

Addressing cumulative effects in the context of sustainability and co-governance in Tr'ondëk  
Hwëch'in traditional territory, Yukon

by

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## Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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## Abstract

Cumulative effects and impacts associated with non-renewable resource development are issues of sustainability, with potentially significant implications over broad geographic and temporal scales. In Canada, Indigenous authorities and peoples have consistently raised concern with adverse cumulative effects, which continue to impact their homelands and communities. Despite these circumstances, approaches to addressing cumulative effects continue to struggle with implementing a sustainability agenda and the cumulative effects literature has paid little attention to the specific requirements of addressing cumulative effects in the context of co-governance, or shared decision-making involving Indigenous and non-Indigenous authorities. In light of these gaps in understanding and practice, this research involved a case study of the nexus of cumulative effects and co-governance in the Yukon, northern Canada, including detailed work in partnership with Tr'ondëk Hwëch'in, a First Nation in the Yukon.

This research aimed to answer the following question: How can decision-making structures and processes best be designed and used to address the overall cumulative effects of past, existing, and anticipated activities in the context of concern for sustainability and shared authorities involving Indigenous and non-Indigenous decision-makers? I focussed on the governance system established in part through the modern treaty context in the Yukon, looking most closely at non-renewable resource development in Tr'ondëk Hwëch'in traditional territory. I used an integrative literature review and synthesis to establish a consolidated framework of criteria for the development and application of sustainability-based approaches to addressing cumulative effects in a co-governance context, which was grounded in cumulative effects assessment and management, co-governance and natural resource management, and sustainability assessment literatures. I drew on semi-structured interviews, document analysis, and participative engagement to specify and apply this framework to the case context, as well as identify barriers and opportunities.

The findings from this research highlight the centrality of evaluating the design and implementation of approaches to cumulative effects and associated governance structures

through an approach informed by co-governance and sustainability literatures. The consolidated framework established, specified, and applied here demonstrated that this combined lens can inform criteria to guide evaluation, understandings of the contexts in which cumulative effects approaches are embedded, and the analysis of current approaches to cumulative effects. Co-governance literature identifies key blind spots and underlying assumptions that may otherwise go unnoticed, new ways of understanding long-established criteria, and possibilities for navigating persistent challenges within the cumulative effects literature. Sustainability criteria similarly recognize and address shortcomings of dominant approaches that often fail to emphasize mutually reinforcing contributions to lasting wellbeing. These criteria can inform how cumulative effects literature understands and operationalizes the concept of sustainability.

The findings from this research also draw attention to the importance of the governance structures associated with approaches to addressing cumulative effects. They highlight the need to interrogate the ways that relationships between peoples and the world around them are understood and inform systems of governance, as well as how they may be implicitly invoked through the design and implementation of approaches to cumulative effects. These findings apply to both theory and practice. The case study explored here provided preliminary insights into a specific type of governance arrangement, which centres primarily on governance bodies with appointed, independent membership and limited delegated authority, as well as decision-making determined in part by specific Crown and First Nation land designations, as laid out within a modern treaty. These preliminary insights showed the strengths of such governance arrangements in meeting some criteria, such as the recognition of specific First Nation authorities and rights explicitly laid out in the modern treaty. They also showed potential limitations, including limitations in their ability to create space for a more fulsome understanding that encompasses dimensions of Indigenous governance that exist within and outside of a modern treaty and may challenge dominant systems of governance.

Further implications for practice were raised by this research. Given the broad range of potential cumulative effects and associated impacts – as well as interactions among impacts – that are of concern in regions such as the Yukon, reliance on single processes such as regional land use

planning as the sole avenue through which cumulative effects will be addressed is unwise. This work highlighted the possibilities that may exist for well-integrated and authoritative interim approaches, in particular those that adopt a broader understanding of the possibilities for co-governance arrangements. It also highlighted the need for attention to areas where shifts in practice can contribute to multiple, mutually reinforcing steps towards sustainability objectives across multiple approaches to cumulative effects, acknowledging that efforts to meet criteria within one area can contribute to building or undermining effectiveness in other areas.

Numerous case-specific areas of success, challenges, and opportunities were identified through this research. The broad implications of these findings highlighted some of the inherent tensions within modern treaties in the Yukon, tensions that pre-dated the signing of the treaties and are tied to core components of the dominant governance system. Possibilities for navigating these tensions through the processes and structures for addressing cumulative effects exist if understandings of key principles laid out within these agreements are allowed to evolve, in particular concerning the concepts of sustainable development, wellbeing, and way of life. If understandings of these concepts are allowed to evolve, if non-Indigenous authorities further undertake the work required to develop capacities for co-governance, and if more ambitious interpretations and applications of sustainability are pursued, then their connections to broader understandings of how best to pursue sustainability and engage with Indigenous systems of governance may be strengthened.

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## Chapter 1: Introduction

The health of a system as a whole and our responsibility to manage that preserves the capacity for people to use the land. However, we can't uphold our cultural responsibility to manage the land whilst picking and choosing which parts to manage. From an ecological point of view, if a wetland is irreparably affected by development activities, our people have failed in their responsibility to look after the land. It is very distressing to our people, a people who have respected the land for thousands of years, to know that within our Traditional Territory we are unable to take holistic care of land, water and natural resources... Looking after our land is our sovereignty and use of land is key to our right to rely on land in the future.

- Tr'ondëk Hwëch'in, *Socio-Economic Value of Indian River Wetlands*

### **1.1 Introduction**

The comment above was submitted by Tr'ondëk Hwëch'in (TH) Government, representing its First Nation citizens in the Yukon, northern Canada, to the Yukon Water Board, a regulatory body that makes water licencing decisions in the territory. The statement highlights the culmination of several issues. First, it raises concern about the relationship between development activities and the ability of Tr'ondëk Hwëch'in people to carry out their responsibilities to the land. Second, it addresses a tension between management of the traditional territory as a whole versus pieces of that territory. Third, it identifies the need to consider future generations and their ability to rely on the land. A fourth, unwritten, part of this statement is that it was submitted to an institution (the Water Board) whose function and authority is tied in part in the *Umbrella Final Agreement (UFA)*. This agreement, to which Tr'ondëk Hwëch'in and numerous other governments with authority in the Yukon are signatories, set the stage for modern treaties in the Yukon and is a foundational part of the relationship between the Crown and signatory Yukon First Nations.

The nexus of these issues links three concerns – non-renewable resource development on Indigenous<sup>1</sup> homelands; complex sustainability problems spanning broad geographic and

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<sup>1</sup> See Appendix A for key points on terminology used throughout this dissertation.

temporal scales, represented by issues of cumulative effects; and co-governed decision-making structures and processes grounded in a modern treaty. This nexus is the focus of this dissertation. I address a suite of interconnected issues that are not unique in Canada or internationally. Specifically, I ask: how can decision-making structures and processes best be designed and used to address the overall cumulative effects of past, existing, and anticipated activities in the context of concern for sustainability and shared authorities involving Indigenous and non-Indigenous decision-makers? I explore this question through a case study of governance related to the cumulative effects of non-renewable resource extraction in the modern treaty context of the Yukon, with a specific focus on Tr'ondëk Hwëch'in traditional territory. This case study was conducted in partnership with Tr'ondëk Hwëch'in.

The purpose of this chapter is to introduce the research agenda, including its problem context and rationale, questions and objectives, scope, and methodology. I also introduce the three areas of interest relevant to the research – cumulative effects, sustainability, and co-governance involving Indigenous and non-Indigenous authorities – and highlight their intersections. Finally, I provide an outline of the dissertation.

## **1.2 Research context and problem rationale**

Cumulative effects (CE) refer to “the synergistic, interactive, or unpredictable outcomes of multiple land-use practices or development projects that aggregate over time and space, and that result in significant consequences for people and the environment” (Johnson, 2016, p. 25). Others would add outcomes of natural processes, in particular those accelerated by climate change, to this definition. The need to address CE is underscored by the significance of their impacts on the long- and short-term wellbeing of social-ecological systems (Berkes et al., 2003a; Clogg et al., 2017). The positive and adverse impacts associated with CE are broad; they encompass biophysical effects, including “the intangible and abstract elements of the natural world such as biodiversity and ecosystem health”, as well as human health and wellbeing, socio-economic needs and aspirations, and cultural sustainability (Johnson, 2016, p. 21). These concerns are particularly relevant in the context of non-renewable resource exploitation, a

sector where adverse impacts can exceed positive ones and extend far beyond the limited active life of a project (Atlin & Gibson, 2017).

There is therefore a broad range of impacts – to people, the land, and the relationships between the two – that interact in complex ways and over long periods of time associated with CE. CE are consequently key considerations to address in the context of a seeking a sustainable future.

Processes for addressing and managing CE are required to address the complexity and significance of impacts, and also may be required to work across multiple jurisdictions and legal systems when broad geographic regions are involved. These processes may be required to consider the pace and scale, or intensity, of development, especially if multiple undertakings in a region are involved. Design and implementation of appropriate processes may also require answers to questions about what kind of futures are desired in a region (and what possible futures are to be avoided) and what trade-offs are necessary or acceptable in pursuit of desirable futures. These are fundamentally questions of governance. Indeed, many global sustainability issues faced today are seen as issues of governance (Lange et al., 2013). As a result, experiences and literature related to establishing decision-making structures that reflect a sustainability purpose and identifying criteria for contributing to lasting well-being may be relevant to addressing key challenges within CE (R. B. Gibson et al., 2005). Thus far, current practice within CE assessment and management largely fails to reflect such a purpose and criteria (Noble, 2009).

Co-governance, or shared decision-making involving Indigenous and non-Indigenous authorities, adds another layer of complexity to the assessment, mitigation or enhancement, and management of CE. For example, such authorities may have different laws governing how decisions are made, different understandings of relevant timeframes and geographic boundaries, and different worldviews that frame how impacts of CE are understood. When these authorities are required to work together to address CE in the context of shared decision-making, such differences can become especially apparent. To date, experiences with shared decision-making involving Indigenous and non-Indigenous authorities, in Canada and internationally, related to natural resource management have demonstrated consistent



challenges in navigating such differences, an outcome that either causes or is caused by (or both) the continued privileging of dominant governance frameworks, ways of knowing, and legal systems (Dodson, 2014; Parsons & Fisher, 2020; Simms et al., 2016; Te Aho, 2010). While important work has been done in attempting to create new paths forward, cumulative effects impacting Indigenous peoples and lands continue (Clogg et al., 2017).

CE literature has largely ignored the specific requirements of addressing CE within shared governance arrangements, including consideration of what this looks like in the context of modern treaties. Modern treaties have been acknowledged as hard-won achievements by Indigenous nations and as opportunities for the federal government to re-establish relationships with Indigenous nations that are not based on broken treaty promises, often presented in contrast to historic treaties (e.g., *Beckman v. Little Salmon/Carmacks First Nation*, 2010, para. 12). However, the assumption that modern treaties have been implemented in such a way that lives up to these expectations needs to be explored further. While the legal complexities of modern treaties are distinct from other jurisdictions (e.g., those jurisdictions under “numbered” treaties, those without treaties), the broader lessons about how Indigenous authorities and the State engage in co-governance are applicable to a range of contexts.

This dissertation reflects the desire to better understand these gaps in theory and practice. It is grounded in the assumption that concern for sustainability and the relationship non-Indigenous authorities maintain with Indigenous peoples go hand in hand, and cumulative effects impact both of those purposes. The Yukon, and Tr'ondëk Hwëch'in traditional territory specifically, presents a useful opportunity for exploring the nexus of these issues. Cumulative effects are a pressing issue in the territory, particularly in light of the mining industry's history and ongoing concentrated pressure in certain regions, including TH traditional territory. The decision-making processes and structures for addressing these issues are embedded within a co-governance framework that, in part, stems from the *UFA* and subsequent agreements and legislation (e.g., the *Tr'ondëk Hwëch'in Final Agreement*). These agreements also establish a specific sustainability purpose for these processes and structures (Council for Yukon Indians, 1993, sec. 11.1.1.6, 12.1.1.4).

### 1.3 Research questions and objectives

The combined challenges presented above establish the basis for the research agenda addressed in this dissertation. The main research question, stated above, is as follows: *How can decision-making structures and processes best be designed and used to address the overall cumulative effects of past, existing, and anticipated activities in the context of concern for sustainability and shared authorities involving Indigenous and non-Indigenous decision-makers?* Sub-questions related to this overarching query include the following:

- 1) What understandings can be drawn from literatures on co-governance and sustainability that expand, clarify, or otherwise influence options for responding to limitations within cumulative effects literature and practice?
- 2) How can these understandings be integrated into a generic framework of criteria for the development and application of sustainability-based approaches to CE in a co-governance context?
- 3) What are the implications of applying the above framework to approaches aimed at addressing CE in the context of modern treaties and non-renewable resource extraction in the Yukon, and TH traditional territory specifically?
- 4) What in principle and practice are the main opportunities for and barriers to co-governance approaches to cumulative effects and sustainable futures in the Yukon (and perhaps elsewhere)?

Related to the above questions are five intertwined objectives. These objectives speak to what is intended to be achieved in responding to the above questions and broadly align with the chapters set out in this dissertation.

- 1) I aim to explore the nexus of three bodies of literature – sustainability, co-governance involving Indigenous and non-Indigenous authorities, and CE assessment and management – to identify a suite of overlapping generic criteria that will form the basis of a sustainability-based CE framework that meets expectations for co-governance. This

literature review will focus primarily on the Canadian context, drawing on international work where relevant, and will encompass both academic and grey literature. [Chapter 3]

- 2) I aim to clarify how the current co-governance context related to natural resource management in the Yukon and TH traditional territory has been constructed and identify existing issues and processes related to CE within that context. [Chapters 4 and 5]
- 3) I will specify this framework to the case context and analyze the ways in which current decision-making structures and processes relevant to addressing CE in the Yukon and TH traditional territory meet and/or fail to meet the specified criteria. [Chapters 6 and 7]
- 4) Based on this analysis, I will evaluate options to respond to identified deficiencies to clarify changes required where expectations are not being met. [Chapter 8]
- 5) I will identify implications for theory, practice, and the case context. [Chapter 9]

#### **1.4 Scope**

The scope of this research is limited in several ways. The literatures it draws on are, as previously mentioned, primarily focused on Canada. Accordingly, any examples from international literature that are included are intended to reflect a similar context. This inherently narrows the scope of the work. The agenda also focuses on co-governance involving Indigenous and non-Indigenous authorities, rather than Indigenous governance. Indigenous governance reflects a diversity of experiences, traditions, and perspectives. As will be explored further in Chapters 3 and 4, Indigenous governance is inherently tied to co-governance, but the two remain distinct concepts. In focussing on co-governance, it is important to acknowledge that there is a tendency to focus on shared decision-making in such a way that downplays or overlooks the existence of Indigenous governance existing in its own right, outside of a relationship with the Crown. This dissertation is limited in focussing on a case context where a First Nation is choosing to engage in shared decision-making processes alongside the Crown, and therefore does not capture the depth of perspectives on Indigenous governance that exist outside of conversations involving the Crown. This choice in scope does not imply that co-governance, and in this case co-governance

through modern treaties, is the “best” route to addressing the kinds of issues raised in this dissertation. Rather, it reflects direction provided by the research partner and the current context in TH traditional territory.

The scope of this work is also limited to focus on modern treaties in the Yukon, and on the TH final and self-government agreements specifically. Eleven First Nations in the Yukon have signed the *UFA* and three have not. The complexities of differentiating between signatory and non-signatory First Nations are beyond the scope of this dissertation. However, it is important to note that while the terms “self-governing” and “self-determining” are used throughout this dissertation, this does not imply that non-signatory First Nations are not self-governing or self-determining. They are. Similarly, this dissertation also does not address the context of those Indigenous authorities whose traditional territory span provincial/territorial boundaries, such as the Inuvialuit Settlement Region.<sup>2</sup>

The scope of this research is narrowed further by focussing on one region and one First Nation. Though methods to engage and validate themes with a territory-wide audience were included, this was not the focal point of data collection. Consequently, this research does not capture the broad range of experiences and perspectives that are apparent within the Yukon.

## **1.5 Methodology**

This research is guided by a constructivist paradigm, with influences from post-positivism and critical theory (Creswell, 2013; Guba & Lincoln, 1994) (see section 2.2). It takes a grounded theory approach (Charmaz, 2008) and identifies a case study area, which broadly encompasses governance related to non-renewable resource extraction in TH traditional territory (see sections 2.3 and 2.4) . I use four methods, including an integrative literature review, semi-structured interviews, document analysis, and participative engagement (see section 2.6 for details). Data analysis was an iterative process that intertwined with data collection. It centred on thematic

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<sup>2</sup> For this reason, I frequently refer to First Nations in the Yukon, rather than First Nations and Inuvialuit or Indigenous nations.

coding that drew on both pre-established theoretical concepts as well as emergent ideas (see section 2.7). The research context shaped all the above aspects of methodology and informed key guiding principles, including relationships, reciprocity, legacies, respect, and reflexivity (see section 2.8). Chapter 2 elaborates further on methodology.

## **1.6 Context: Understanding the nexus of cumulative effects, sustainability, and co-governance**

The following section outlines key concepts and issues relevant to cumulative effects, sustainability, and co-governance, focussing on the ways in which they come together and diverge.

### *1.6.1 Cumulative effects assessment and management*

While there is no universally agreed-upon definition of CE, and further conceptual analysis may be warranted (Duinker et al., 2013), a useful starting point for understanding CE is that they are not simply additive (e.g., individual adverse effects summing to cause “death by a thousand cuts”). Rather, effects may “interact or result in nonlinear net consequences that are a product of time-lags or threshold responses” (Johnson, 2016, p. 25). While cumulative effects refer to changes to socio-ecological systems, cumulative impacts are the consequences of such changes, which can be positive or negative (Johnson, 2016). In the context of natural resource development, cumulative effects known as nibbling losses, growth-inducing effects, crowding effects, and legacy effects are often causes of cumulative impacts (see Table 1). However, these definitions and examples are demonstrative of the focus within much of the cumulative effects literature, which typically ignores positive cumulative impacts (e.g., changes to a landscape that are additive, resulting in the creation of habitat that supports specific wildlife populations) and socio-economic effects (e.g., when multiple projects in a specific area occur over a short period of time and result in population growth that impacts the provision of services, such as housing or health care).

