy 2012).

A first key contribution of this research is that firms can make positive contributions to water governance processes at the watershed scale, even if this is simultaneous to the negative impacts of their operations. This finding runs contrary to the dominant assumptions in the literature (e.g., Barlow & Clarke 2002, Ballard & Banks 2003, Lobina & Hall 2003, Bovaird 2004, Bridge 2004, Barlow 2007, Banerjee 2008, Fulmer et al. 2008, Carmin & Agyeman 2011, Gilberthorpe & Banks 2012) and mainstream media (e.g., Hume 2014), which portray industries largely as homogenous, and nefarious, actors. This research emphasizes that scholars should pay closer attention to how individual companies are involved in governance approaches, and how they might influence or shape governance, particularly given Canada's continued reliance on resource extraction activities.

Related, a second contribution of this research is that it is unclear whether and when collaboration between industries and communities is possible. Collaboration is a key principle in the water governance era and in the NEG framework (e.g., Leach et al. 2002, Ansell & Gash 2007, Emerson et al. 2011, Guehlstorf & Hallstrom 2012, Holley et al. 2012) but the application

of this concept is not well understood in resource extraction contexts. The literature points to power imbalances, mistrust, and prehistories of antagonism as factors that can derail or sink collaboration (Newman & Dale 2005, Ansell & Gash 2007, Fabricius et al. 2007, Pahl-Wostl et al. 2007, Armitage & Plummer 2013). The Elk Valley case study suggests that collaboration with an MNC can indeed be possible because mutually beneficial partnerships were formed between the MNC and a community-based water group; and a collaborative industry-Indigenous led initiative to manage cumulative effects gathered momentum and attracted government leadership. However, a cautious note about the collaborative model can be mentioned here. Although the work underway in EV-CEMF suggests that the initiative is being established with the purpose of improving water management in the region, it is still too early to determine whether EV-CEMF's work will lead to improvements in ecological outcomes. Environmental outcomes should not be considered a 'given' of a successful collaboration (Princen 2003). Further research should continue to critically evaluate whether so-called "successful" collaborative watershed initiatives can demonstrate how their activities have influenced watershed health.

An important finding from this case is the evidence that the Indigenous Nation demonstrated leadership in shaping water governance, both through driving the development of a collaborative initiative, as well as bringing oversight and expertise to regulatory processes. This emergent conclusion is highlighted because across B.C. and Canada, and within the broader Columbia River Basin within which the Elk watershed is contained, Indigenous Nations are seeking greater control over the waters in their traditional territories, and are interested in alternative approaches to decision-making (e.g., B.C. Assembly of First Nations 2010, Nelson et al. 2014, Universities Consortium on Columbia River Governance 2015). This case provides a noteworthy example of a high-capacity Indigenous Nation influencing decision-making processes around waters in the Elk Valley.

Findings about how accountability of private actors is implemented also represent a contribution, to both the NEG literature, as well as for scholars interested in water governance in B.C. in particular. This research identifies community-based water monitoring as one possible 'new' accountability mechanism. A community-based group can provide some third-party verification

of a Company's results through developing and then sharing their own scientific understanding of water issues in the watershed. Little research has investigated community-based water monitoring where mining occurs. An important exception was research by Noble and Birk (2011), which indicated that community-monitoring is little more than "comfort monitoring." However, this research suggests that scaling out of community-based water monitoring and related water research and education activities is worthwhile because these activities can help a community organization develop its capacity to be engaged in governance processes at higher scales. In turn, community-based water groups can be important conduits for communication and knowledge sharing between the community and other actors, such as industry, government, and Indigenous Nations, that are involved in broader watershed-scale processes (such as the collaborative cumulative effects initiative, in the Elk River Valley case).

This research also highlighted potential legitimacy concerns that can arise if a community group is perceived as being unduly influenced by its industry funding. Therefore, a recommendation stemming from this research is that industries should consider providing funding through arms-length organization. Intermediary funding organizations may be able to "mediate accountability" of industry funding recipients (Benjamin 2010). Additional research is needed to investigate the potential options, opportunities, and challenges of such third-party organizations.

Another accountability mechanism discussed briefly was an independent, objective scientific monitoring panel, perhaps modeled after the NWT version (e.g. Ross 2003, IEMA 2013-2014). This recommendation came from interviewees who were staff members of the Indigenous Nation, and is supported by other B.C. researchers (e.g., Brandes et al. 2014).