Table 1 - Examples of cumulative effects within natural resource development (Johnson, 2016)

Type of CE	Definition	Example
Nibbling loss	Additive loss “resulting from a cumulative increase in the footprint of human development” (Johnson, 2016, p. 27)	Clearing of land for roads or other infrastructure
Growth-inducing effects	“New development can result in an infrastructure that supports other development that may greatly exceed the cumulative impacts of the first project” (Johnson, 2016, p. 27)	Major road that provides access to new areas that facilitate industrial activities
Crowding effect	Caused by “many projects implemented in a small area over a short time”, where the level at which an environment is resilient to development activities is surpassed in too-short a period of time (Johnson, 2016, p. 28)	Sediment in a stream accumulates to a point where it is no longer suitable for a fish population
Legacy effects	“Effects caused by past actions that persist, or even amplify, over time and often act cumulatively with the effects of current, and future, development actions” (Hackett et al., 2018, p. 422)	Hydroelectric dams previously caused flooding that led to loss of access to traditional lands, made worse by current impacts of climate change

A range of processes, approaches, structures, and methods is available to address CE. Typically, dominant approaches include project-level environmental and socio-economic impact assessments, regional and/or strategic environmental assessments (RSEA), regional land use planning or broadly scoped sectoral planning, and cumulative effects management frameworks. Each of these is described in greater detail in Chapter 3.

The need to study and consider CE in decision-making has been recognized formally at the federal level since the *Canadian Environmental Assessment Act (CEAA)* of 1992 (put into effect in 1995). Despite over two decades of recognition, its implementation has been lacking. Duinker and Greig are succinct in their analysis of CE assessment practice in Canada, stating that “the promise and the practice of CEA are so far apart that continuing the kinds and qualities of CEA currently undertaken in Canada is doing more damage than good” (Duinker & Greig, 2006, p. 153). At the centre of this critique is the fact that project-level assessment continues to be the

primary process through which CE are considered (Harriman & Noble, 2008), despite the fact that it is poorly positioned to capture the interactive, multi-scalar nature of CE (Duinker & Greig, 2006). Moreover, the proponents that are often responsible for impact assessment at this level typically lack the time, incentive, capacity, and authority to effectively address CE (Atlin & Gibson, 2017). While there is a place for CE at the project level (Harriman & Noble, 2008; C. Joseph et al., 2017), there is overwhelming consensus on the need to advance strategic mechanisms that can deal with CE more effectively.

Despite the need to address CE at the strategic level, current practice demonstrates limitations in meeting this need. For example, while the new Canadian federal Impact Assessment Act of 2019 does provide for regional and strategic assessments, it does not explicitly require adoption of the sustainability-based agenda established in the law for project assessments (R. Gibson et al., 2020). The failure to adopt a sustainability approach is similarly noticeable in the fact that when CE are considered in decision-making, typically only biophysical impacts are included (Atlin & Gibson, 2017). Yet, biophysical impacts do not adequately capture what it means for mining activities to diminish the use of Indigenous homelands and affect quality of life in communities, both of which are critical aspects of maintaining cultural identity and lasting wellbeing (Ehrlich & Sian, 2004).

In many cases, practice has also confused actual assessments with studies (R. Gibson et al., 2020). While assessments are typically tied to regulatory licensing and permitting or policy-making, studies alone do not usually result in specific guidance for a decision. Though a CE study may provide information that is useful for decision-making purposes (e.g., for identifying and evaluating the significance of potential cumulative effects), studies generally do not provide authoritative direction for assessors or decision makers. This is not an inherent limitation but becomes problematic when regional studies are relied upon in place of assessments.

Further limitations within regional/strategic approaches to CE are reflected in the fact that a number of Indigenous nations have raised concerns over processes such as regional land use

planning or strategic-level impact assessment potentially resulting in a loss of power or control in their relationship with the federal government, amounting to a loss of self-determination (Fidler & Noble, 2013; Pike, 2014). Given trends towards increasing provincial authorities to make decisions previously held solely by the federal government (Seymour, 2015) these concerns are not unfounded. This is particularly relevant in sectors such as mining that have historically been characterized by conflict (Hall & Coates, 2017; L. Staples & Askew, 2016).

In light of the above challenges within existing practice, including the failure to require a sustainability agenda, a reliance on studies that fail to provide authoritative guidance, and concerns about implications for Indigenous self-determination, it is clear that the mere existence of strategic level mechanisms is likely insufficient to address the type of concerns laid out by Tr'ondëk Hwëch'in at the beginning of this chapter. Similarly, current practice appears insufficient to ensure an approach that facilitates contributions to sustainability. Consequently, changes towards making CE assessment and management more effective in Canada need to also address what it means to pursue a sustainable future and address relationships between Indigenous and non-Indigenous peoples within those processes.

### *1.6.2 Sustainability*

Understanding the ways in which decision-making structures and processes can contribute to sustainability requires first grappling with the multiple ways in which sustainability has been defined and interpreted. Sustainability is not a recent concept. While the Brundtland Report (WCED, 1987) may have popularized the term in 1987, various streams of thought have long wrestled with why sustainability is important and how it can be achieved. One aspect of this debate is the comparison between sustainability and sustainable development. For example, Robinson (2004) points to different conceptual foundations behind the terms, with sustainability rooted in preservationist and value-centric traditions versus the conservationist and technologically-focussed traditions of sustainable development. Different interpretations of sustainability reflect different expressions of values, priorities, norms, and worldviews (Connelly, 2007; Kidd, 1992). This is not to say that various understandings of sustainability are inevitably at



odds. However, it is important to acknowledge the socially constructed nature of the concept (Robinson, 2004).

The “three pillars” approach, which focuses on the social, environmental, and economic goals, and in relatively advanced applications also recognizes their interactions and interdependence, has been central to mainstream representations of sustainability. The Sustainable Development Goals (SDGs) established by the United Nations (UN), for example, are grounded in the three pillars concept and the targets that it sets have been explicitly described as integrated and indivisible (United Nations, 2015). However, the Indigenous Peoples Major Group for Sustainable Development has raised issue with the failure of the SDGs to acknowledge culture as a central component of sustainability (International Indian Treaty Council, 2014). This critique reflects the efforts of Indigenous peoples to redefine sustainability to communicate the complexity of their relationships with their homelands (Corntassel & Bryce, 2012). It also reflects the challenge of putting the three pillars approach into practice in a way that accurately captures the complexities of sustainability.

Sustainability problems rarely fit tidily into the three pillar categories and practitioners have struggled with the integration aspect of the approach (Kemp et al., 2005). Moreover, the implementation of this approach is often narrowed to a conversation that focuses on conflicts or trade-offs, especially between economic and ecological pillars, rather than seeking mutually reinforcing solutions (R. Gibson, 2006a; K. Staples et al., 2013). The result is that “adopting a pillar-based approach to sustainability tends to focus attention on competing objectives, rather than on needs and opportunities for positive accommodations of interrelated human and ecological interests” (R. Gibson, 2001). Understanding sustainability therefore requires navigating multiple worldviews, avoiding overly simplistic representations of the concept, and seeking mutually reinforcing contributions to sustainability. A blueprint approach to sustainability is unlikely to achieve all of this (Robinson et al., 1990). Instead, Gibson et al. advocate for carefully chosen, widely debated criteria (summarized in Table 2) that, for particular applications, must be specified to context to guide decision-making structures and processes that contribute to sustainability (R. B. Gibson et al., 2005). These criteria rest on the widely

recognized evident requirements for progress towards sustainability rather than on a definition of the concept.

*Table 2 – Gibson’s generic criteria for sustainability assessment evaluations and decisions (R. B. Gibson et al., 2005, pp. 235–236)*

Criteria	Description
Socio-ecological system integrity	Build human-ecological relations to establish and maintain the long-term integrity of socio-biophysical systems and protect the irreplaceable life support functions upon which human and ecological wellbeing depend.
Livelihood sufficiency and opportunity	Ensure that everyone and every community has enough for a decent life and that everyone has opportunities to seek improvements in ways that do not compromise future generations’ possibilities for sufficiency and opportunity.
Intragenerational equity	Ensure that sufficiency and effective choices for all are pursued in ways that reduce dangerous gaps in sufficiency and opportunity (and health, security, social recognition, political influence, etc.) between the rich and the poor.
Intergenerational equity	Favour present options and actions that are most likely to preserve or enhance the opportunities and capabilities of future generations to live sustainably.
Resource maintenance and efficiency	Provide a larger base for ensuring sustainable livelihoods for all while reducing threats to the long-term integrity of socio-ecological systems by reducing extractive damage, avoiding waste and cutting overall material and energy use per unit of benefit.
Socio-ecological civility and democratic governance	Build the capacity, motivation and habitual inclination of individuals, communities and other collective decision-making bodies to apply sustainability requirements through more open and better informed deliberations, greater attention to fostering reciprocal awareness and collective responsibility, and more integrated use

	of administrative, market, customary and personal decision-making practices.
Precaution and adaptation	Respect uncertainty, avoid even poorly understood risks of serious or irreversible damage to the foundations for sustainability, plan to learn, design for surprise, and manage for adaptation.
Immediate and long-term integration	Apply all principles of sustainability at once, seeking mutually supportive benefits and multiple gains.

The need for sustainability assessment stems from unsustainability and the desire to address it by ensuring the above sustainability criteria (or the equivalent in other words and framings) are applied within decision-making structures and processes. Attempts to understand and pursue sustainability are made more challenging by the fact that they exist in a complex world. The dynamics of the interconnected social-ecological systems that make up the world we live in are non-linear; the interactions between components of these systems can have many possible outcomes rather than a direct cause-and-effect outcome. They are also characterized by uncertainty (because outcomes cannot be predicted with perfect accuracy) and surprises (because some outcomes will be unexpected) (Berkes et al., 2003a; Walker et al., 2006). The uncertainties and likelihood of surprises arise in part because interactions in this complex world occur across vast scales, spatially and temporally. Past interactions between human and natural systems may influence later conditions of those systems, and the way these interactions occur in one context are inevitably at least somewhat different from those in other contexts (Liu et al., 2007).

Governance systems are increasingly tasked with accounting for complexity in addressing sustainability problems. Adaptability, flexibility, social learning, participatory processes, knowledge pluralism and bridging knowledge systems, and reflexivity have been proposed as characteristics of governance systems that can address sustainability more effectively (Armitage, 2008; Berkes, 2017; Berkes et al., 2003b; Biggs et al., 2010; Chaffin et al., 2014; Folke et al., 2005; Kemp & Loorbach, 2003; Lange et al., 2013; Lebel et al., 2006; Meadowcroft, 2007; Tengö

et al., 2017; Voß & Kemp, 2006). Modes of governance suited to pursuit of sustainability include collaborative, deliberative, polycentric, and multi-layered governance (Armitage, 2008; Berkes, 2017; Biggs et al., 2010; Lange et al., 2013; Lebel et al., 2006; Meadowcroft, 2007). However, the relationships between such modes of governance and sustainability outcomes are not clear-cut (Newig & Fritsch, 2009), and can hide implicit assumptions that do not fit equally across all contexts (von der Porten & de Loë, 2013).

There is therefore a general understanding of the need for sustainability criteria that are widely debated and specified to context to provide direction to decision-making structures and processes pursuing sustainability. There are also efforts to establish governance systems that can address the complexities of the social-ecological systems in which sustainability problems exist, which similarly must be specified to context. These broad understandings provide an important backdrop to considering how sustainability criteria might be put into practice within attempts to address CE.

### *1.6.3 Co-governance and natural resource management*

Approaches to co-governance within natural resource management stem from a history – and in many cases, an ongoing history – of exclusion and injustice, in which Indigenous peoples and lands have disproportionately borne the negative impacts of resource extraction while also being denied a voice in the decision-making processes relevant to that extraction. Dominant approaches to resource management in Canada have not remained static in the face of these critiques. For example, in the 1970s the Berger Inquiry marked the first significant inclusion of Indigenous knowledge in natural resource decision-making (Bowie, 2013). Nonetheless, the fact that the majority of recent court cases related to consultation and accommodation for Indigenous peoples in Canada involve dissatisfactions with resource development decision-making is one indicator that progress so far has been insufficient (Gray, 2016). In response to this history of exclusion, designers and managers of dominant resource management regimes have made a number of attempts at redress. Three key examples include acknowledging Aboriginal and treaty rights (P. Smith, 1998; Wyatt, 2008), ensuring Indigenous knowledge is included in

decision-making (Ellis, 2016), and addressing barriers to participation (O’Faircheallaigh, 2007; Udofia et al., 2017). However, issues within these efforts point to their failure to address the root causes of exclusion and injustice within natural resource management regimes in Canada. These lessons pave the way for understanding models for co-governance and their relevance to addressing cumulative effects.

The current level of recognition of Aboriginal and treaty rights within natural resource management has been a hard-won achievement of the Indigenous nations asserting these rights. The recognition and affirmation of Aboriginal and treaty rights and title conferred by Section 35 of the Canadian Constitution in particular can play an important role in reducing conflict with Indigenous peoples outside the court context, especially in regards to issues related to resource extraction (Borrows, 2005a). Nonetheless, critiques of how Aboriginal and treaty rights are interpreted and put into practice raise issue with efforts that simultaneously strengthen important legal instruments (e.g., the duty to consult) and further the discretion of the Crown to infringe upon Aboriginal rights (Christie, 2005). Coulthard refers to this as the “politics of recognition”, in which the recognition of rights is used as a means of justifying the further expropriation and invasion of Indigenous lands and resources (Christie, 2005; Coulthard, 2007; Imai, 2008). This understanding positions Aboriginal rights and title as failing to reflect the identities of Indigenous peoples and their relationship to the land or, perhaps more fundamentally, as a framework that is at odds with Indigenous worldviews (Christie, 2005; Wapshkaa Ma’iingan (Aaron Mills), 2010). Where natural resource management regimes focus attention on Aboriginal and treaty rights, they run the risk of reinforcing a limited interpretation and conditional application of these rights. Such an approach allows the State to maintain its ability to withdraw or selectively enforce Aboriginal and treaty rights (Corntassel & Bryce, 2012), rather than seeing them as inherent rights grounded in Indigenous legal traditions (Fitzgerald & Schwartz, 2017).

Efforts to incorporate Indigenous knowledge and traditional knowledge into environmental decision-making have faced similar critiques. In particular, such efforts have led to the appropriation and misinterpretation of traditional knowledge. For example, financial resource

constraints have often meant that traditional knowledge research must fit the needs of funding organizations and be led by (often non-Indigenous) researchers within Western academic institutions (Ellis, 2016). The treatment of traditional knowledge within natural resource management has led to its scientization, whereby it is only seen as legitimate when it's supported by Western science (Ellis, 2016). It is also often separated from Indigenous philosophies, ethics, processes, and traditions (Ellis, 2016; McGregor, 2004; Simpson, 2001). For example, Houde describes six "faces" of traditional knowledge and argues that processes such as impact assessment tend to focus primarily on the first face, factual observations. Other faces – including ethics and values, culture and identity, and cosmology – are often incompatible with the values of dominant management frameworks and are therefore more readily overlooked by those frameworks (Houde, 2007).

Focussing on the participation of Indigenous peoples within existing resource management regimes has been critiqued in part because efforts often focus on the involvement of Indigenous peoples as stakeholders, rather than *sui generis* rights holders with distinct claims (Panagos & Grant, 2013). Similarly, the lens of participation alone fails to address the often limited extent to which that participation influences decision-making outcomes and addresses unequal power relations (Bowie, 2013; Caine & Krogman, 2010; Takeda & Røpke, 2010). For example, co-management regimes have been praised for their role in facilitating collaborative relationships between Indigenous and non-Indigenous authorities and, in northern Canada specifically, for their role in ensuring Indigenous authorities have influence over decision-making related to lands, water, and wildlife (Imai, 2008; White, 2002). Nonetheless, they have also been critiqued for their limited scope in recognizing Indigenous jurisdiction over traditional lands (Bowie, 2013; Imai, 2008) and integrating Indigenous knowledge into decision-making (Nadasdy, 2003). Consequently, focussing on the inclusion of Indigenous people and knowledge alone has proven to be problematic when it treats them as existing in reference to the "needs and interests of the dominant culture" (Stevenson, 1996, p. 282), fails to question the core values and practices of the dominant culture (Bowie, 2013), and fails to challenge conventional power structures (Coulthard, 2007) .

The above critiques point to root issues that require action beyond understanding impacts and incorporating Indigenous people and knowledge into existing natural resource management regimes. For some, actions stemming from the above critiques exist outside of the relationship between Indigenous and non-Indigenous authorities. In this understanding, efforts should focus on addressing the fundamental issue of disconnection between Indigenous people and their spiritual, cultural, and physical heritage through shifts in thinking and action that focus on reconnection (e.g., with land, culture, and community) and reorientation (e.g., away from rights towards responsibilities) (Alfred & Corntassel, 2005; Corntassel, 2012). For others, the relationship between Indigenous and non-Indigenous authorities within resource management requires addressing power imbalances and moving away from Western systems (of management, law, institutional arrangements, etc.) as the status quo (McGregor, 2004). This approach requires focussing efforts on re-establishing relationships in which Indigenous and non-Indigenous authorities do not control or validate one another, but exist uniquely and equally (Pastora Sala & Dilay, 2016). Such efforts have resulted in proposed models for co-governance, which are addressed in Chapter 3. Before moving on however, it is worth noting that in both responses to the above critiques, an important goal is ultimately peaceful coexistence (Alfred & Corntassel, 2005; Royal Commission on Aboriginal Peoples, 1996). This goal, alongside the need for sustainability criteria and purposes that are deeply interrogated within context-specific applications, provide direction for the identified gaps within CE literature and set the stage for the research undertaken here.

## **1.7 Dissertation overview**

This dissertation is presented in eight chapters. Chapter 2 outlines the methodology and methods for the research. Chapter 3 reviews three bodies of literature, including sustainability assessment regimes, co-governance and natural resource management, and cumulative effects assessment and management. It identifies core criteria in each and, based on their nexus, establishes a consolidated framework of criteria for the development and application of sustainability-based approaches to addressing CE in a co-governance context, identifying areas of

tension and overlap. Chapter 4 lays the foundation for understanding the case context by describing how the current co-governance system established through modern treaties has evolved in the Yukon and TH traditional territory specifically. I broadly characterize the shifting governance landscape leading up to the signing of modern treaties in the Yukon, as well as the interconnected systems and interactions that shaped this landscape, as a starting point for describing the governance system in which approaches to addressing cumulative effects are embedded. Chapter 5 adds to this understanding of the case context by identifying current issues related to CE and processes relevant to addressing them in the region. Chapters 6 and 7 respectively specify and apply the consolidated framework to the case context. Chapter 8 reflects on barriers and opportunities for building more effective approaches to CE assessment and management in the Yukon. Chapter 9 summarizes the key findings and reflects on their implications for theory, practice, the case, and further research.



## Chapter 2: Methodology and methods

In a society that centres on reciprocal relationships everything you think, say, and do has consequences.

- Tr'ondëk Hwëch'in, *Tr'ondëk Hwëch'in 101*

### 2.1 Introduction

This section describes the methodology and methods used in this qualitative research project. Qualitative research “seeks answers to questions by examining various social settings and the individuals who inhabit these settings” (Berg, 2004, p. 7), and explores the structure and meaning that people attach to their lives and experiences. Following Mackenzie and Knipe’s suggested framework (2006), I first outline the research paradigm, which frames the methodology. In this paradigm, methodology “articulates the logic and flow of the systematic processes followed in conducting a research project, so as to gain knowledge about a research problem. Methodology includes assumptions made, limitations encountered and how they were mitigated or minimised” (Kivunja & Kuyini, 2017, p. 28). I then identify the approach and the case selected, describe the ethics process, outline data types and methods of data collection, and describe data analysis. Finally, I add implications for methodology regarding the research context. While these pieces are presented linearly, the methodology described here is influenced in equal measures by both the research paradigm and the research context (see Figure 1).

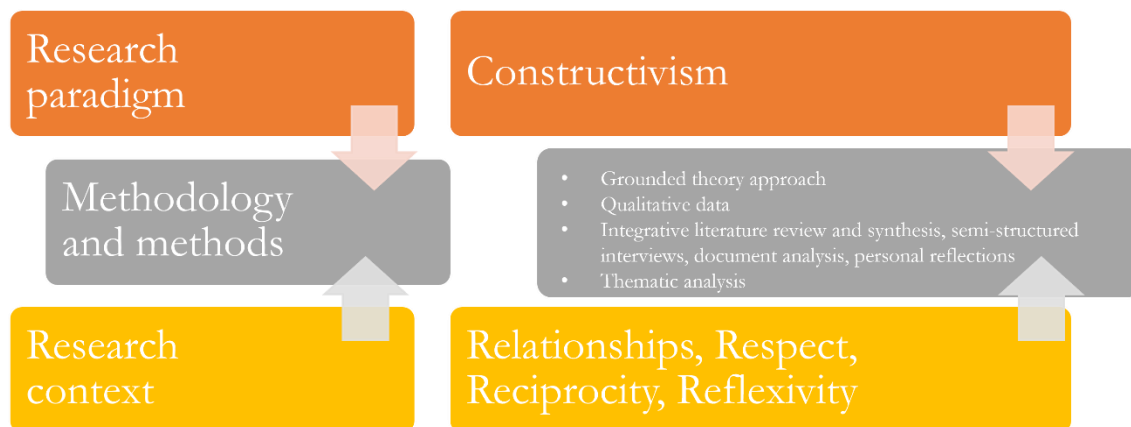


Figure 1 - Methodology

## 2.2 Research paradigm

This research is situated predominantly within a constructivist paradigm, with influences from post-positivism and critical theory. I follow Creswell and Guba and Lincoln's categorization and description of constructivism (Creswell, 2013; Guba & Lincoln, 1994). A constructivist paradigm is characterized by an ontology of relativism and an epistemology of subjectivism (Charmaz, 2006; Rieger, 2019). This means that realities are multiple and conflicting, formed by individuals and their interactions with the world rather than as absolute truths, and that knowledge is created through interactions between the researcher and the research participants (Guba & Lincoln, 1994).

The aim of constructivist inquiry is "to explain and understand how reality is constructed through social and natural processes" (Khagram et al., 2010, p. 392). Those conducting research from a constructivist perspective focus on understanding how individuals or groups of individuals understand their worlds, often relying on participant perspectives (Creswell, 2013). Because meaning is subjective and historically and culturally negotiated, it seeks a diversity of views that coalesce. The research questions outlined in Chapter 1 emphasize key characteristics that fit well within the constructivist paradigm. They emphasize understanding a specific context – that of the Yukon – and draw in large part on the views of participants to understand that context.

Critiques of constructivism come together around three perspectives. From a realist ontology, often associated with positivism or post-positivism, the primary concern is that constructivism takes relativism too far, arguing that it implies there is nothing in the world that is not socially constructed. This effectively denies "independent agency to the natural world" (Bunningham & Cooper, 1999, p. 301). However, constructivists argue that such a critique is based on a misconception of constructivist ideas. This research aligns with such a response; it does not deny that realities exist, but focuses on how those realities are made real and understood within participant perspectives, words, and actions (Rieger, 2019).

Others argue that constructivism emphasizes interpretive flexibility to the point that it undermines its own utility, especially in the context of political critique, which requires a degree

of realism (Burningham & Cooper, 1999). This concern centres on the idea that those in power will take political advantage of the epistemic scepticism associated with such interpretive flexibility (Demeritt, 2006). The constructivist response to such critiques is that the argument is based on too broad a generalization of the paradigm (Burningham & Cooper, 1999). In this regard, however, my research draws on post-positivistic traditions and related methodologies by identifying generic criteria for a conceptual framework from academic and grey literatures, and then applying these criteria to a specific context. While the conceptual framework is interrogated and expanded upon within that context, this nonetheless represent a departure from a constructivist dedication to interpretive flexibility.

Finally, those operating within transformative paradigms find that constructivism does not appropriately consider the needs and issues of individuals and communities in vulnerable situations experiencing oppression (Mackenzie & Knipe, 2006). From the constructivist perspective, this argument overlooks the spectrum of approaches to constructivism that span from critical to conventional (Weber, 2007) or from positivist to interpretivist to post-modern (Jung, 2019). This research is situated on the critical end of the constructivist spectrum by explicitly focussing on power relations (Hopf, 1998), specifically in the context of dominant ideas and practices underlying natural resource management governance arrangements and critiques of and alternatives to those arrangements and their underlying foundations.

### **2.3 Approach**

This dissertation takes a grounded theory approach to research. Grounded theory provides “systematic, yet flexible guidelines for collecting and analyzing qualitative data to construct theories ‘grounded’ in the data themselves” (Charmaz, 2006, p. 2). This approach emerged from the shift away from research as a process of deducing hypotheses that are testable towards theory development that relies on data from participants. It assumes that participants have experiences that can contribute to answering questions of what, how, and why (Charmaz, 2008; Creswell, 2013). It also emphasizes action and practical application (Annells, 1996) and allows researchers to build “the foundations for generic statements that they qualify according to

particular temporal, social, and situational conditions” (Charmaz, 2008, p. 398). These qualities – of relying on participant experiences, emphasizing practical application, and qualifying the general to a specific context – fit well with the research questions identified in the dissertation.

There are multiple strands of grounded theory that can be broadly categorized according to their philosophical alignments. Classic grounded theory, associated with Glaser and Strauss (Glaser & Strauss, 1967), reflects a post-positivist paradigm. Corbin and Strauss’ approach aligns more with constructivism and remnants of post-positivism (Annells, 1996). Charmaz self-identifies with constructivism by adopting a relativist ontology and subjective epistemology, which has implications for the role of the researcher (as a co-creator of knowledge) and data analysis (data as the product of research rather than a window on reality) (Charmaz, 2008; Rieger, 2019). This research draws on the latter two of these three approaches. In identifying criteria for the conceptual framework prior to specifying and elaborating those criteria to context, I draw on the post-positivist-influenced structured methodology central to Corbin and Strauss (Creswell, 2013). However, in identifying emergent themes through data collection, I draw on Charmaz’s constructivist roots that avoid forcing ideas upon data and instead piece together implicit meanings (Creswell, 2013).

Critiques of grounded theory mirror those of constructivism. From one perspective, it lacks reliability and validity, and from another perspective, it does not sufficiently diverge from positivist assumptions (Annells, 1996). Because these critiques have been addressed in the context of constructivism (above), they are not detailed here. Within my own research, these critiques are addressed by drawing on post-positivist methodology, per Corbin and Strauss, and adopting a critical lens that explicitly focuses on power relations. The latter was especially important to understanding my position in relation to the research context, as will be described below.

## **2.4 Case selection**

The use of a case study in this dissertation is based on Stake’s definition of a case study as a bounded system (Stake, 1995). This approach encourages researchers to “use issues as

conceptual structure in order to force attention to complexity and contextuality [and]...because issues draw us toward observing, even teasing out, the problems of the case, the conflictual outpourings, the complex backgrounds of human concern” (Stake, 1995, pp. 16–17). The defining characteristics of a case that Stake identifies are applied here, including that it be holistic (linking phenomenon to its contexts), empirical (based on field work), interpretive (emphasizing researcher-participant interactions, as reflective of constructivist epistemology), and empathic (focussing on experiences as defined by participants themselves) (Yazan, 2015).

The case selected for this research is broadly defined as governance related to the cumulative effects of non-renewable resource extraction in the modern treaty context of the Yukon, with a specific focus on Tr’ondëk Hwëch’in traditional territory. This case was selected because it demonstrates the coming together of three key issues at the heart of this research, including shared decision-making involving Indigenous and non-Indigenous authorities, complex sustainability issues in the form of concern for cumulative effects, and the strong presence of a non-renewable resource industry. While the Yukon context generally speaks to the breadth of lessons to be learned from such a case, the TH focus allows for a more specific analysis. While the singular focus on one First Nation does limit the scope of this work (see section 1.4), it allows for a depth of analysis that would not be possible if multiple regions were included. Chapters 4 and 5 describes the case in further detail.

A further implication of the case selection is the focus on the mining sector specifically as an example of non-renewable resource extraction. This does not imply that mining is the only sector that causes cumulative effects; however, in the case study region, it is the most obvious candidate. Over the last decade, the YESAB Dawson Designated Office – whose assessment district overlaps with TH traditional territory – has consistently received the most project submissions in the territory, with only one exception.<sup>3</sup> Over the same period, placer mining<sup>4</sup>

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<sup>3</sup> In 2011-2012 the Mayo Designated Office received three more submissions than Dawson’s Designated Office (YESAB, 2020a).

<sup>4</sup> See section 5.2 to clarify placer mining versus quartz mining.

typically made up the largest percentage of project submissions, with only a few exceptions.<sup>5</sup> Quartz mining also makes up a significant portion of project submissions, on average around 12.6% of the total number of projects submitted.<sup>6</sup> The highest level of project assessment, a panel review, has been required only once in YESAB's history, and is for a proposed quartz mine.<sup>7</sup> The focus on the mining sector in the case context is evident primarily in Chapter 5, where it is used as a window through which cumulative effects issues – both positive and negative – and approaches can be explored.

## 2.5 Ethics

Ethics approval for this research was received by the Office of Research Ethics at the University of Waterloo.<sup>8</sup> Participants were introduced to the research topic, objectives, and expectations by phone or e-mail. Those who agreed to be interviewed were provided the consent form, information letter, and – when requested – the interview questions prior to the interview (see Appendix B: Semi-structured interview guide). The consent form was reviewed in person prior to the interview being conducted. Consent was primarily written, though options for oral consent were also available. Participants chose how they would like to be identified – as anonymous, by affiliation, or by name. The choice to provide participants with the option of being identified by name was determined at the direction of Tr'ondëk Hwëch'in and their desire to ensure that certain people, such as Tr'ondëk Hwëch'in Elders, have the knowledge they share associated with their name. As Kovach explains, honouring the cultural tradition of “standing behind one's words and recognizing collective protocol, that one is accountable for one's words” (Kovach, 2009, p. 148) is important, especially in circumstances where risks associated with confidentiality are minimal (as was the case with this research). Participants were also provided the opportunity

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<sup>5</sup> Exceptions included 2008-2009, 2009-2010, and 2011-2012. (YESAB, 2020a)

<sup>6</sup> Other types of projects that consistently make up a similar or greater number of submissions as quartz mining include residential, commercial, and industrial land development and transportation. (YESAB, 2020a)

<sup>7</sup> The review of the proposed Casino mine was initiated in 2016 and remains ongoing; a portion of the project (an access road and water withdrawal point) is within TH traditional territory (CBC News, 2016; YESAB, n.d.).

<sup>8</sup> License #40005.

to change how they want to be identified and review any direct quotes, as well as the context around that quote, prior to it being made public in any form. They were also provided a summary of the research and the opportunity to discuss results.

In addition to the University of Waterloo ethics process, I received a Yukon Research Licence from the Government of Yukon for this work.<sup>9</sup> The research licence process is a mandatory part of conducting research in the territory and allows the opportunity for various levels of government to comment on research projects in the region. As will be described below, I also followed Tr'ondëk Hwëch'in research protocols.

## 2.6 Data collection methods

The qualitative data collection methods used in this research align with those typically associated with constructivism (Mackenzie & Knipe, 2006), including interviews, document reviews, and participative engagement, though the integrative literature review aligns more closely with post-positivism. These methods also align with the understanding that grounded theory often requires multiple methods to allow for ideas that are truly “grounded” in the data (Duffy et al., 2004).

### 2.6.1 *Integrative literature review and synthesis*

I used an integrative approach to the literature review. The aim of this approach is to assess, critique, and synthesize literature with the goal of combining perspectives and creating new conceptual understandings (Snyder, 2019). This goal of creating new conceptual understandings is what defines the literature review and synthesis as a data collection method and what distinguishes it from document analysis, which is “a systematic procedure for reviewing or evaluating documents” (Bowen, 2009, p. 27).

The integrative approach is structured here (per Torraco, 2005) around the conceptual nexus of sustainability assessment, co-governance, and cumulative effects. This approach draws on post-

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<sup>9</sup> Licence #19-41S&E

positivist traditions by identifying generic criteria relevant to evaluating the design and implementation of approaches to CE and associated governance structures within respective bodies of literature (see Chapter 3). To the extent that it also emphasizes contextual understanding by drawing on examples from case studies with similarities to my own case study, and later specifying the generic criteria to this case context (see Chapter 6), it fits with the constructivist emphasis on flexibility (Onwuegbuzie & Frels, 2016).

The scope of literature included in this review focuses on experiences and understandings within Canada, internationally recognized standards and guidance from internationally respected organizations (e.g., International Association of Impact Assessment, United Nations), and insights from international experiences where practices in relevant fields are advanced or long-established (e.g., strategic assessment in the United Kingdom, co-governance models in New Zealand). I primarily used Scopus and Google Scholar to conduct my review, as each serves distinct but complementary functions (curated catalogue of information versus web-based search engine) (Gusenbauer & Haddaway, 2020). I also used the preliminary set of resources from the review to identify further resources, reflecting the integrative rather than systematic approach undertaken here (Snyder, 2019).

### 2.6.2 *Semi-structured interviews*

Interviews are based on the assumption that I as a researcher was seeking understanding on a specific topic and those I interviewed had relevant perspectives and experiences that could contribute to such an understanding (Charmaz, 2006). Semi-structured interviews were an appropriate method for the research context in that they allowed room to clarify responses and raise emergent issues outside the boundaries of predefined questions, as well as build a relationship with the participant. The main limitations of semi-structured interviews are the space they create for potentially leading questions, sources of error related to social conventions (e.g., wanting to be “agreeable”, responding with cultural narratives rather than authentically), and poor memory (Bechhofer & Paterson, 2000; Miller & Glassner, 2004). With these limitations



in mind, I paid close attention to the design of the interview questions, piloted the questions with a range of audiences, and created space for self-reflection following each interview.

The scope of participants was limited to focus on two main groups: territorial, federal, and Tr'ondëk Hwëch'in government representatives, and practitioners involved in land use planning, environmental and socio-economic assessment, and regulatory processes. The decision not to include community-based representatives in the interviews was based on two rationales. First, expanding the scope of participants to potentially be included in the research was not feasible in light of time and resource constraints for data collection. Second, data collection occurred at a time when a significant number of community engagement events – in particular those focussing on Tr'ondëk Hwëch'in – were also occurring (e.g., TH-run projects and regional planning), and TH had previously raised concern about community engagement burn-out. Accepting a more limited scope of research was therefore justified to avoid contributing to this issue.

The sampling approach for identifying potential participants was a combination of purposive sampling (using particular knowledge about a group to identify individuals) and snowball sampling (asking participants to identify further potential participants until no new names are suggested) (Berg, 2004). Though such an approach is not without limitations (e.g., snowball sampling may lack a diversity of perspectives), it was appropriate given the narrow scope of participants and relatively small population. In total, 49 interviews were conducted with representatives from Yukon Government (n = 23), Government of Canada (n = 1), TH government (n = 12), and practitioners<sup>10</sup> (n = 13) (see Table 3).

The approach to conducting semi-structured interviews that I took straddles Charmaz's (Charmaz, 2006) open-ended method of interviewing and a more structured approach. While some questions were broad and open-ended, lending themselves to in-depth exploration (Charmaz, 2006), others were more informational. The questions also evolved as the research

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<sup>10</sup> The term “practitioners” is used here to encompass those who are not government employee and are involved in processes such as regional planning, assessment, and regulatory processes.

evolved, reflecting the iterative process of data analysis and data collection and the learning curve of knowing which questions “work” and which ones do not. Interviews were conducted primarily in person and, when that was not possible, by phone, lasting anywhere from 40-120 minutes. They were audio-recorded, except in cases where the participant was not comfortable with doing so, in which case I took notes by hand. The main limitation of taking notes by hand is that much of the richness of the conversation is lost. However, in the few cases where a participant did not want to be recorded, I was able to follow up with the participant at a later date to clarify in-depth responses and fill in any gaps within my notes.

Interview data was used to identify broad themes related to identifying cumulative effects issues and processes for addressing them in the case context (Chapter 5), ensuring generic criteria were relevant to the case context and identifying new criteria (Chapter 6), identifying and describing how criteria have and have not been met in the case context (Chapter 7), and identifying barriers and opportunities for more effective approaches (Chapter 8). Select quotes from interviews are used throughout the dissertation to illustrate these themes. Affiliations for quotes are indicated accordingly: YG (Yukon Government), TH (Tr'ondëk Hwëch'in), FG (federal Government), and PR (practitioner).

*Table 3 - Breakdown of interview participants*

<b>Affiliation</b>	<b>Department or organization (where applicable)</b>	<b>Number of participants</b>
Yukon Government	Department of Energy, Mines and Resources	9
	Department of Environment	9
	Executive Council Office	5
	<b>Total</b>	<b>23</b>
Federal Government	Environment and Climate Change Canada	<b>1</b>
Tr'ondëk Hwëch'in Government	Natural Resources Department	7
	Heritage Department	3
	Implementation Department	2
	<b>TOTAL</b>	<b>12</b>
Practitioners	Land use planning	3

	Environmental and socio-economic assessment	6
	Regulatory process	1
	Consultants and researchers	3
	<b>Total</b>	<b>13</b>
<b>Total number of participants</b>		
		<b>49</b>

2.6.3 *Document analysis*

Document analysis was used as a supplementary method of data collection. As Charmaz notes, textual analysis of extant texts (documents the researcher did not help shape, but nonetheless treats as data) allows the researcher to not only gain insights relevant to their research questions, but also to ask questions about the text that highlight its unspoken elements (e.g., What information is being left out? Who is the audience?) (Charmaz, 2006). Document analysis is particularly well-suited to case study analysis (Bowen, 2009) and as such, the sources used in this research primarily focus on the case context or are relevant to it. The types of documents I used for this research include legal documents, environmental assessments and related documents, various reports and plans, organizational websites, news articles, written oral histories and stories that Tr’ondëk Hwëch’in has made accessible to the public, and archival materials (including primary and secondary sources). These documents provide important information about case context, questions that should be asked, supplementary data, information required for tracking change, and means of verifying findings (Bowen, 2009). The main limitations of document analyses is their insufficient detail, which is seriously problematic only when documents are the only source of data; low retrievability, which is largely unavoidable; and biased selectivity (Bowen, 2009).