Finally, social license emerged as an accountability mechanism in the case study analysis. These findings provide a useful addition to the NEG literature, because NEG has not focused on social license to operate as a new accountability mechanism. The research also contributes to the small but burgeoning body of literature that investigates social license to operate (e.g. Gunningham et al. 2004, Thomson & Boutilier 2011, Owen & Kemp 2013, Prno & Slocombe 2012, Prno 2013, Boutilier 2014, Dare et al. 2014, Parsons & Moffat 2014). Given the relatively recent emergence of the term, little research investigates how it is implemented or whether it constitutes a principle

for good water governance. Moreover, the majority of the social license literature examines cases in Australia (e.g. Bice 2014, Dowd 2014) and only a handful of scholarly articles investigate this concept in Canadian case studies (e.g., Bunnell 2013, Goss et al. 2015). Social license is being widely used by media, industries, and governments in B.C. and across Canada with respect to resource development (e.g. B.C.'s Project Charter for the Cumulative Effects Assessment Framework for Natural Resource Decision Making, 2012 p. 1, Mason 2012, Bisset 2014, Hussain 2014, Goss et al. 2015, Moore et al. 2015). Thus, developing a better understanding of how this concept is implemented as a governance principle in the Canadian context is critical. A beneficial extension of this research would be a comparative study on how social license is being implemented elsewhere in Canadian resource extraction contexts. Discourse analysis of how social license is being used by government, community, and Indigenous actors would also be a useful compliment to existing research that documents how the term is being employed by industries (e.g., Parsons & Moffat 2014).

Tension and incompatibility between goals of water sustainability and mining is emphasized throughout this thesis, and exemplified in the Elk River case study. However, the conclusions and recommendations presented here suggest that opportunities to enhance water governance exist in resource extraction contexts. Through better understanding the role of private actors in water governance in Canada, it will be more clear how these opportunities can be leveraged, challenges mitigated, and water governance outcomes enhanced.

## **Chapter Five References**

Ansell, C., & Gash, A. (2007). Collaborative Governance in Theory and Practice. *Journal of Public Administration Research and Theory*, 18(4), 543–571.

Baird, J., Plummer, R., Morris, S., Mitchell, S., & Rathwell, K. (2014). Enhancing source water protection and watershed management: Lessons from the case of the New Brunswick Water Classification Initiative. *Canadian Water Resources Journal*, (November), 1–14.

Baltutis, J., Brandes, L., Brandes, O.M., Moore, M-L., Overduin, N. & Plummer, R. (2014). Proceedings from Watersheds 2014: Towards Watershed Governance in British Columbia and Beyond. Duncan, B.C.: POLIS Project on Ecological Governance

- Ballard, C., & Banks, G. (2003). Resource Wars: The Anthropology of Mining. *Annual Review of Anthropology*, 32, 287–313.
- Banerjee, S. B. (2008). Corporate Social Responsibility: The Good, the Bad and the Ugly. *Critical Sociology*, 34(1), 51–79.
- Barlow, M. (2007): *Blue Covenant: The Global Water Crisis and the Fight for the Right to Water*. Toronto: McClelland & Stewart.
- Barlow, M. & Clarke, T. (2002): *Blue Gold: The Battle Against Corporate Theft of the World's Water*. Toronto: Stoddart.
- Benjamin, L. M. (2010). Mediating Accountability. *Public Performance & Management Review*, 33(4), 594–618.
- Bernhardt, E. S., & Palmer, M.(2011). The environmental costs of mountaintop mining valley fill operations for aquatic ecosystems of the Central Appalachians. *Annals of the New York Academy of Sciences*, 1223, 39–57.
- Bice, S. (2014). What Gives You a Social Licence? An Exploration of the Social Licence to Operate in the Australian Mining Industry. *Resources*, 3, 62–80.
- Bisset, K. (2014). New Brunswick introduces fracking moratorium. *The Globe and Mail*. Fredericton, N.B.
- Booth, A. L., & Skelton, N. W. (2011). Industry and government perspectives on First Nations' participation in the British Columbia environmental assessment process. *Environmental Impact Assessment Review*, 31(3), 216–225.
- Boutilier, R. G. (2014). Frequently asked questions about the social licence to operate. *Impact Assessment and Project Appraisal*, 32(4), 263–272.
- Bovaird, T. (2004). Public-Private Partnerships: from Contested Concepts to Prevalent Practice. *International Review of Administrative Sciences*, 70(2): 199-215.
- Bovens, M. (2007). Analysing and Assessing Accountability: A Conceptual Framework. *European Law Journal*, 13(4), 447–468.
- Brisbois, M.C., & de Loë, RC. *in press*. Power in collaborative approaches to governance for water: a systematic review. *Society and Natural Resources*.
- Bridge, G. (2004). Contested Terrain: Mining and the Environment. *Annual Review of Environment and Resources*, 29(1), 205–259.
- British Columbia Assembly of First Nations. (2010). *Part 1, Section 3.1. Water Tool-Kit*. Retrieved from <http://www.bcafn.ca/toolkit/governance-bcafn-governance-tool-3.31.php>