2.6.4 *Participative engagement*

The field notes I took were reflections on how I understood the processes unfolding around me, the context, emergent concepts and ideas, and my own feelings and impressions (Charmaz, 2006; Maharaj, 2016). These reflections focussed on areas such as decision-making processes and context (e.g., public events for the Dawson regional planning process, Yukon-based workshops related to cumulative effects, community events held by TH). Field notes blur the line

between data collection and data analysis. The field notes I took served a different function from that of the memos I recorded, as will be described in the following section. Where field notes “have specific content that includes descriptive and interpretive data based on the observational experience of the researcher” (Montgomery & Bailey, 2007, p. 78), memos represent “the deconstruction and reconstruction of data from a combination of sources including field notes” (Montgomery & Bailey, 2007, p. 78). Nonetheless, as the project progressed, distinctions between field notes and memos began to blur, reflecting the iterative process of data collection and analysis central to grounded theory. As Charmaz describes, “simultaneous involvement in data collection and analysis means that the researcher's emerging analysis shapes his or her data collection procedures” (Charmaz, 1996, p. 31).

## 2.7 Data analysis

Data analysis for this research broadly followed Creswell’s “data analysis spiral” (Creswell, 2013). In organizing the data, I transcribed audio recordings and, where the participant preferred not to be recorded, I typed up hand-written notes. I did the majority of the transcription myself. In a select number of cases where audio quality was suitable, transcription was done by *NVivo*’s transcription service and then reviewed for accuracy to expedite the transcription process. *NVivo 12* was selected as the primary mode of data analysis. As Corbin and Strauss note, when relying on computer programs to assist in coding, it becomes especially important for researchers to take the time to reflect on the data (Corbin & Strauss, 2012).

Data analysis included multiple iterative stages. First, data were initially reviewed – but not analyzed – and I used memos to record emergent ideas. Then, I coded the data into themes, using memos to document early impressions and insights, as well as diagrams to represent the relationship between themes. This informed the creation of a codebook. As previously noted, I diverged from Charmaz’s approach by using theoretical concepts to help identify codes, though I did follow her advice that “each preconceived idea should earn its way into your analysis—including your own ideas from previous studies” (Charmaz, 2006, p. 68). In this case, the theoretical concepts that informed the coding process were grounded in the conceptual

framework outlined in Chapter 3, generated by literature review and synthesis process. The initial coding stage was important because it allowed pre-existing concepts to be clarified and elaborated, highlighted certain criteria over others, allowed new ideas to emerge, and identified gaps in the data (Charmaz, 2006). Once my codebook was refined, data were then re-coded. Again, I drew heavily on the use of memos to better understand relationships between codes and identify missing links (Corbin & Strauss, 2012).

## **2.8 Research context**

The context in which this research is embedded plays an important role in informing its methodology. This research was conducted in a collaborative partnership with Tr'ondëk Hwëch'in, as represented by Tr'ondëk Hwëch'in government. There is an important distinction here between a research partnership with an Indigenous nation and an Indigenous research paradigm. Though post-positivist Western research paradigms share qualities with Indigenous research paradigms – for example, both are relational and interpretive – they nonetheless stem from different epistemologies (Latulippe, 2015). In particular, post-positivist paradigms such as constructivism present knowledge as individualistic, where an Indigenous research paradigm presents it as “belonging to the cosmos of which we are a part and where researchers are only the interpreters of this knowledge” (S. Wilson, 2008, p. 38).

My partnership with TH reflects the specific context in which that partnership exists. This context is informed by the differences in power and extractive relationships that have previously and continue to characterize research within Indigenous communities, including the Yukon (Southwick & Silas, 2018). In addition to the formal partnership established with TH, the fact that the Yukon is a relatively small jurisdiction lent itself to also establishing informal relationships with other individuals and institutions involved in cumulative effects in the region.

My research aligns to some degree with the concept of community-based participatory research in that it focuses on collaboration between the researcher and participants, reflects democratic ideals and principles, and is intended to create useful knowledge that ideally leads to action (Schwandt, 2007, p. 221). However, it stops short of practicing truly comprehensive

participation; for example, it does not practice collaborative data analysis (Stanton, 2014). This in turn limits the decolonizing potential of this research (Kovach, 2009).

Various guidelines or protocols are available for researchers working in partnership with Indigenous communities. Such guidelines vary in scope and depth, but underscoring each of them is the acknowledgement of historic and ongoing practices of unethical and oppressive research on Indigenous peoples that are grounded in concepts of white supremacy, colonialism, and assimilation (Gearheard & Shirley, 2007; Kovach, 2009; Southwick & Silas, 2018; S. Wilson, 2008). My research draws on three sources of guidance in identifying how research with Tr'ondëk Hwëch'in should be conducted within this context. I draw from the First Nations Information Governance Centre's (FNIGC) OCAP principles (Ownership, Control, Access, and Possession) (2020), Kirkness and Barnhardt's four R's (Respect, Relevance, Reciprocity, and Responsibility) (Kirkness & Barnhardt, 2001), and Tr'ondëk Hwëch'in's principles of Tr'ëhudè (in Hän, the concept of going through the world in a good way) (Tr'ondëk Hwëch'in, 2019c). The inter-related principles guiding this research include relationships and reciprocity, legacies, respect, and reflexivity.

### 2.8.1 *Relationships and reciprocity*

I set out to approach this research as a process of relationship-building among colleagues, rather than defining the process according to a strict researcher-subject relationship (TallBear, 2014). Relationships were central to conducting research in partnership with Tr'ondëk Hwëch'in. This partnership was formed over the course of multiple years. Prior to this project beginning in any meaningful way, I met with a broad range of groups in the Yukon to discuss general research interests. Cumulative effects emerged as a common area of overlap. The fact that nearly every government or practitioner involved in co-governance of lands and resources in the Yukon, including representatives from Tr'ondëk Hwëch'in Government, Yukon Government (YG), Yukon Environmental and Socio-Economic Assessment Board (YESAB), and Yukon Land Use Planning Council (YLUPC), identified CE as an issue was a driving factor in the focus of this research. In my

relationship with Tr'ondëk Hwëch'in, identifying a topic that was of relevance to their government was an important principle.

This process – of building relationships and ensuring relevance of the research – continued at each stage of research, through narrowing down the research topic, identifying and clarifying research questions and methods, piloting interview questions, and discussing preliminary themes. At each point, soliciting feedback from Tr'ondëk Hwëch'in was not only about providing opportunities to comment, but was also meant to serve the objective of ensuring that that feedback actually shaped the research process. Research results were shared directly with TH, as well as with others. For example, high-level preliminary findings were shared with the Dawson Regional Planning Commission. The results from this work have also been indirectly applied in partnership with TH in an effort to continue building relationships and relevance, for example by informing additional projects initiated with TH outside of but related to this dissertation.

Reciprocity within my relationship with Tr'ondëk Hwëch'in was also key. As Tr'ondëk Hwëch'in describes, “in a society that centres on reciprocal relationships everything you think, say, and do has consequences” (Tr'ondëk Hwëch'in, 2019c, p. 22). For me, the time that I asked of Tr'ondëk Hwëch'in staff and citizens had consequences; it took them away from the jobs they do to support Tr'ondëk Hwëch'in government and peoples. To enact reciprocity, I volunteered my time at Tr'ondëk Hwëch'in and community events to mirror the time spent by Tr'ondëk Hwëch'in staff and citizens on my project. As noted above, I also provided research results to Tr'ondëk Hwëch'in and other decision-makers where useful to reciprocate the support for my research that I received from others. This process of giving back meant knowing what information was useful to my research partners, which in turn relied on the relationship that had been previously established (Kovach, 2009).

### 2.8.2 *Legacies*

Tr'ondëk Hwëch'in describes the importance of a sense of legacy, which is “an understanding that everything you do needs to be considered as a foundation upon which the future will be built” (Tr'ondëk Hwëch'in, 2019c, p. 22). Aspects of this principle that were especially relevant

for my research included a sense of accountability, long-term thinking, a holistic approach, a broad understanding of space and time, and comfort with uncertainty. These characteristics fit especially well with my research topic, as understanding CE and sustainability require a similar approach. This principle was also relevant to my research approach. For example, a critical part of a collaborative partnership is the researcher's capacity to relinquish control over the research process (Stanton, 2014), which may create uncertainty on how the process will unfold. Accepting this uncertainty was an important part of how I enacted a sense of legacy. I also understood accountability to my relationship with Tr'ondëk Hwëch'in as key to that legacy. This sense of accountability will carry forward beyond the time period defined by my PhD research.

### 2.8.3 *Respect*

Respect was also central to the partnership with Tr'ondëk Hwëch'in. Practice of respectful research goes beyond institutional policies for ethical research and requires "a contextual sensitivity on the part of the student researchers" (Tilley, 2016, p. 16). This meant ensuring the project was not a burden on community and staff members that are already over-researched, for example by using existing sources of information where possible (e.g., archival materials, attending relevant events, taking local courses such as "TH 101"). It also meant following community protocols (e.g., getting feedback and approval by the Elders Council, presenting to relevant local stakeholders, spending time in the community), and establishing a research agreement with Tr'ondëk Hwëch'in (see Appendix C: Research agreement with Tr'ondëk Hwëch'in). Research agreements are useful in ensuring research is relevant, helpful to research partners, and accessible (CIHR et al., 2018; Latulippe, 2015). The agreement I signed with Tr'ondëk Hwëch'in laid out important information about our relationship, including obligations, expectations, and terms relating to the ownership of, control over, access to, and possession of data shared by Tr'ondëk Hwëch'in representatives and citizens.

### 2.8.4 *Reflexivity*

Though self-reflection plays an important role within constructivism (Corbin & Strauss, 2012), it is critical theory that pushes the researcher towards critical reflexivity, which requires self-



scrutiny in relation to another (in this case, the research participant) (Pillow, 2003). In the context of qualitative research, critical reflexivity requires researchers to “engage in a deep questioning of themselves as researchers and acknowledge the layers of complexities that are part of the qualitative research process” (Tilley, 2016, p. 13). This implies the researchers must understand their social location and identity and their relationship to the research, as well as explore the limits to their knowledge (Tilley, 2016). Reflexivity must be employed in a way that consistently places and implicates researchers within the context of their social location, ensuring they do not fall into the habit of “transcending structural power inequalities”, or thinking that they do (D’Arcangelis, 2018, p. 342). In this section, I attempt to outline the ways in which I engaged in self-reflexivity and how this process is situated within the context of colonial research relationships. I do so with the understanding that self-reflexivity is a process rather than an outcome and will continue long after these words are printed.

My positionality in relation to the research context has multiple layers. It is defined in part by my position – and the power and privilege associated with that position – as a white settler who grew up in Whitehorse, Yukon on the traditional territories of the Kwanlin Dün First Nation and Ta'an Kwäch'än Council. I am also affiliated with a post-secondary institution and afforded the perceived legitimacy of that institution within dominant society. Within this position, “whether [s]he expressly wishes it or not, [s]he is received as a privileged person by the institutions, customs and people” (Memmi, 1965, p. 17). I navigated the relationship between my positionality and my research in part through researcher preparation (Kovach, 2009; Simpson, 2014), a process of reflection that “compels important questions such as to whom am I accountable? To what extent have I been invited to engage Indigenous knowledges and for what purpose? What limits my ability to know?” (Latulippe, 2015, p. 7). These questions informed my methodology in important ways. For example, I understand accountability to a community to include ensuring you have the time and resources to live up to the principles outlined above. In the context of a PhD project, this meant working in one community rather than several.

My accountability to Tr’ondëk Hwëch’in also shaped the topic of my research, which was identified by TH government – and others - as one of importance. The fact that this topic centred

on the context of co-governance, and therefore involved critical analysis of decision-making processes involving Indigenous and non-Indigenous authorities, lent itself to a critical constructivist approach. At the same time, my accountability to Tr'ondëk Hwëch'in also required engaging – where invited and where appropriate – with its approach to governance and legal orders. To be clear, I was not “gathering Indigenous knowledge” about Tr'ondëk Hwëch'in governance or law. Tr'ondëk Hwëch'in is conducting its own work on these topics. However, because I was invited to support their work in these areas and – through the understandings set out in our partnership – engage in learning about them as part of the broader context of my work, I was encouraged to adopt an approach of respecting epistemic differences (Kovach, 2009). This shift towards respect for epistemic differences is particularly important in the context of colonial research relationships, which are grounded in part on the exploitation of differences, to the benefit of the colonialist (Memmi, 1965).

Another aspect of my position in relation to my research context is the fact that I was born in Whitehorse and have family here, which provides bridges to build meaningful relationships with research participants. Many of those with whom I built relationships were able to place me in relation to my family and, as Wilson describes, “existing relationships can be used to establish a context upon which new relationships can form” (S. Wilson, 2008, p. 86). Nonetheless, being part of a (geographic) community does not make my relationship to others within that community egalitarian, just as making my position or privilege transparent does not make that position unproblematic (Pillow, 2003). This demonstrates the tension inherent in my relationship to the research context, in which there exists a fine line between my obligations to my research partners and how I represent those research partners within my research. For example, while I have an obligation to build relationships with my research partners, this relationship does not give me permission to speak on behalf of those partners. To do so would be to assume I am capable of truly knowing and then representing those who occupy a positionality distinct from my own. To represent “the other” in such a way is to maintain “a colonial relationship of one person with power, the researcher, who will then demonstrate humility and generosity toward

the research subject” (Pillow, 2003, p. 185). Such an attitude is one of paternalism or, as Memmi describes, “a charitable racism” (1965, p. 76).

Navigating the challenge of appropriately representing research partners requires what Pillow refers to as “uncomfortable reflexivity” (Pillow, 2003). This approach attempts to create accountability to “people’s struggles for self-representation and self-determination” (Visweswaran, 1994 in Pillow, 2003, p. 193). Kovach raises important questions in this regard, questioning how researchers are able to write interpretations without leaving their participants voiceless in the stories they tell (Kovach, 2009). In this research, I have attempted to ensure participant voices are centred by drawing on direct sources where possible (e.g., Tr’ondëk Hwëch’in’s interpretations of stories and description of laws) and by validating broad themes directly with Tr’ondëk Hwëch’in. I also ensured that TH Government provided direction and oversight on how TH self-governance was described and represented (see section 4.2 and Figure 4). To add to this, I have also centred recommendations from my research on non-Indigenous authorities, acknowledging that to do so with Indigenous authorities assumes a depth of knowledge that I cannot and should not represent. This approach to reflexivity acknowledges that engaging in self-critique and knowing the boundaries of what I can know and represent are important, but also has shortcomings, and on its own is not sufficient to ensure better research is actually produced (Pillow, 2003). In short, the principles, methodology, and research paradigm outlined here interact in important ways that set out how the remainder of the dissertation is approached.

## Chapter 3: Conceptual framework

If we try to reconcile Indigenous and non-Indigenous people with each other without reconciling our way of life with the living earth, we will fail, because the unsustainable and crisis-ridden relationship between Indigenous and non-Indigenous people that we are trying to reconcile has its deepest roots in the unsustainable and crisis-ridden relationship between human beings and the living earth. To put it more strongly, as long as our unsustainable relationship to the living earth is not challenged, it will constantly undermine and subvert even the most well-meaning, free-standing efforts to reconcile the unsustainable relationship between Indigenous and non-Indigenous peoples through modern treaties and consultations, as we have seen over the last thirty years.

- James Tully, "Reconciliation Here on Earth"

### **3.1 Introduction**

In the quote above, Tully identifies a critical connection between the pursuit of sustainability and efforts to reconcile relationships between Indigenous and non-Indigenous peoples. The purpose of this chapter is to establish a broad conceptual framework that reflects this connection, specifically in the context of developing and applying approaches to cumulative effects and associated governance structures. I draw on three bodies of literature, covering cumulative effects assessment and management, sustainability assessment regimes, and co-governance involving Indigenous and non-Indigenous authorities. For each area of understanding I identify core criteria relevant to the development and application of sustainability-based approaches to addressing CE in a co-governance context, as well as challenges for their implementation. I then consider how these areas come together in a consolidated framework and highlight where they overlap and where there are tensions to be considered. In doing so, I address the first research objective identified in Chapter 1.<sup>11</sup> Methods for this chapter are centred on an integrative literature review and synthesis in all three areas of focus, as described in Chapter 2.

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<sup>11</sup> The first research objective identified in Chapter 1 states: "I aim to explore the nexus of three bodies of literature – sustainability, co-governance involving Indigenous and non-Indigenous authorities, and CE assessment and

Within this discussion it is important to clarify that not all these concepts will fit equally within different settings. Context-specific applications may require greater or lesser emphasis of certain criteria, more or less detailed elaborations, and possibly identifying additional criteria to account for context-specific challenges. I begin this context-specific application by paying particular attention to the Canadian context (e.g., involving multiple jurisdictions). I also elaborate further on this framework in chapters 6 and 7 by specifying and applying it to the case study region.

### **3.1 Cumulative effect assessment and management**

In understanding the processes, approaches, structures, and methods available for addressing CE, a useful starting point is CE assessment. As noted in Chapter 1, CE assessments are distinct from CE studies. CE assessment is often subsumed under assessment law and processes. It is typically viewed as a technocratic process, based on rationality and technical knowledge (Jones, 2016). In this context, its positivist tendencies can implicitly present science as unbiased and become a means of supporting a particular form of rationality within decision-making, and in doing so imply that anything outside of Western science is biased and irrational. Nonetheless, CE assessment also has the potential to be a forum for fostering dialogue, learning, and attention to how power and authority is distributed among decision-makers (Jones, 2016). In addition to project-level environmental and socio-economic impact assessments, CE can be considered within regional and/or strategic environmental assessments (RSEA), regional land use planning or broadly scoped sectoral planning, and cumulative effects management frameworks. Each of these are briefly described below.

Harriman and Noble provide a useful framework for differentiating between different levels and types of assessment. In doing so, they describe sector-based strategic EA, in which questions of CE are centred on comparing the cumulative impacts of sector alternatives, and regional strategic EA, which asks “what are the potential cumulative effects associated with different

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management – to identify a suite of overlapping generic criteria that will form the basis of a sustainability-based CE framework that meets expectations for co-governance”.

alternative future scenarios” (Harriman & Noble, 2008)? In both cases, there is ideally a focus on pursuing desirable alternatives and discouraging undesirable ones. They also may provide recommendations for undertakings, just as regional and sectoral planning processes do. While I use the term RSEA for the sake of consistency, it is nonetheless important to acknowledge the multifarious nature of strategic level assessments that occur in practice that blurs the lines between different types of strategic assessments, as well as the lines between assessment and planning. Indeed, this nature has been identified as a complicating factor for integrating a CE approach into strategic level assessments (J. Gunn & Noble, 2011).

CE can also be considered in the context of regional land use planning processes. Regional land use planning shares a number of characteristics with RSEA, in that both operate within broad spatial and temporal scales, consider a broad range of effects and the interactions between them across sectors, take a proactive approach, and require collaboration, monitoring, and adaptation (Johnson, 2011, p. 42). Regional land use planning can address a number of issues relevant to cumulative effects assessment and management, such as identifying regional issues of concern, identifying appropriate temporal and geographic boundaries, and providing baseline information (Hegmann, 2003). In more advanced practice, it can also consider alternative future scenarios through a CE lens to identify thresholds, benchmarks, or other points identifying when and what action must be taken to avoid significant adverse effects (Francis & Hamm, 2011; C. Joseph et al., 2017).

A cumulative effects assessment and management framework (CEAMF) is “an administrative structure that combines various initiatives that assist decision makers in assessing and managing the effects of human use on the land” (AXYS Environmental Consulting Ltd., 2003, p. ii). CEAMF is based on principles similar to those of RSEA (Johnson, 2011). Elements may include any combination of research and monitoring, protected area and land use planning processes, management and mitigation, application screening, a broad vision, databases, regional CE assessment, scenarios, and thresholds and land use indices (AXYS Environmental Consulting Ltd., 2003).

Given the range of options available it is perhaps unsurprising that in many cases, strategic/regional approaches to CE have been ad hoc,<sup>12</sup> ranging from special commissions to particular planning exercises. In many cases, approaches lack explicit attention to CE, though CE considerations are often central to deliberations (R. Gibson et al., 2020). The result has been a broad range of experiences tied to a broad range of process options. This diversity lends itself to the synthesis of core requirements.

### *3.1.1 Criteria for establishing and applying regional and strategic approaches to addressing CE*

Conceptual understandings of the above processes have highlighted core components of regional and strategic approaches to addressing cumulative effects and related issues typically beyond the scope of project-level assessment (Atlin & Gibson, 2017; A. L. Brown & Thérivel, 2000; Canter & Ross, 2010; CCME, 2009; Clogg et al., 2017; Duinker et al., 2013; R. Gibson et al., 2010; J. Gunn & Noble, 2009b, 2009a; Hegmann & Yarranton, 2011; IAIA, 2002; Jones, 2016; Lerner, 2018; Noble, 2002, 2009; Noble & Nwanekezie, 2017; Sinclair et al., 2017; Slootweg & Jones, 2011; L. Staples & Askew, 2016). In this context, “addressing cumulative effects” encompasses their assessment, mitigation and/or enhancement, and management. Further depth in understanding is drawn from experiences implementing the above processes and exploring criteria and tools relevant to achieving their outcomes (Cronmiller & Noble, 2018; Hegmann & Yarranton, 2011; Hutchison, 2017; C. Joseph et al., 2017; Kennett, 2006, 2007; Kristensen et al., 2013; Olagunju & Gunn, 2013; Parkins, 2011; Salmo Consulting Inc., 2006; Sheelanere et al., 2013; Sherlock, 2017; Weber et al., 2012). The criteria elaborated here are intended for application in evaluating the design and implementation of approaches to CE and associated governance structures and are based primarily on the Canadian context and international standards. They are divided here into three categories. These include normative

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<sup>12</sup> Quebec is perhaps an exception to this statement, as it is the only jurisdiction with serious attention to strategic/regional assessments under assessment law. (Gauthier et al., 2011)

criteria, substantive criteria, and governance criteria.<sup>13</sup> It is important to emphasize that these categories are broadly useful but loosely defined and overlap in important ways.

Table 4 - Criteria for processes addressing cumulative effects

Category	Criteria
Normative criteria	Futures-oriented and long-term
	Adaptive, system-wide learning
	Meaningful participation and engagement
	Credibility
	Accountability
	Sustainability-centred
Substantive criteria	Establishing strategic level direction and regional and/or sectoral vision: Identify a reference framework; scope valued components (VCs), indicators, and spatial and temporal boundaries; identify past, present, and future actions that can contribute to effects, stressors, and trends, management targets, and thresholds; identify alternatives; and identify authoritative products/processes.
	Assessment, decision-making, regulating: Assess indicators and conditions, assess significance, identify uncertainties, identify preferred alternative, identify appropriate actions, specify means of implementation.
	Monitoring and enforcement
Governance criteria	Proactive
	Data management, sharing, and coordination
	Collaboration and cooperation

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<sup>13</sup> Normative criteria refer to the established norms and standards to be reflected within approaches for addressing CE and associated governance structures. Substantive criteria describe the general components of those approaches and structures. Governance criteria describe the characteristics and capacities that support effective decision-making processes related to those approaches and structures.



	Authoritative
	Integrated
	Tiered

i) Normative criteria

Approaches to addressing CE must first be futures-oriented, emphasizing long-term considerations when identifying and assessing futures and alternative pathways through which they can be pursued (Atlin & Gibson, 2017; CCME, 2009; Noble, 2002; Noble & Nwanekezie, 2017; L. Staples & Askew, 2016). Scenario analysis is one tool that has been used to achieve this goal (Weber et al., 2012). Second, adaptive, system-wide learning encompasses modifying and adapting to new knowledge as it becomes available (CCME, 2009; R. Gibson et al., 2010; J. Gunn & Noble, 2009b; Lerner, 2018; Sloomweg & Jones, 2011). Third, approaches must involve meaningful participation and engagement with all players who may be affected by the process or have interest in the issues and effects it addresses (CCME, 2009; R. Gibson et al., 2010; Lerner, 2018; Noble, 2009; Noble & Nwanekezie, 2017; Parkins, 2011; Sinclair et al., 2017; L. Staples & Askew, 2016). This relies on early and consistent involvement, as well as opportunities for dialogue rather than passive feedback alone.

Fourth, credibility relates to ensuring the process is both explicit and open, with clear justification for decisions made in light of context-specific and widely debated sustainability-based criteria and trade-off rules (“here is what we are doing and this is why we are doing it”) (Atlin & Gibson, 2017; L. Staples & Askew, 2016). Related to this criterion is accountability, including open processes, clearly identified responsibilities and measures for ensuring those responsibilities are carried out (CCME, 2009; R. Gibson et al., 2010; Hegmann & Yarranton, 2011; Noble & Nwanekezie, 2017; Parkins, 2011). Provisions supporting accountability could include engaged monitoring or public reporting (Atlin & Gibson, 2017). Underscoring this combination of meaningful participation, credibility, and accountability is the purpose of transparency. In other words, transparency is implicitly pursued when the appropriate people(s) are actively engaged;

when there is clarity on what is being done, why it is being done, and who is responsible for what; and when there are mechanisms to ensure those responsibilities are realized.

The final normative criterion, with implications for substantive and process characteristics, is that the process must be sustainability-led (A. L. Brown & Thérivel, 2000; J. Gunn & Noble, 2009b; Jones, 2016; Noble, 2002, 2009; Noble & Nwanekezie, 2017; L. Staples & Askew, 2016). This applies to how values are understood (e.g., not treating values in isolation of one another), how objectives are identified (e.g., contributions to sustainability as a goal), and how criteria and indicators are defined (e.g., sustainability-based criteria).

ii) Substantive criteria

Substantive criteria, at a high level, include establishing strategic level direction and regional vision that incorporate the normative components set out above; assessment, decision-making, and regulating; and monitoring and enforcement. Characteristics of each are considered here. First, establishing a strategic level direction requires attention to multiple sub-criteria, including:

- Identify a reference framework, providing guidance to questions such as which parties will be involved and what their roles will be, to what extent public involvement and consultation should be involved, what questions need to be addressed, and what other policies or decision-making processes need to be considered (CCME, 2009).
- Scope valued components (VCs), indicators, and spatial and temporal boundaries. VC identification should include a broad range of values (rather than solely biophysical values), recognize interactions among VCs, be relevant to a regional scale and the future scenarios examined, be context-sensitive, and avoid simply accumulating project assessment values (Olagunju & Gunn, 2013). Indicators should be measurable and scientifically valid, relevant (to valued components and decision-making), appropriate to scale, readily interpretable, associated with thresholds, and cost-effective (Lerner, 2018). Temporal and spatial boundaries should be based on appropriate scales that are selected based on clear and transparent rationale (Joao, 2007; Lerner, 2018).

- Identify past, present, and future actions that can affect prospects for following pathways to desirable futures and contribute to effects, stressors, and trends; management targets; and thresholds (or equivalents, i.e., benchmarks). Effects, stressors and trends must be multi-dimensional (e.g., a range of CE, a range of human and natural activities or disturbances) (Atlin & Gibson, 2017). Management targets<sup>14</sup> define the desired condition of resources and communities (Salmo Consulting Inc., 2006). Thresholds (or equivalents) should be technically defensible, politically acceptable, and administratively efficient (Salmo Consulting Inc., 2006), as well as grounded in values and informed by best available knowledge (C. Joseph et al., 2017, p. 207). There are a number of tools available in the context of this criterion, such as effects pathway models, ecological and social risk assessment frameworks, ecosystem and socio-ecological system models, multi-criteria participatory processes, and mapping processes (C. Joseph et al., 2017; Lerner, 2018). While these tools have historically been focussed on biophysical values, that is increasingly changing (e.g., Proverbs et al., 2020).
- Identify alternatives, including a null option.
- Identify authoritative products/guidance (e.g., policies, plans, programs, and governance structures) to direct project planning and other more specific activities, preclude more damage, enhance prospects for positive steps, and generally help to direct, manage, and adjust.

Second, assessment, decision-making, and regulating processes encompass the assessment of indicators, conditions, alternatives, and significance. It also allows for the identification of uncertainties and preferred alternatives (including alternative futures and alternative pathways for moving towards the desirable futures) and appropriate actions. Actions must include specific means of implementation. Each must be made in light of context-specified sustainability-based

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<sup>14</sup> The scope of management targets may range from species-specific goals to broader policies or planning activities that reflect the active pursuit of positive objectives and avoidance of perils.

criteria and trade-off rules. A range of tools is available to facilitate this process, such as choice experiments (Spyce et al., 2012).

Third, developing and implementing follow-up and monitoring requires sustainability-based indicators for monitoring, including attention to unanticipated effects, pressures, opportunities, identified thresholds, gradual change, and early warning signals. It must ensure effective responses consistent with the sustainability objectives and identified pathways for the pace (of development) and place. Monitoring may also entail means of ensuring the credibility of results and pathways for results to influence decision-making (Cronmiller & Noble, 2018; Hutchison, 2017). Follow-up may also require means of ensuring compliance and enforcement within related processes (e.g., project-level assessment, monitoring programs) (Atlin & Gibson, 2017; Kristensen et al., 2013).

iii) Governance criteria

Governance criteria required to support approaches to addressing CE include a proactive approach; early initiation to ensure sustainability considerations can be built into the process, rather than added as an after-thought. Data management, data sharing, and coordination of efforts related to data are also required. This is especially relevant to the collection of baseline data and monitoring data. For example, existing data may not be accessible to those who need it for the purposes of CE assessment, or in an appropriate format (Sheelanere et al., 2013). There also may be additional sub-criteria based on how Indigenous peoples choose to share Indigenous knowledge (e.g., see FNIGC, 2020).

Collaboration and coordination across jurisdictions and within participating governing bodies requires accountability (e.g., clearly defined roles and responsibilities), improved communication, and co-operative decision-making. This is especially relevant given the typically siloed nature of dominant governing institutions in Western resource management systems. If the interrelationships between socio-economic, cultural, and ecological systems are going to be addressed through CE assessment and management, then governance systems must mirror

these interrelationships (Slootweg & Jones, 2011). This criterion becomes of great importance in the Canadian context, where multiple jurisdictions often overlap.

Finally, processes for addressing CE that are integrated and tiered within the broader governance system ensures they both inform and are informed by broader scale environmental management (e.g., revising strategic direction in light of CE studies or other effects monitoring) and project-level decision-making.

### *3.1.2 Challenges*

The challenges of addressing CE in Canada are well-documented. Technical challenges include a lack of data (e.g., baseline data, multi-year data) and limits to collecting it (e.g., expensive, time-consuming) (Acharibasam & Noble, 2014; Arnold et al., 2019; Duinker et al., 2013; Duinker & Greig, 2006; J. Gunn & Noble, 2009b; Jones, 2016; Stinchcombe & Gibson, 2001). Governance challenges include time, resource, and capacity restraints (Acharibasam & Noble, 2014; Arnold et al., 2019; Noble, 2004); jurisdictional overlap and/or fragmentation (R. Gibson et al., 2010; Kristensen et al., 2013; Stinchcombe & Gibson, 2001); lack of clear and common vision (Acharibasam & Noble, 2014; Fidler & Noble, 2013; J. Gunn & Noble, 2009b); lack of commitment and political will to conduct RSEA or implement results (Acharibasam & Noble, 2014; R. Gibson et al., 2010; Noble et al., 2012); an absence of legislated requirements (Gachechiladze-Bozhesku & Fischer, 2012; Noble, 2004); poor integration with core broader governance systems (Kennett, 2007; Noble, 2008; Noble et al., 2019; Stinchcombe & Gibson, 2001); and lack of a tiered system (J. Gunn & Noble, 2011; Noble, 2008, 2009; Stinchcombe & Gibson, 2001). There are also challenges within key process elements of addressing cumulative effects, including barriers to meaningful public participation (Gauthier et al., 2011; Jones, 2016; Noble et al., 2019; Parkins, 2011; Stinchcombe & Gibson, 2001), struggles to consider socio-cultural values and indicators meaningfully (Mitchell & Parkins, 2011) and impacts to them (Ehrlich & Sian, 2004), and weak follow-up and monitoring (Baxter et al., 2001; Gachechiladze-Bozhesku & Fischer, 2012; Noble, 2008, 2009). Perhaps most significantly in light of sustainability

objectives, practice has demonstrated a limited focus on contributions to sustainability (Jones, 2016; Noble, 2009).

Jones provides a more critical look at CE assessment as a whole, arguing that current practice masks choices that are ultimately political and ethical as technical, and “the resulting tokenism tends to reinforce a society’s norms and distribution of power (which are often at odds with CEA’s promise of sustainability)” (Jones, 2016). In light of the critiques raised in Chapter 1 identifying the need to redress power imbalances within dominant resource management systems involving Indigenous peoples, this argument implies current practice is equally at odds with the purpose of co-governance. It stands to reason then that if Jones’ position rings true, then current practice of CE assessment is poorly positioned to address the disproportionately adverse and unique cumulative impacts on Indigenous lands and peoples. CE literature has done little to change this position, though important work has been done to ensure more inclusive, respectful, and context-sensitive approaches to considering Indigenous knowledge, defining thresholds, and identifying indicators and values within CE assessment and management impacting Indigenous peoples (Christensen & Krogman, 2012; Hutchison, 2017; Parlee et al., 2012). There has also been some consideration of potential co-governance arrangements for CE management (Clogg et al., 2017). Nonetheless, questions remain regarding how these arrangements are implemented and what potential they hold for achieving purposes of sustainability and peaceful co-existence between Indigenous and non-Indigenous peoples impacted by and involved in resource development. Lessons from sustainability and co-governance literatures may therefore be useful in responding to such questions.

### **3.2 Sustainability**

Sustainability assessment aims to “foster undertakings that make positive contributions to sustainability, while also avoiding or minimizing adverse effects” (R. Gibson et al., 2020, p. 12). While informed by environmental assessment (EA)/impact assessment (IA) literature, sustainability assessment is often distinguished from EA/IA by its focus on a broader suite of impacts beyond the biophysical alone (Berger, 2007). However, there is also evidence of IA

practice shifting to consider a broader suite of issues as well. The above agenda for sustainability assessment provides for the inclusion of processes that explicitly take on a sustainability agenda, as well as those that implicitly do so by adopting an approach that considers long-term wellbeing and impacts on it. This not only encompasses project, strategic, and regional level assessments, but also sectoral and regional planning processes that provide guidance to project level assessments (e.g., Boyle et al., 2004).

Much of the literature on sustainability assessment describes tools and metrics (e.g., Ness et al., 2007; Srinivasan et al., 2011), which range from qualitative to quantitative, more to less participative, specific criteria/indicators to cross-cutting ones, standardized to context-specific (R. Gibson et al., 2020). This diversity of options and approaches to sustainability assessment is important, especially in light of the need for context-sensitive applications and attention to complexity. In light of the diversity of approaches and experiences in Canada and internationally, there is a depth of knowledge available to identify key criteria for sustainability assessment regimes.

### *3.2.1 Criteria for the design and evaluation of sustainability-based assessment regimes*

The sustainability criteria identified here are based on Gibson, Doelle, and Sinclair's outline of the "next generation" of impact assessment (R. Gibson et al., 2015), then expanded and refined based on literature pertaining to sustainability assessment regimes and related processes (e.g., sustainability planning that influences project assessments, sustainability appraisal) in the Canadian and international context. I focus on sustainability assessment regimes rather than the specific linear steps of an assessment process to draw attention to the governance system in which assessment is embedded. Impact assessments in general are tied to governance systems in part because they "address governance challenges like informed (or knowledge-based) decision-making, policy integration, improved strategic management, transparency and stakeholder participation" (Berger, 2007, p. 1). Consequently, the criteria identified also draw on sustainability governance literature. Not included in this review is literature related to sustainability within corporate social responsibility. Criteria are divided here into three

categories, similar to those in section 3.2.1, including normative characteristics, substantive characteristics, and governance capacities and characteristics.