- British Columbia Ministry of Energy and Mines. (2012). *Liquefied Natural Gas: A Strategy for B.C.'s Newest Industry*. Retrieved from: [http://www.gov.bc.ca/ener/popt/down/liquefied\\_natural\\_gas\\_strategy.pdf](http://www.gov.bc.ca/ener/popt/down/liquefied_natural_gas_strategy.pdf)
- Bunnell, F. (2013). Social Licence in British Columbia : Some Implications for Energy Development. *Journal of Ecosystems & Management*, 14(2), 1–16. Retrieved from <http://jem.forrex.org/index.php/jem/article/viewFile/550/492>
- Calbick, K.S., Gunton, I., & Day, J.C. (2004). Watershed Resources Planning and Management: Lessons Learned from Comparative Case Studies. In D. Shrubsole (Ed.), *Canadian Perspectives on Integrated Water Resource Management* (pp. 33–56). Cambridge, ON: Canadian Water Resources Association.
- Carmin, J. & Agyeman, J. (eds). (2011). *Environmental Inequalities Beyond Borders. Local Perspectives on Global Injustices*. Cambridge, MA: MIT Press
- Cashore, B., Auld, G., & Newsom, D. (2003). Forest certification (eco-labeling) programs and their policy-making authority: explaining divergence among North American and European case studies. *Forest Policy and Economics*, 5(3), 225–247.
- Chan, S. & Pattberg, P. (2008). Private Rule-Making and the Politics of Accountability: Analyzing Global Forest Governance. *Global Environmental Politics*, 8(3), 103–121.
- Coumans, C. (2011). Alternative Accountability Mechanisms and Mining: The Problems of Effective Impunity, Human Rights, and Agency. *Canadian Journal of Development Studies*, 37–41.
- Dare, M., Schirmer, J., & Vanclay, F. (2014). Community engagement and social licence to operate. *Impact Assessment and Project Appraisal*, 32, 188–197.
- Dowd, A.-M., & James, M. (2014). A Social Licence for Carbon Dioxide Capture and Storage: How Engineers and Managers Describe Community Relations. *Social Epistemology*, 28(March 2015), 364–384.
- Emerson, K., Nabatchi, T., & Balogh, S. (2011). An Integrative Framework for Collaborative Governance. *Journal of Public Administration Research and Theory*, 22(1), 1–29.
- Fabricius, C., Folke, C., Cundill, G., & Schultz, L. (2007). Powerless Spectators, Coping Actors, and Adaptive Co-managers: a Synthesis of the Role of Communities in Ecosystem Management. *Ecology and Society* 12(1).
- Forest Practices Board. (2014). Balancing Risk Across Resource Values in Forest Operations. *Board Bulletin*, 16(March).
- Fulmer, A., Godoy, A.S., & Neff, P. (2008). Indigenous Rights, Resistance, and the Law: Lessons from a Guatemalan Mine. *Latin American Politics and Society*, 50(4), 91–121.