Table 5 - Criteria for design and application of sustainability assessment regimes

Category	Criteria
Normative criteria	Sustainability purpose
	Participation and meaningful engagement
	Learning
	Effectiveness, efficiency, and fairness
Substantive criteria	Sustainability-based criteria for evaluations and decision-making, including trade-off rules
	Sustainability-based scope of assessment requirements
	Transparent review and decision-making processes
	Monitoring of effects and compliance
Governance criteria	Broad application to project-level and strategic-level undertakings and tiered applications between those levels
	Authoritative requirements in legislation, regulation, and guidance
	Meaningful involvement of affected Indigenous peoples as decision-makers
	Linkages beyond assessment

i) Normative criteria

The first normative characteristic of sustainability assessment regimes is an explicit sustainability purpose (Adger et al., 2003; Bond et al., 2012; Bosselman et al., 2008; R. Gibson et al., 2015). Gibson’s generic sustainability criteria (see Chapter 1) provide guidance to what such a purpose might entail. Broadly speaking a sustainability purpose emphasizes making positive contributions to lasting wellbeing while avoiding significant adverse effects. The aim is “to protect and enhance the resilience of desirable biophysical, socio-ecological and human systems and to foster and facilitate creative innovation and just transitions to more sustainable practices” (R. Gibson et al.,



2015, p. 255). Embedded within this purpose are additional norms, including justice, equity, and integrated attention to all factors that contribute to sustainability. The substantive and process requirements for implementing sustainability purposes overlap with characteristics described below, but in short they require integrating consistency and efficiency with flexibility, fostering mutual learning, and ensuring meaningful participation (R. Gibson et al., 2015).

The second criterion for sustainability assessment regimes is participation and meaningful engagement (Benham & Hussey, 2018; Doelle & Sinclair, 2006; R. Gibson et al., 2015; Johnston, 2015; Meadowcroft, 2007). In addition to the substantive learning involved, a key underlying intention behind this requirement is to ensure that those who are affected or concerned by decisions are involved in the process and therefore more likely to accept the outcome (Newig & Fritsch, 2009). It requires that the voices, knowledge, and priorities that have typically been left out of decision-making are brought into the process (K. Brown, 2009; Robinson, 2004). Beyond the moral argument of fairness (Lockwood, 2010), there is also a legal obligation to include Indigenous nations in decision-making when their Aboriginal and treaty rights might be impacted by resource development activities. This obligation is reflected nationally and internationally, and requires consideration of related commitments, such as free, prior and informed consent (United Nations General Assembly, 2007).

However, inclusion alone is not sufficient to ensure participation and engagement are meaningful. For example, procedural barriers in most existing approaches to natural resource governance limit the inclusion of Indigenous knowledge (e.g., focussing on technical language, only communicating in English) and participation of Indigenous peoples (e.g., shorter timelines for consultation, limiting funding for participation) (Ellis, 2016; Udofia et al., 2017). For this reason, processes such as deliberative democracy have proven useful in providing guiding principles for how participation and engagement can truly be meaningful. For example, in addition to ensuring a “place at the table” for those affected by decisions, sustainability assessment regimes can also ensure elements of interactional justice, procedural justice, and

distributive justice are embedded within the process.<sup>15</sup> Implementing such principles therefore has important implications for the process and governance characteristics of sustainability assessment regimes, including ensuring learning throughout the process, paying attention to where decision-making authority lies, requiring early engagement, aiming for consensus, and evaluating participatory outcomes (Benham & Hussey, 2018; Doelle & Sinclair, 2006).

Third, learning is key to sustainability assessment regimes (Benham & Hussey, 2018; Bond et al., 2012; R. Gibson et al., 2015; Sinclair et al., 2008). This refers to both individual and collective forms of learning, including capacity-building (R. Gibson et al., 2015). Such learning can take place through the assessment process (e.g., through meaningful participation and/or critical education) and following the assessment process (e.g., by creating feedback loops through monitoring), to learn from decisions that have already been made (e.g., monitoring) and to learn about decisions that will be made (e.g., strategic assessment) (Sinclair et al., 2008).

Fourth, effectiveness, efficiency, and fairness considerations are interdependent characteristics within sustainability assessment regimes (Bosselman et al., 2008; R. Gibson et al., 2015; Johnston, 2015; Meadowcroft, 2007). These characteristics are encouraged through “clear generic rules, maintained beyond discretionary avoidance or compromise; early application; consistent guidance (e.g. from the strategic level to project planning); flexibility to recognize key contextual factors; and, by placing assessment at the centre of decision making on assessed undertakings” (R. Gibson et al., 2015, p. 274). In this context, effectiveness and efficiency are often equated with predictability, though it is important to note that a predictable process – such as explicit guidance and consistent practice – is not equivalent to a predictable outcome (Johnston, 2015).

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<sup>15</sup> Benham and Hussey summarize as follows: interactional justice refers to “an atmosphere of mutual respect and reciprocity where dialogue is possible”; procedural justice refers to “balanced and factual briefing materials, an opportunity to pose questions to competing experts and/or policymakers,” and discussion around reasoning for/against positions; and distributive justice refers to the “delegation of decision making authority to participants or a representative”. (Benham & Hussey, 2018, p. 179)

ii) Substantive criteria

The first substantive requirement for sustainability assessment regimes is sustainability-based criteria for decision-making, including trade-off rules (R. Gibson et al., 2015; Johnston, 2015; Kemp et al., 2005; Morrison-Saunders & Pope, 2013; Pope et al., 2013). This provides a “comprehensive, credible and explicit base for choices and decisions” that enhances transparency and accountability if also tied to mandatory publication of reasons for decisions (R. Gibson et al., 2015, p. 256). Gibson suggests a number of generally applicable trade-off rules to guide sustainability assessment, including ensuring that decisions and undertakings have delivered net sustainability gains, and the trade-offs involved have been explicitly justified with the burden of argument being on the proponent, avoided significant adverse effects unless alternatives are worse, avoided displacing adverse effects on future generations unless alternatives are worse, and have been examined in an open process (R. Gibson, 2006b; R. B. Gibson et al., 2005).

Second, the scope of assessment requirements must direct attention to a broad range of sustainability considerations and effects, including comparative evaluation of alternatives; broadly scoped biophysical, socio-economic, and cultural impacts and their interactions; positive and negative effects; cumulative effects; and means of accommodating surprise (G. Gibson et al., 2018; R. Gibson et al., 2015; Johnston, 2015). Third, the review and decision-making process must be based on transparency, credibility, and accountability (R. Gibson et al., 2015; Joss, 2010). This encompasses informed and independent decision-making and ensuring the authorities responsible for decision-making are credible and accountable for decisions that are made in light of clear sustainability criteria. Experiences with Indigenous-led assessment in Canada have pointed to additional potential criteria related to decision-making and review, including flexibility of process, an emphasis on oral discussions over written processes, a role for proponents to provide information rather than determine significance of impacts, and a willingness to consider the null option seriously (G. Gibson et al., 2018, p. 13). Finally, monitoring of effects “must aim to identify unanticipated positive and adverse effects, as well as other unpredicted pressures, opportunities and changes that may require interventions to correct or

pursue” (R. Gibson et al., 2015, p. 267). Enforcement of compliance accompanies this requirement.

iii) Governance criteria

The governance structure and capacities required for sustainability assessment regimes include broad application (to project and strategic levels) and linked tiers, referring to the need for strategic and regional level assessments to address big policy issues and opportunities, broad alternatives, and cumulative effects, as well as provide guidance for project-level assessment (R. Gibson et al., 2015; Johnston, 2015). Project level assessments can also play an important role in identifying issues and options for assessments at the strategic level. Authoritative requirements in legislation, regulation, and policy guidance are also needed within a governance system that supports sustainability assessment (Bosselman et al., 2008; R. Gibson et al., 2015). Laws and regulations must be clear and transparent, as well as provide for enforceability balanced with flexibility to respect the particulars of case and context.

The meaningful involvement of affected Indigenous peoples as decision-makers (e.g., consistent with the UN Declaration on the Rights of Indigenous Peoples, respectful nation-to-nation relationships) (Sinclair et al., 2018, p. 168) has implications for governance systems and capacities in that it requires ensuring that Indigenous nations are able to exercise their authorities that flow from inherent governance rights, especially in relation to impacts on rights and interests (Johnston, 2015). Finally, sustainability assessment regimes require linkages beyond assessment, in particular to processes of policy, planning, permitting, licensing, reporting, monitoring, and other relevant forms of data collection (R. Gibson et al., 2015; Kemp et al., 2005).

### *3.2.2 Challenges*

Many identified challenges in implementing sustainability assessment have centred on criteria-specific difficulties, such as a lack of monitoring or struggles to ensure meaningful participation, both in Canada and internationally (Benham & Hussey, 2018; Benson & Jordan, 2004; Gauthier et al., 2011; Noble, 2002). Broader challenges include issues with the governance systems in

which sustainability assessment is embedded. Specifically, critiques have highlighted issues of maldistribution of power rooted in histories of marginalization and injustice, which influence whose values, worldviews, and knowledges are reflected or excluded, how the “goals” for governance for sustainability and pathways for pursuing it are defined, and how the historical and cultural context in which governance is embedded is understood (Armitage, 2008; Brisbois & de Loë, 2016; Chaffin et al., 2014; Cote & Nightingale, 2012; Fabinyi et al., 2014; Kallis et al., 2009; Moore et al., 2014; O’Brien, 2012; Patterson et al., 2015; von der Porten et al., 2016). Such challenges shape the norms, substance, and process of sustainability assessment regimes in important ways. Literature addressing issues of power and (in)justice may therefore play a complementary role to literature on sustainability assessment. The next section addresses the ways and extent to which co-governance literature can fill such a role.

### **3.3 Co-governance and natural resource management**

Several models for co-governance involving Indigenous and non-Indigenous authorities have emerged in Canada and internationally, each with its own insights stemming from distinct contexts, yet linked together by similar lessons and metaphors. Two-eyed seeing was initially proposed by Albert Marshall, a designated voice on environmental matters for Mi’kmaw Elders in Unama’ki-Cape Breton (Bartlett et al., 2012). This approach refers to “learning to see from one eye with the *strengths* of Indigenous knowledges and ways of knowing, and from the other eye with the *strengths* of Western knowledges and ways of knowing, and to using both these eyes together, for the benefit of all” (Bartlett et al., 2012, p. 335). Similarly, the Two Roads approach, adopted by the Cumulative Environmental Management Association traditional knowledge research team, conceives of traditional knowledge and Western science as separate roads, which create space for “Aboriginal people to affirm and develop their own ways of working on research questions, freed from the constraints of integration with science” (Simmons et al., 2012, p. 35).

The Two Row Wampum approach is based on the Two Row Wampum belt (Tekeni Tiiohate Onekohnhra Ateriwisa’atshera), a key sign and symbol of Iroquois League of the Five Nations (Wisk Nihonohnwenstiake) culture (T’hohahoken Michael Doxtater, 2011). It establishes a

relationship based on individual freedom and tribal sovereignty as well as friendship between Europeans and Indigenous Americans (T’ohohoken Michael Doxtater, 2011). This relationship is described as follows:

We travel down the river of life together, you in your sailing ship and we in our canoe. And in your sailing ship you have your people and your ways. And in our canoe are our people, our country, and our ways. We have agreed to be friends, for our mutual defense and mutual aid (T’ohohoken Michael Doxtater, 2011, p. 46).

The metaphor of braiding has also been used to guide co-governance models. For example, braiding has been used to refer to the bringing together of distinct strands of Indigenous, Canadian, and international systems of law (Fitzgerald & Schwartz, 2017). It has also been used as a metaphor in organizational decision-making involving settler-Indigenous relations. In this context braiding is described in relation to “brick” sensibilities (ways of being and knowing that centre on individuality, static form, and linearity) and “thread” sensibilities (ways of being and knowing that emphasize inter-wovenness, flexibility, and layered time) (Jimmy et al., 2019, pp. 13–14). The braiding of these sensibilities is premised on “respecting the continued internal integrity of both the brick and thread orientations, even as neither side is static or homogenous, and even as both sides might be transformed in the process of braiding”(Jimmy et al., 2019, p. 21). The above models have been used in a broad range of contexts, including education, fisheries governance, ecosystem health, research partnerships, conflict mediation, and consultation, to name a few (Abu et al., 2019; Bartlett et al., 2012; Denny & Fanning, 2016; Hatcher et al., 2009; Hill & Coleman, 2019; Iwama et al., 2009; Mantyka-Pringle et al., 2017; McMillan & Prosper, 2016; Sisco, 2015; T’ohohoken Michael Doxtater, 2011).

It is important to reiterate that aspects of these models are context specific. For example, the Two Row Wampum belt is rooted in Iroquois League of the Five Nations culture and is not automatically applicable to other regions or situations involving Indigenous and non-Indigenous authorities. Indeed, many of these examples are, at least geographically, far-removed from Tr’ondëk Hwëch’in traditional territory. Indeed, resisting assumptions of homogeneity and

paying attention to historically-informed contexts are central themes of co-governance approaches (Diver et al., 2019; G. Gibson et al., 2018; Hill & Coleman, 2019; Premauer, 2013; Williams, 2004). Nonetheless, the models above do share common characteristics, which provide a useful starting point for a basic understanding of lessons learned.

Adding to these lessons are decades of experiences with putting into practice collaborative processes, co-governance and co-management, integrative approaches, and Indigenous-led approaches that interact with non-Indigenous processes and decision-making contexts (e.g., Indigenous-led assessment), primarily in Canada, the United States, Australia, and Aotearoa/New Zealand. Such experiences address self-governance by Indigenous nations in various ways, and it should be noted that while self-governance is not explicitly addressed here, it is implied throughout as many of the criteria rely on the recognition of self-government institutions, as defined by Indigenous peoples and Indigenous law. It should also be noted that although TH-specific metaphors and approaches for understanding the relationship between TH and the Crown likely exist, they are not included here. However, there is ongoing work being carried out by TH that may support such expressions in the future, which could play a central role in guiding co-governance approaches to addressing cumulative effects and associated governance structures.

### *3.3.1 Criteria for co-governance models and natural resource management*

The characteristics identified below draw on both co-governance models and their applications, with the understanding that within context-specific applications there may be existing approaches that are socially and culturally relevant and either supplant or further clarify what is identified here. Unlike the previous two sections, the criteria described here are not divided into normative, substantive and process, and governance characteristics, as they overlap to the extent that dividing them at this point would be impractical. These characteristics are woven throughout all three categories in section 3.4.

An additional caveat to understanding these characteristics is that there also may be work required before a co-governance model can even be pursued. Jimmy, Andreotti, and Stein

describe such work, including “facing and digesting the implications of historical and systemic harm” and making a commitment to continue work even when it is difficult or uncomfortable (Jimmy et al., 2019). While this pre-work is not described in detail here, it is nonetheless critical in the context of co-governance and aspects of this work are woven throughout the characteristics described below.

i) Co-learning

The first characteristic identified by approaches to and experiences with co-governance is co-learning (Bartlett et al., 2012; Hill & Coleman, 2019; McMillan & Prosper, 2016; Simmons et al., 2012; Simms et al., 2016; T’ohohoken Michael Doxtater, 2011). Co-learning is a form of mutual mentorship or “learning each other’s ways” (McMillan & Prosper, 2016; Simms et al., 2016).

Central to co-learning are relationships. On one hand, the reciprocity inherent to sharing through co-learning provides a foundation for strong relationships (Simmons et al., 2012). On the other, knowledge is shared, but not jointly owned, through these relationships, which implies that boundaries may exist in the type of knowledge that is considered appropriate to share within different relationships (Hill & Coleman, 2019). Respecting the boundaries of what is shared (or not shared) is therefore critical to the relationship itself within co-governance.

Co-learning is not only about understanding new ways, but is also about unlearning, or letting go of certain attachments or ideas to “make room for a more generative space to emerge, where humility and truth and attention and resonance could create the conditions for deep listening and respect” (Jimmy et al., 2019, p. 92). For example, those within the dominant culture whose knowledge has been privileged historically must learn to *unlearn* ways of knowing and being that are rooted in oppression. This is particularly important in that privileged ways of knowing and being are often implicitly applied, and therefore require specific attention to surface (Jimmy et al., 2019). Doing so is central to creating a space where the type of co-learning that is central to co-governance and is grounded in trusting relationships can take place.



ii) Understand and respect distinctiveness

Second, co-governance models draw attention to the need to understand and respect distinctiveness and find equity within these differences (Bartlett et al., 2012; Bowie, 2013; Castleden et al., 2017; Harmsworth et al., 2016; Hatcher et al., 2009; Hill & Coleman, 2019; Jimmy et al., 2019; Lyons, 1986; Simmons et al., 2012; Williams, 2004). This encompasses respect for different laws, values, knowledges, ways of being and knowing, histories of trauma, understandings of space and time, relationships, etc. Ensuring equity within distinctiveness requires that these differences exist in their entirety, within their own philosophical and historical contexts (Hill & Coleman, 2019). For example, in the Two Row Wampum model, it is noted that the “two rows do not come together, they are equal in size” (Lyons, 1986, p. 119). However, this recognition does not take place in a vacuum. As Castleden et al. point out, there are times where dichotomies must be challenged. For example, oft-cited presentations of the differences between Indigenous and Western ways of knowing have built on racist underpinnings, coding the former as intuitive and unempirical and the latter as rigorous and systematic (Castleden et al., 2017, p. 81). Consequently, understandings of distinctiveness must not be set in stone, but acknowledge the fluid nature of knowledge and, more broadly culture, to build mutual respect.

iii) Self-determination

Self-determination also arises as a key feature in co-governance approaches and experiences (Castleden et al., 2017; Diver et al., 2019; Latta, 2018; Premauer, 2013; Sisco, 2015; Williams, 2004). Self-determination can broadly be thought of as, “the right of a people to decide how it wants to relate to a majoritarian population” (Imai, 2008, p. 10). In Canada, the Crown has often taken a narrow definition of Indigenous self-determination by focussing on institutional arrangements for decision-making and jurisdiction. However, the concept can also be “rearticulated as part of a sustainable, community-based process rather than solely as narrowly constructed political or legal entitlements” (Corntassel & Bryce, 2012, p. 53). Within co-governance arrangements, self-determination entails awareness of inherent Indigenous rights and responsibilities and recognition of self-government institutions, as defined by Indigenous

peoples and Indigenous law (Castleden et al., 2017; Diver et al., 2019; G. Gibson et al., 2018; Premauer, 2013). In this context, strategies of self-determination encompass those recognized by the State and those self-recognized by Indigenous people (N. J. Wilson, 2020). Wilson describes this as recognitional justice, which addresses “who or what is valued or respected in decision-making”. She asserts that for recognitional (and distributional and procedural) forms of justice to be realized within co-governance, then these processes need to consider “differing understandings of governance and sources of authority that flow from Indigenous and colonial legal orders” (N. J. Wilson, 2020, p. 95). However, awareness and recognition are not passive processes. In the United States, for example, experiences with water co-governance have demonstrated that State policies supporting tribal self-determination must be accompanied by enforcement capacities to ensure practice is accountable to tribal standards.

In light of a long history of State authorities systematically dismantling Indigenous governance institutions and legal traditions, self-determination may also necessitate revitalization. For example, “we cannot assume that there are fully functioning Indigenous laws around us that will spring to life by mere recognition. Instead, what is required is rebuilding” (Napoleon in Indigenous Law Research Unit, n.d., p. 8). This is not only critical in exercising self-determination, but is also integral to Indigenous peoples’ “unique cultures, identities, languages, institutions and relationship with land” (Borrows, 2005b, p. 205). These traditions can inform key aspects of co-governance arrangements, including the identification of who makes decisions, how they are made, and the criteria by which decisions are made (Clogg et al., 2017). However, the fact that colonial governance frameworks have often implicitly or explicitly excluded or ignored Indigenous law provides an important context for understanding the relationship between co-governance and Indigenous law (Simms et al., 2016). It is therefore critical to emphasize the autonomy of Indigenous authorities engaged in co-governance to decide whether or not Indigenous legal traditions are brought into shared decision-making.

iv) Address decision-making authority and power

Addressing decision-making authority and power within co-governance implies a recognition of how these authorities and powers have historically been established and redressing that history

(Bowie, 2013; Castleden et al., 2017; R. C. Harris, 2015; Hill et al., 2012; Jimmy et al., 2019; Simmons et al., 2012). Doing so requires centring those who are impacted to ensure they have decision-making authorities, questioning whose legal traditions are used to make decisions, and ensuring the decision-making process is mutually defined, including mutually defining criteria for success (Jimmy et al., 2019; Simmons et al., 2012; N. J. Wilson, 2020). This is particularly important in the context of co-learning, in that if Indigenous peoples are being asked to share their knowledge, they must have the authority to ensure it is deployed appropriately (Hill et al., 2012). Further opportunities to address power imbalances include ensuring free, prior and informed consent (FPIC),<sup>16</sup> recognizing Indigenous peoples as rights holders rather than mere stakeholders, and ensuring full and equal participation (Castleden et al., 2017). There also may be opportunities to broaden dominant understandings of authority and power. For example, when the area of Te Urewera in Aotearoa/New Zealand was recognised as a legal person, it put the area beyond the “ownership” of any one party and proved to be crucial to Crown-Iwi power sharing arrangements (R. C. Harris, 2015).

v) Goal of peaceful co-existence

Co-governance models reflect the goal of co-existing harmoniously and interdependently (Bartlett et al., 2012; Castleden et al., 2017; Denny & Fanning, 2016; B. L. Gunn, 2017; Sisco, 2015). In this context, interdependence does not preclude autonomy or conflict. Rather, it is an acknowledgement of a shared space in which self-determining parties mutually agree to the terms of their relationship (G. Gibson et al., 2018; Lyons, 1986; Williams, 2004). Within this shared space the norms for how the parties treat one another are established. For example, in the context of the Two Row Wampum belt, the principles of safety, peace, and friendship

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<sup>16</sup> FPIC is also relevant to the criteria of self-determination, in that the right to FPIC is understood as an expression of self-determination. In the context of modern treaties in the Yukon, expressions of FPIC have primarily been in the context of exerting decision-making authorities on Settlement land, and to a lesser extent, through YESAB and consultation obligations (Martin & Bradshaw, 2018). There has been relatively little engagement with the concept of FPIC in the Yukon within the modern treaty context, potentially in light of the consultation and consent rights outlined within modern treaties (Martin & Bradshaw, 2018). For this reason, FPIC is not a major consideration within this analysis; the focus is instead more broadly on self-determination and decision-making authority.

between the two parties are agreed-upon (Lyons, 1986). The term “nation-to-nation”<sup>17</sup> relationship also reflects this goal, which describes “relationships based on principles of mutual recognition, mutual respect, and shared responsibility for maintaining those relationships into the future” (TRC, 2015b, p. 5).

The fact that these norms are mutually agreed upon are critical in avoiding historic and current relations of domination (Williams, 2004, p. 108). Experiences with co-governance have demonstrated the centrality of investing in relationships in pursuing this goal. For example, Castleden et al. suggest doing so through building on existing relationships, ensuring openness and transparency in new relationships, and – for non-Indigenous authorities who have historically unilaterally determined the nature of relations with Indigenous authorities – being responsive and flexible to the direction provided by Indigenous counterparts (Castleden et al., 2017).

vi) Supported by adequate capacities and resources

Finally, co-governance efforts must be supported by adequate capacities and resources (Bowie, 2013; Diver et al., 2019; Harmsworth et al., 2016; Latta, 2018; Te Aho, 2010). These resources may take the form of political space, financial resources, or technical capacities, to name a few (Latta, 2018). Doing so is central to other characteristics of co-governance approaches. For example, if Indigenous authorities are expected to engage with Western science in a process of co-learning, then technical capacity to do so may be required. Similarly, sharing of decision-making power and authority may introduce complex questions of jurisdiction, which have historically required significant financial resources and capacities to engage with (Diver et al., 2019), especially when multiple legal traditions may be involved.

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<sup>17</sup> I emphasize the TRC’s definition of nation-to-nation relationships here while also acknowledging that the way this relationship has been put into practice by the current federal government does not reflect such a definition. This is exemplified by the fact that the Association of First Nations has become the de facto nation that the federal government is establishing a “nation-to-nation” relationship with, despite the fact that as an advocacy body, the Association cannot negotiate binding legal or policy changes. (King & Pasternak, 2018)

### 3.3.2 *Challenges*

It is not possible to discuss experiences with co-governance without acknowledging the challenges and critiques that arise within this discussion. Fundamental to these critiques are the centring of Western governance frameworks (Diver et al., 2019), the maintenance of most meaningful authority and decision-making power in the hands of the Crown (Dodson, 2014; Te Aho, 2010), and a persistent lack of trust of non-Indigenous authorities (Simms et al., 2016). Such barriers are mutually reinforcing. Given the identified challenges, it is useful to look at critiques of co-management involving Indigenous and non-Indigenous authorities, an area within natural resource management that has long been discussed for its strengths and pitfalls. Grey and Kuokkanen argue that while co-management has been used skillfully by Indigenous leaders and communities, its fundamental flaw is that it displaces Indigenous rights and Indigenous governance (Grey & Kuokkanen, 2019, p. 2). Similarly, it is difficult to disentangle whether co-governance is any different from experiences with co-management, especially where the State uses co-governance as a “mouldable tool” (Grey & Kuokkanen, 2019; R. C. Harris, 2015). While co-governance models may be able to serve the purposes of sustainability outlined above, if they undermine Indigenous rights, responsibilities, and governance then they are ultimately unsustainable. For this reason, further exploring implementation of co-governance arrangements to better understand their implications in practice are warranted.

### **3.4 Consolidated conceptual framework**

The criteria addressed within sustainability assessment regimes, co-governance and natural resource management, and cumulative effects assessment and management literatures have their own areas of challenges and critique, as well as tensions in relation to one another. There are also areas of overlap and synergy. Within the normative criteria, all three bodies of literature include some mention of learning, for example. While CE assessment and management largely focuses on learning as an adaptive process, sustainability assessment literature has taken a broader approach by describing the various roles that learning plays within sustainability assessment, from monitoring feedbacks to critical education (Sinclair et al., 2008). While

concepts such as critical education within impact assessment may push learning towards critical reflection, experiences with co-governance focus on the need for learning to challenge ways of knowing and being that are rooted in oppression and centre relationships within the co-learning process.

The principles of credibility, accountability, and meaningful participation in the context of cumulative effects and sustainability assessment require an open process, through which criteria for making decisions are discussed, responsibilities are identified, and approaches to meaningful participation are clarified. Co-governance literature provides context for how these processes often occur, in which decision-making, roles and responsibilities, and participation are all defined and operationalized through a Western lens. Ensuring participation, for example, may not require distinguishing between stakeholders and rightsholders. For this reason, distinguishing between public participation and engagement with Indigenous peoples that is grounded in understanding and respecting distinctiveness, nation-to-nation relationships, and self-determination is especially important. Similarly, the identification of roles and responsibilities to ensure accountability may not ensure processes of identifying appropriate authorities within Indigenous governance systems are respected. This reinforces the understanding that the criteria below must be mutually reinforcing if they are going to be mutually agreed upon.

Norms identified within co-governance literature can also be seen as governance capacities in light of governance challenges identified through experiences with co-governance. For example, requiring that data are managed, shared, and coordinated within CE assessment and management does not explicitly ensure that Indigenous knowledge is shared appropriately or within the philosophical system in which it is embedded. Similarly, the need for authoritative products and means of enforcement often defaults to legislation and regulation within State governance systems, which does little to acknowledge Indigenous systems of governance and law. For collaboration and co-operation across jurisdictions to occur when Indigenous jurisdictions are involved, then there needs to be the philosophical and political space – and capacity – to do so. Co-governance approaches therefore require non-Indigenous authorities to

understand and develop capacities for criteria such as respecting self-determination and distinctiveness.

The substantive elements described by CE literature provide specific direction for how strategic level direction, assessment, decision-making and regulation, and monitoring and enforcement are carried out. Sustainability assessment provides a broader approach, emphasizing the need for assessment, review, and decision-making processes that generally follow scoping requirements and sustainability criteria. As the co-governance literature demonstrates, dominant approaches to addressing sustainability problems have often failed to include Indigenous peoples or have actively ignored their concerns, and therefore new approaches emphasizing a mutually agreed-upon process are required. Consequently, the reliance on the CE model that is based on characteristics such as identifying valued components, effects, stressors, trends, thresholds, and alternatives may not be mutually acceptable in all circumstances.

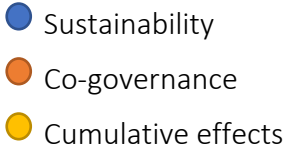



The categories of establishing a strategic level direction (where do you want to go and how are you going to get there?), ensuring a review and decision-making process (how do you make sure it's implemented?), and requiring monitoring and enforcement (how do you are on track and respond to change?) are sufficiently broad that more specific detail can be clarified in context. The co-governance and sustainability literatures can also provide direction for how the substantive and process elements of addressing cumulative effects might be elaborated. For example, in setting the strategic direction, the reference framework that provides guidance for the process and structure (e.g., jurisdictions, roles, and responsibilities) can also draw attention to how decision-making power and authority is determined, a nation-to-nation relationship is understood by those involved, a sustainability purpose identified, and adequate capacities and resources are in place.

Table 6 provides an overview of the consolidated framework that brings together the criteria identified above into three categories. These categories are broadly useful but are loosely defined and overlap in important ways. For example, a normative criterion such as meaningful engagement with affected Indigenous peoples as decision-makers also has implications for what

collaboration looks like as a governance criterion. It is also important to note that consolidated does not imply static, and several of the tensions identified here may shift and spark further issues when put into practice. The inherent limitation of a broad framework is that it trades manageable simplicity of structure and details for greater depth in specific requirements, such as specified elaborations of the generic factors covered within each category, the various options for addressing them, and means of considering them within specific cases or contexts. As noted previously, it is also important to emphasize that there are multiple possible approaches to organizing and defining these criteria. The iteration presented below provides one permutation.





Table 6 - Consolidated framework for the development and application of sustainability-based approaches to addressing cumulative effects in a co-governance context

Broad category	Criteria	Brief description	Relevant bodies of literature <sup>18</sup> 
Normative criteria	Future-oriented and long-term	Long-term considerations when identifying and assessing possible futures and alternative pathways to desirable futures	
	Learning and co-learning	Individual and collective learning, including capacity-building, responding to new knowledge (e.g., through monitoring), learning that challenges ways of knowing and being that are rooted in oppression, and learning through relationships, while respecting the boundaries of what knowledge can be appropriately shared within those relationships	
	Meaningful public participation and engagement	Ensuring those impacted and those with interests in the process are involved, ensuring the nature of participation is meaningful through early and consistent engagement that is active, encourages dialogue and mutual respect (interactional justice), provides space for multiple views to	

<sup>18</sup> The colour coding in this table is intended to represent most major links to criteria referenced within the specific bodies of literature and does not imply that any body of literature not referenced is irrelevant.

		be heard based on the best available information (procedural justice), and potentially involves the delegation of authority (distributive justice)	
	Meaningful engagement with affected Indigenous peoples as decision-makers	Ensuring impacted Indigenous peoples have decision-making authorities and influence within the process as inherent rightsholders rather than stakeholders, questioning whose legal traditions are used to make decisions, and ensuring the decision-making process is mutually defined	● ●
	Credibility	A process that is both explicit and open, with clear justification for decisions made in light of context-specific and widely debated criteria and trade-off rules	● ●
	Accountability	Clear roles and responsibilities, with mechanisms to ensure responsibilities are met	● ●
	Sustainability purpose	Values, objectives, criteria, and processes “foster undertakings that make positive contributions to sustainability, while also avoiding or minimizing adverse effects”(R. Gibson et al., 2020, p. 12)	● ●
	Goal of peaceful co-existence	Self-determining parties mutually agree to the terms of their relationship, “based on principles of mutual recognition, mutual respect, and shared responsibility for maintaining those relationships into the future”(TRC, 2015b, p. 5)	●

	Understand and respect distinctiveness	Understanding and respecting the differences between those involved with the aim of building mutual respect, where differences are understood in the entirety of their philosophical and historical contexts without reinforcing problematic dichotomies and while also acknowledging fluidity of peoples, cultures, and ways of knowing	●
	Self-determination	Recognition, awareness, and where necessary support for revitalization of Indigenous responsibilities, rights, governance institutions and processes, and legal orders and the autonomy of Indigenous peoples to choose how and to what extent these components are engaged within co-governance	●
	Effectiveness, efficiency, and fairness	Clear and consistent overall guidance combined with flexibility to address context and arising issues, as well as predictability of process over outcome	●

Substantive criteria	Establish a reference framework	<p>Establish a reference framework for co-governed approaches to CE that guides the structure and process, including but not limited to identifying</p> <ul style="list-style-type: none"> <li>• Roles, responsibilities, and relevant jurisdictions;</li> <li>• The terms of the relationship between those involved that reflect purposes of peaceful co-existence and self-determination;</li> <li>• Required capacities and resources;</li> <li>• Decision-making powers and authorities, including attention to who is impacted and whose legal traditions define how decision-makers are identified;</li> <li>• Processes for meaningful engagement, including identifying guiding concepts (e.g., free, prior and informed consent) and how different legal traditions and governing institutions are involved;</li> <li>• Criteria for decision-making and trade-off rules</li> </ul>	
	Strategic/regional level processes to provide strategic level direction	<p>Strategic/regional level processes provide strategic level direction based on widely debated, mutually defined, long-term objectives that consider broad alternatives, big policy issues, and cumulative effects. and may include the identification of some or all of the following:</p> <ul style="list-style-type: none"> <li>• Values that are broadly scoped and relevant to appropriate contexts and scales;</li> </ul>	

		<ul style="list-style-type: none"> <li>• Indicators that should be measurable, based on best available knowledge, appropriate to context, and cost-effective;</li> <li>• Temporal and spatial boundaries;</li> <li>• Effects, stressors, and trends that consider human and natural activities, interactions, and both positive and negative impacts and cumulative effects;</li> <li>• Management targets and thresholds (or equivalents) that are grounded in best available knowledge;</li> <li>• Alternatives, including a null option</li> <li>• Authoritative products/requirements (policies, plans, governance structures, etc., that have respect due to the credibility of the process used as well as the law-based authority of the governments issuing the directives);</li> </ul>	
	Review, decision-making, and regulatory processes	Project-level assessment, decision-making, and regulating processes that allow for uncertainties and alternatives; reflect previously defined objectives, context-specified sustainability-based criteria and trade-off rules; ensure transparency, credibility, and accountability actions; and specify means of implementation	● ●
	Follow-up and monitoring	Monitoring and follow-up that includes attention to unanticipated effects, pressures, opportunities, thresholds, gradual change, and early warning signals; ensures	● ●

		effective responses consistent with sustainability objectives; and identifies pathways for results to inform decision-making.	
	Enforcement and compliance	Requirements and capacities for delivering clear direction and ensuring compliance, combined with flexibility where necessary.	● ●
Governance criteria	Proactive approach	Early initiation	●
	Data management, sharing, and coordination	Means and capacities for managing, sharing, and coordinating data across jurisdictions and, where Indigenous and traditional knowledge is involved, principles tied to understanding and respecting distinctiveness and co-learning are reflected.	●
	Collaboration and co-operation, including meaningful involvement of affected Indigenous authorities as decision-makers	Collaboration and co-operation across governing bodies and jurisdictions, and, where Indigenous authorities are involved, ensuring there is space and capacity for these authorities to engage in collaboration as decision-makers.	● ● ●
	Integrated and tiered application	Strategic/regional level guidance both informs and is informed by other relevant governance processes (e.g., data collection) and project-specific assessments.	● ●

### 3.5 Concluding thoughts

This chapter identified key criteria relevant to the development and application of sustainability-based approaches to addressing cumulative effects in a co-governance context. I reviewed three bodies of literature – covering sustainability assessment regimes, co-governance models involving Indigenous and non-Indigenous authorities, and approaches to cumulative effects assessment and management – focusing primarily on Canada, as well as cases internationally involving a similar nexus of issues. Within each body of literature, I identified key criteria and common challenges or critiques. This provided the basis for a consolidated framework. While the criteria within the consolidated framework are complex and numerous, all three literatures emphasize the need to respect the context of particular applications. Specifying the framework to context may result in potentially unique combinations of criteria, which reflects their interacting and overlapping nature. Nonetheless, all criteria merit attention within application to remind players in specific cases and places of considerations often found to be important.

In the next two chapters, I introduce the case context. The combination of this consolidated framework and the understanding of case context set out in chapters 4 and 5 then provide for context-specific elaboration in chapters 6 and 7.

## Chapter 4: Historical and current context for co-governance in the Yukon and Tr'ondëk Hwëch'in traditional territory

Elders and archaeologists give different versions of how humans came to be living in the area now called the Yukon. This is because they begin with different questions. When Yukon elders talk about human origins, they are less concerned about where people came from than with how people became fully human.

- Julie Cruikshank, *Reading Voices*

### **4.1 Introduction**

In describing the case context for this research, I aim to address the second research objective identified in Chapter 1. Specifically, I aim to clarify how the current co-governance context related to natural resource management in the Yukon and TH traditional territory specifically has been constructed and identify existing issues and processes related to CE within that context. This chapter addresses the first component of that objective by focussing on how the current co-governance framework has been established. This sets the stage for Chapter 5, which provides a finer scale description of current CE issues and existing approaches within the case study area.