- Gilberthorpe, E., & Banks, G. (2012). Development on whose terms?: CSR discourse and social realities in Papua New Guinea's extractive industries sector. *Resources Policy*, 37(2), 185–193.
- Godfrey, Jayne M.; Chalmers, K. (2012). *Water Accounting : International Approaches to Policy and Decision-making*. UK: Edward Elgar Publishing.
- Goss, G., Alessi, D., Allen, D., Gehman, J., Brisbois, J., Kletke, Sharak, A.Z., Notte, C., Thompson, D.Y., Hong, K., Junes, V., Barroso, W., Neto, G., Prosser, C. (2015). *Unconventional wastewater management: a comparative review and analysis of hydraulic fracturing wastewater management practices across four North American basins*. [Draft Report prepared for the Canadian Water Network].
- Guehlstorf, N., & Hallstrom, L. K. (2012). Participatory Watershed Management: A Case Study from Maritime Canada. *Environmental Practice*, 14(2), 143–153.
- Gunningham, N., Kagan, R. A., & Thornton, D. (2004). Social license and environmental protection: why businesses go beyond compliance. *Law and Social Inquiry*, 29(2), 307–341.
- Hilson, G. (2012). Corporate Social Responsibility in the extractive industries: Experiences from developing countries. *Resources Policy*, 37(2), 131–137.
- Holley, C. (2010). Facilitating Monitoring, Subverting Self-Interest and Limiting Discretion: Learning from “New” Forms of Accountability in Practice. *Columbia Journal of Environmental Law*, 35, 127.
- Holley, C., Gunningham, N. & Shearing, C. (2012). *The New Environmental Governance*. Earthscan.
- Hume, M. (2014). Elk Valley watershed: Why has this unfolding disaster been ignored? *The Globe and Mail*. Vancouver
- Hussain, Y. (2014). B.C. Premier Christy Clark confident of Petronas decision in 2015. *The National Post*. Vancouver, B.C.
- Independent Environmental Monitoring Agency. (2013-2014). Plain Language Annual Report 2013-2014: A Public watchdog for environmental management at Ekati Diamond Mine. Retrieved from: [www.monitoringagency.net](http://www.monitoringagency.net)
- Kemp, D., Owen, J. R., & Bond, C. J. (2011). Just Relations and Company – Community Conflict in Mining. *Journal of Business Ethics*, 93–109.
- Leach, W. D., Pelkey, N. W., Sabatier, P. A., & Leach, D. (2002). Stakeholder Partnerships as Watershed Management in California and Washington. *Journal of Policy Analysis and Management*, 21(4).

- Lobina, E., and Hall, D., 2003. Problems with private water concessions: a review of experience. *Public Services International Research Unit*. University of Greenwich.
- Mason, G. (2012). B.C. Premier Christy Clark warns of national crisis over pipeline. *The Globe and Mail*.
- McAllister, L. (2012). Regulation by third-party verification. *Boston College Law Review*, 53, 1–76.
- Moore, M-L., Shaw, K., Castleden, H. with R. Breiddal, M. Kot, and M. Murray. (2015). *Building capacity to build trust: Key Challenges for Water Governance in Relation to Hydraulic Fracturing*. Report prepared for: Canadian Water Network, Waterloo ON.
- National Round Table on the Economy and the Environment. (2010). *Changing Currents: Water sustainability and the future of Canada's natural resource sectors*. Retrieved from: <http://nrt-trn.ca/water/water-sustainability-and-the-future-of-canadas-natural-resource-sectors-2/changing-currents>
- Nelsen, J. L. (2006). Social license to operate. *International Journal of Mining, Reclamation and Environment*, 20, 161–162.
- Nelson, J., Robertson, K., & Borrows, J. (2014). Aboriginal title and provincial regulation: the impact of the Tsilhqot'in Nation v. B.C. Webinar and panel discussion. Hosted by: University of Victoria Faculty of Law, POLIS Water Sustainability Project, Centre for Global Studies, September 25, 2014. Retrieved from: <http://poliswaterproject.org/webinar/767>
- Newman, L., & Dale, A. (2005). The role of agency in sustainable local community development. *Local Environment*, 10(5), 477–486.
- Noble, B., & Birk, J. (2011). Comfort monitoring? Environmental assessment follow-up under community–industry negotiated environmental agreements. *Environmental Impact Assessment Review*, 31(1), 17–24.
- Nowlan, L. and Bakker, K. (2007). Delegating Water Governance: Issues and Challenges in the BC Context. *Paper for the BC Water Governance Project., UBC Program on Water Governance*
- Office of the Auditor General of British Columbia. (2010a). *An audit of the management of groundwater resources in British Columbia*. Retrieved from <http://www.bcauditor.com/pubs/2010/report8/audit-management-groundwater-resources-british-columbia>
- Office of the Auditor General of British Columbia. (2010b). *Oil and Gas Site Contamination Risks: improved oversight needed*. Retrieved from <http://www.bcauditor.com/pubs/2010/report8/oil-and-gas-site-contamination-risks-improved-oversight-n>

- Owen, J. R., & Kemp, D. (2013). Social licence and mining: A critical perspective. *Resources Policy*, 38(1), 29–35.
- Pahl-wostl, C., Craps, M., Dewulf, A., Mostert, E., Tabara, D., & Taillieu, T. (2007). Social Learning and Water Resources Management. *Ecology And Society*, 12, 5.
- Parfitt, B., Baltutis, J. & Brandes, O. M. (2012). *From Stream to Steam: Emerging Challenges for B.C.'s Interlinked Water and Energy Resources*. POLIS Project on Ecological Governance and Canadian Centre for Policy Alternatives.
- Parsons, R., & Moffat, K. (2014). Constructing the Meaning of Social Licence. *Social Epistemology*, 28(March 2015), 340–363.
- Plummer, R., & Armitage, D. R. (2013). Adaptive Co-management and Its Relationship to Environmental Governance, *Ecology and Society*, 18(1).
- Princen, T. (2003). Principles for sustainability: from cooperation and efficiency to sufficiency. *Global Environmental Politics*, 3 (1). 33-50
- Province of British Columbia. (2014). *Bill 18 - Water Sustainability Act*. Retrieved from: [http://leg.bc.ca/40th2nd/3rd\\_read/gov18-3.htm](http://leg.bc.ca/40th2nd/3rd_read/gov18-3.htm)
- Province of British Columbia. (2015). Report on Mount Polley Tailings Storage Facility Breach. *Independent Expert Engineering Investigation and Review Panel*.
- Prno, J. (2013). An analysis of factors leading to the establishment of a social licence to operate in the mining industry. *Resources Policy*, 38(4), 577–590.
- Prno, J., & Scott Slocombe, D. (2012). Exploring the origins of “social license to operate” in the mining sector: Perspectives from governance and sustainability theories. *Resources Policy*, 37(3), 346–357.
- Purdy, J. M. (2012). A Framework for Assessing Power in Collaborative Governance Processes. *Public Administration Review*, 72, 409–417.
- Ross, W. (2003). The Independent Environmental Watchdog: A Canadian Experiment in EIA Follow-up. In Morrison-Saunders, J., & Arts, A. (Eds.), *Assessing Impact: Handbook of EIA and SEA Follow-up*, p. 178–197. Earthscan.
- Sandford, B. (2011). Climate Change Adaptation and Water Governance. Simon Fraser University, B.C.: Adaptation to Climate Change Team
- Schillemans, T. (2010). Redundant Accountability: the Joint Impact of Horizontal and Vertical Accountability on Autonomous Agencies. *Public Administration Quarterly*, 34(3), 300–337.

- Schindler, D. (2010). Tar sands need solid science. *Nature*, 468, 499–501.
- Simms, B. R. (2014). “*All of the water that is in our reserves and that is in our territory is ours*”: Colonial and Indigenous water governance in unceded Indigenous territories in British Columbia. (MA Thesis). Department of Resource Management and Environmental Studies: University of British Columbia.
- Simpson, H. C., & de Loë, R. (2014). A collaborative approach to groundwater protection: The Rural Water Quality Program for Waterloo Region. *Canadian Water Resources Journal*, 37–41.
- Siry, J. P., Cabbage, F. W., & Ahmed, M. R. (2005). Sustainable forest management: global trends and opportunities. *Forest Policy and Economics*, 7(4), 551–561.
- Smith, S. M., Shepherd, D. D., & Dorward, P. T. (2012). Perspectives on community representation within the Extractive Industries Transparency Initiative: Experiences from south-east Madagascar. *Resources Policy*, 37(2), 241–250.
- Thom, B. B., & Washbrook, K. (1997). Questions of Power in Traditional Use Studies Introduction: Questions of Power Traditional Use Studies in Resource Management. *Paper Prepared for the Annual Meetings of the Society for Applied Anthropology*. Seattle, Washington.
- Thomson, I., & Boutilier, R. (2011). The Social Licence to Operate. In *SME Mining Engineering Handbook*. Colorado: Society for Mining, Metallurgy, and Exploration.
- Universities Consortium on Columbia River Governance. (2015). *A Sacred Responsibility: Governing the Use of Water and Related Resources in the International Columbia Basin Through the Prism of Tribes and First Nations*.
- Van der Heijden, J. (2014). Regulatory failures, split-incentives, conflicting interests and a vicious circle of blame: the New Environmental Governance to the rescue? *Journal of Environmental Planning and Management*, (October 2014), 1–24.
- Van der Meer, F.B. (2006). Evaluation in Multi-Actor Policy Processes: Accountability, Learning and Co-operation. *Evaluation*, 12(2), 201–218.
- Walter, E. (2003). From civil disobedience to obedient consumerism? Influences of market-based activism and eco-certification on forest governance. *Osgoode Hall Law Journal*, 41(2&3).
- Wilson, P. (2004). First Nations and Integrated Water Management. In D. Shrubsole (Ed.), *Canadian Perspectives on Integrated Water Resource Management* (pp. 69–84). Cambridge, ON: Canadian Water Resources Association