As the Cruikshank quote above demonstrates, where a storyteller begins a story is not an objective choice. This telling of co-governance is likely one of many possible versions. To tell this story well, I draw on the metaphor of a tree. This metaphor was chosen for several reasons. First, it has relevance to Tr'ondëk Hwëch'in, as represented in Figure 4 and elaborated in Appendix D. Second, this metaphor is used within Canadian legal scholarship, as many Canadian constitutional scholars refer to the constitution as a “living tree” (Borrows, 2017).<sup>19</sup> Third, a similar concept has been proposed by Aaron Mills, an Anishinaabe scholar from Couchiching First Nation, to describe legal systems. Within Mills’ metaphor, the roots represent a people’s lifeworld, or “the set of ontological, cosmological, and epistemological understandings which situate us in creation and thus which allow us to orient ourselves in all our relationships in a good

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<sup>19</sup> This concept is elaborated further in section 9.4.3.



way” (Mills, 2016, p. 852). The trunk of the tree represents constitutional orders, which dictate how diverse peoples with varying needs and ideas create and sustain themselves as communities (Mills in Ross, 2019). The branches of the tree represent legal traditions (the institutions and processes that create, sustain, and unmake law), and the leaves represent laws themselves (Mills, 2016). With this metaphor comes the understanding that “no two trees are the same even if they’re both white birch, the same age, and growing right next to one another” (Mills, 2016, p. 863).

While I draw on several of the concepts that Mills puts forward in this metaphor, including his representation of lifeworlds and constitutional orders, my use of these concepts is disconnected from his larger body of work and is adapted to focus on dimensions of governance and sustainability. Within this adapted metaphor, I pay particular attention to how lifeworlds and constitutional orders reflect understandings of the relationship between people and the relationship between people and the rest of the biosphere, both fundamental understandings of sustainability. Branches encompass governance bodies and processes generally, which include but are not limited to legal traditions. I understand leaves to represent the outcomes of those governance processes (e.g., laws, policies, plans). I also recognize the systems of beliefs, values, and ideas that sustain the tree, represented by rain (see Figure 2).

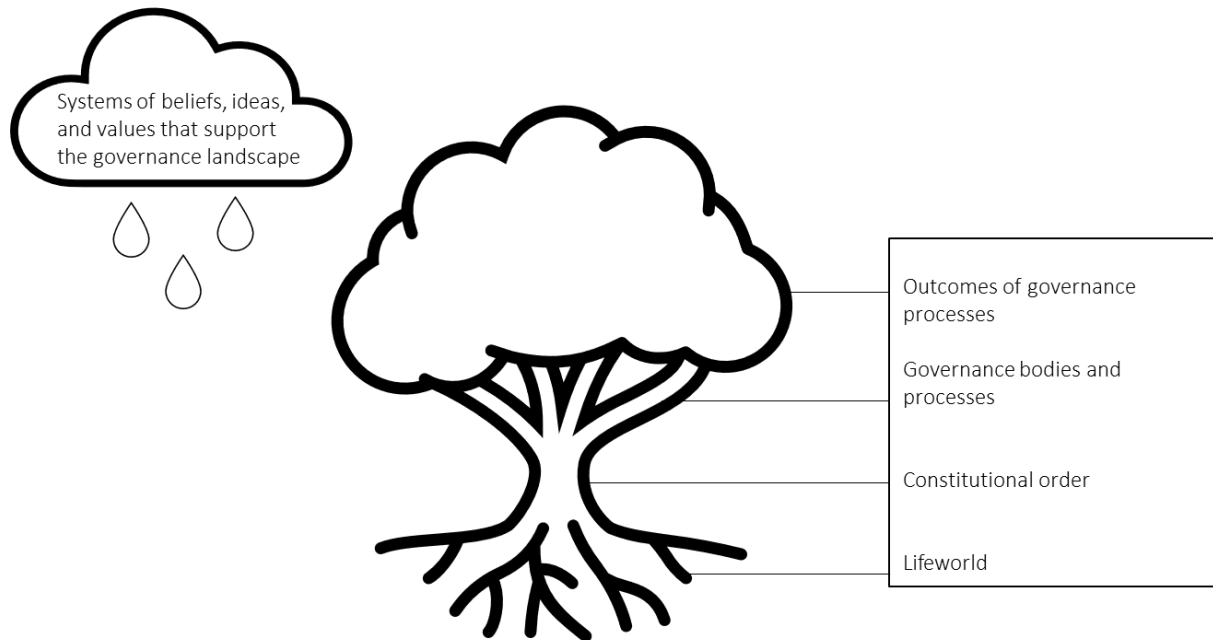


Figure 2 – Proposed metaphor for understanding the governance landscape in the case context, drawing from Mills (2016)

The purpose of using this metaphor is to characterize broadly the shifting governance landscape leading up to the signing of the *UFA*, as well as the interconnected systems and interactions that shaped this landscape. This provides a useful starting point for describing the current co-governance regime, its relationship to pre-*UFA* governance, and the implications of this relationship for the implementation of a co-governance regime in which cumulative effects are addressed.

I begin with a brief and imperfect introduction to Tr'ondëk Hwëch'in governance. The purpose is not to analyze the ways in which Tr'ondëk Hwëch'in governance has existed and evolved since time immemorial. Rather, it is to acknowledge the interconnected strands that make up Tr'ondëk Hwëch'in governance as a starting point for then understanding how this system has been disrupted, but continues to exist, through the arrival of settlers and a colonial government and in the years that followed. I describe some of the ways in which the governance landscape related to natural resource management changed in the decades following the Gold Rush up to the signing of the *UFA* and related agreements (e.g., Tr'ondëk Hwëch'in final and self-government agreements). Finally, I describe the current approach to co-governance in the region, as established under the *UFA*.

The primary method for this section was document analysis, which focussed on current and historical records related to TH traditional territory and natural resource management in the Yukon pre-*UFA*, as well as the *UFA* and related agreements and legislation.

## 4.2 Tr'ondëk Hwëch'in governance

The Tr'ondëk Hwëch'in are Dënezhu, or “the people of this land”. In this context, Tr'ondëk Hwëch'in refers to the nation, the culture, and the government (Winton, 2019). Though other names have been associated with Tr'ondëk Hwëch'in, including Han Gwich'in, Trondiak, Moosehide Indians, and Dawson Indian Band, these names are not reflective of Dënezhu identity. In the Hän language,<sup>20</sup> a language that is spoken around the Yukon River drainage, spanning from western Yukon to eastern Alaska (Midnight Arts, 2003), the words “Tr'ondëk Hwëch'in” means “the people who lived at the mouth of the Klondike”. It indicates an important story about ancestral occupation at Tr'ochëk, a site at the mouth of what is currently known as the Klondike River (Gerald Isaac in Dobrowolsky, 2014, p. 128). Oral history speaks to the range of areas where Hän speakers travelled, the boundaries of which are more fluid than those represented in the traditional territory maps produced by land claims agreements (see Figure 3).<sup>21</sup> While Tr'ondëk Hwëch'in acknowledges and accepts the responsibilities associated with its traditional territory that stem from its Final and Self-Government Agreements, it also continues to acknowledge ties to, occupation of, and obligations to its homeland (Beaumont, n.d.).<sup>22</sup> For Tr'ondëk Hwëch'in, homeland is defined by “our stories, our landmarks and place names, our social connections and obligations, and the footsteps of our ancestors”(Beaumont, n.d., p. 1).

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<sup>20</sup> Identifying people according to language groups is useful yet flawed. For example, the upper Yukon River languages include names identified by Smithsonian scientist William Dall (e.g., “Vunta Kutchin” and “Han Kutchin”), who classified these languages despite having never been to the upper Yukon River. As Cruikshank describes, “Elderly speakers of Yukon languages use other terms [besides linguistic groups] to refer to themselves” (Cruikshank, 1991, p. 61). Tr'ondëk Hwëch'in in its current form identifies as a Hän speaking nation, but the citizenry have ancestral ties to several languages and language has not historically been as strong an identifier as family or kin connections (J. Beaumont, personal communication, October 13, 2020).

<sup>21</sup> (Midnight Arts, 2003)

<sup>22</sup> Because the analysis for this research focuses on co-governance and the *UFA*, I use the term “traditional territory” rather than “homeland”.

Tr'ëhudè is the ethical framework that guides Dënezhu to live “in a good way” (Tr'ondëk Hwëch'in, 2019c, p. 21). This framework encapsulates principles and values of community and responsibility to it; relationships with humans, non-humans, and the land; reciprocity; and a sense of legacy that informs consideration of future generations (Tr'ondëk Hwëch'in, 2019c, p. 22). These concepts are not set in stone but are flexible and evolve in the way that culture evolves to reflect present and future realities. Tied to Tr'ëhudè are “distant time”<sup>23</sup> stories. Examples of such stories are those that portray Crow, who made the world and who made people, and Tsà' Wëzhè, the Traveler who made the world safe for Dënezhu (Winton, 2019). These principles, values, and cosmology are part of the lifeworld at play within TH governance and the systems that support it. They emphasize key understandings such as defining Dënezhu specifically in relation to the land (as the name indicates), blurring the lines between human and non-human (in Crow and Tsà' Wëzhè stories especially) and defining the relationship between them as one of equality, and emphasizing communities defined by relationships of reciprocity and respect (as central to Tr'ëhudè) (Winton, 2019).

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<sup>23</sup> “Distant time” refers to the timeless nature of the stories, rather than referring to stories that exist only in the past.

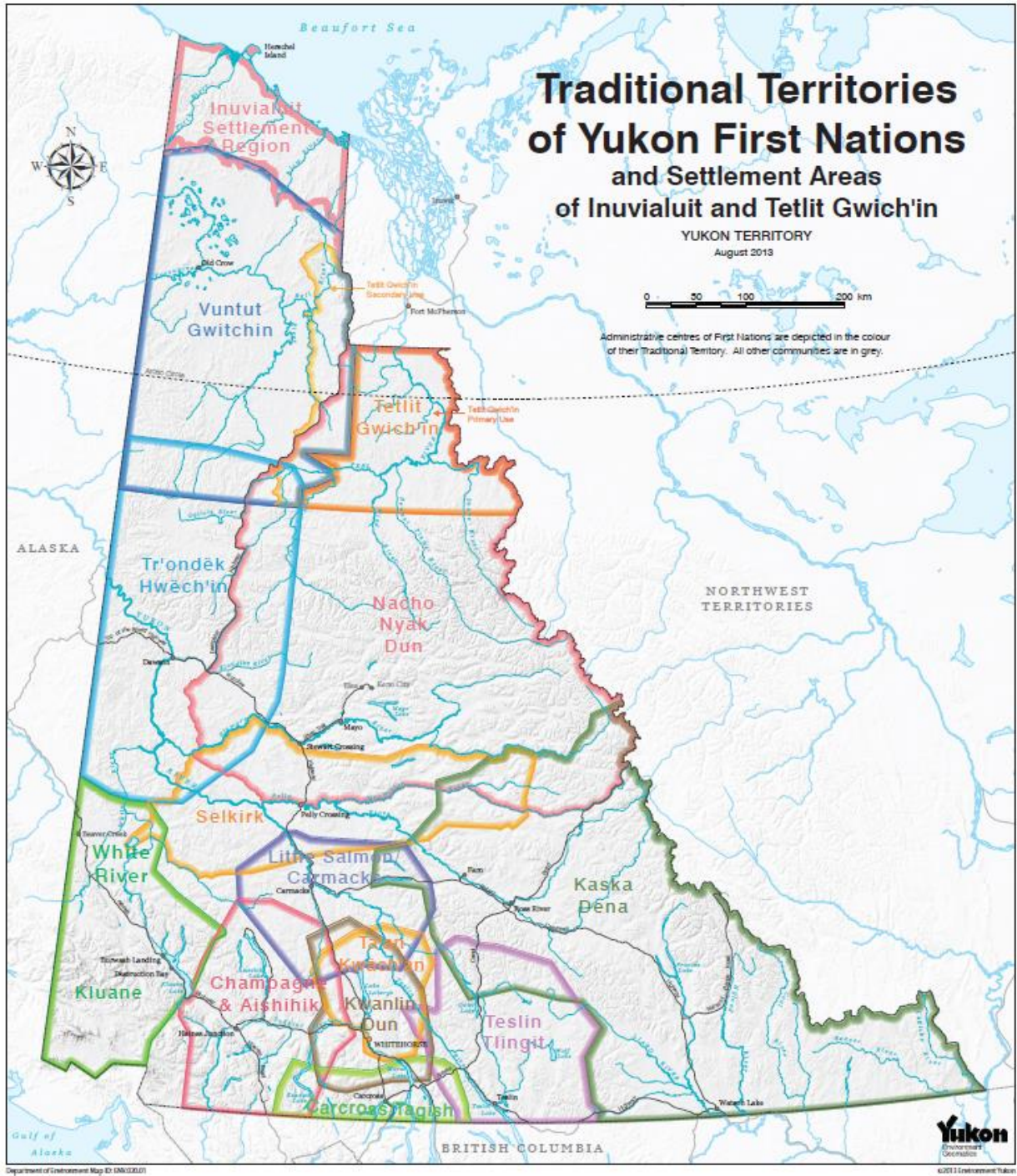


Figure 3 - Traditional Territories of Yukon First Nations <sup>24</sup>

<sup>24</sup> It is also important to note that in the context of First Nations that have not signed Final and Self-Government Agreements in the Yukon, the boundaries of traditional territories may be contested.

Prior to settlers arriving in TH homelands, decision-making and leadership was diffuse. A fluid method of governance was central to survival of Tr'ondëk Hwëch'in as travelers, and as salmon and caribou people (Winton, 2019). Governance systems allowed for both concentrated and dispersed groups of people. Small groups came together at certain times and places throughout the year depending on the land, animals, and their cycles. Places of gathering may have a level of consistency for many small groups, but there was also flexibility depending on and in response to the land and other social factors (J. Beaumont, personal communication, October 13, 2020). When people were concentrated in larger groups, governance systems could be expressed in more formalized ways (e.g., through potlatch), and in times of dispersion it could become less formalized and come from within the group itself, much in the same way as it would within a family (J. Beaumont, personal communication, October 13, 2020). In other words, governance systems responded to the needs of the group at any time.

When leadership was required, the role was filled by an individual who had the appropriate set of skills or knowledge, and roles shifted as groups shifted (Tr'ondëk Hwëch'in, 2019c). In some cases, leadership was hereditary (Winton, 2019). Leaders were expected to lead by example, be respectful of their people, ensure people had the resources necessary for survival, seek advice from all and especially Elders, be good stewards of the land, handle disputes, play a key role within ceremonies, and act as a spokesperson for their community (Tr'ondëk Hwëch'in, 2019c, p. 47). Leaders did not have singular independent authority; decisions were made through processes of deliberation and discussion, which could involve many people. No one person could compel another to do something and to even try would be disrespectful (J. Beaumont, personal communication, October 13, 2020).

There are multiple sources of TH law,<sup>25</sup> such as natural law, which comes from the land and animals (Winton, 2019). For example, many Crow and Tsà Wëzhè stories provide guidance

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<sup>25</sup> It is important to clarify that law is often interpreted through the lens of the Canadian legal system. However, "law is an intellectual process, not a thing, and it is something that people actually do. Indigenous peoples apply law to manage all aspects of political, economic, and social life including harvesting fish and game, accessing and distributing resources, managing lands and waters" (Napoleon, 2016, p. 2). Borrows identifies five sources of Indigenous law, including sacred, natural, deliberative, positivistic, and customary law (Borrows, 2010).

around principles and values tied to natural law and encourage consideration of natural law.<sup>26</sup> Laws are transmitted through a number of processes, such as oral tradition, stories, songs, ceremonies (including the ceremonies themselves and the materials attached to them, such as gänhäk or sacred dancing sticks), and normative behaviour (e.g., acceptable behaviours and actions that come from being immersed in daily life) (Winton, 2019). They are enforced through daily life and relationships, especially with Elders (Winton, 2019), as well as through other aspects of the governance system, such as chiefs<sup>27</sup> and processes of consensus-based decision-making.

TH law provides important guidance for enacting Tr'ëhudè. For example, Tr'ondëk Hwëch'in elder Annie Henry explains, "When you take this medicine you have to replace something in place of it...Sometime if you got matches, you put matches there. If you got tobacco, you put tobacco there. Then you cover it up again otherwise it's bad weather" (Annie Henry in Winton, 2019, p. 11). In this example, the concept of reciprocity is embedded in TH cosmology, TH law establishes the need to replace medicine with matches or tobacco, and the consequence of not following this law is bad weather (Winton, 2019). Dä'òlé is a specific part of TH law that speaks to specific conduct that would bring luck or lead to a loss of luck. This information is shared by Annie to communicate how to live in a good way - Tr'ëhudè (Winton, 2019).

Components of this governance system described above are captured visually in Figure 3, a painting by Han Gwechin and Northern Tutchone artist Darcy Tara (see Appendix D: "The Way of the Spirit" artist interpretation and bio). This description of TH governance is not set in the past. While changes described in the remainder of this chapter impacted TH methods of governance in significant ways,

the goals and values of governance are the same – caring for family, maintaining harmony within the community, and honouring relationships with the land and animals. The guiding principles of respect and reciprocity, as modeled by animals around them, and passed on by Crow and Tsà Wëzhè, are

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<sup>26</sup> While this project set out to incorporate work from TH's law revitalization project (as directed and as appropriate), the timeline for the law project did not coincide with the time of writing.

<sup>27</sup> It is important to note that the concept of a chief or headman may have been exaggerated by historical accounts, written by newcomers with Euro-American expectations of a hierarchical approach to governance (Winton, 2019).

still in effect; however, the Tr'ondëk Hwëch'in are anything but a static people (Winton, 2019, p. 64).





Figure 4 - "The Way of Spirit", by Darcy Tara (see Appendix D for artist statement)

### 4.3 Klondike Gold Rush (1896-1899) and the changing governance landscape

The Klondike Gold Rush marks a key turning point in the pace and scale of change within TH traditional territory.<sup>28</sup> A large body of work has been dedicated to recounting the Gold Rush era on TH homelands, the extensive details of which are beyond the scope of this chapter. Some of these changes were single events. For example, by 1897, Tro'chëk – an important site for TH at the mouth of the Klondike River – was overrun by traders and prospectors, and Tr'ondëk Hwëch'in moved to a new location downstream called Moosehide.<sup>29</sup> Other changes associated with mining and mining-related activities were cumulative, including clear-cutting of forests, permafrost thaw, overharvesting of wildlife, changes to water quality and flow, introduction of the cash economy, and overcrowding (Green, 2018). Such changes resulted in impacts to wildlife habitat, limits to areas where Tr'ondëk Hwëch'in could harvest, changes to fish and wildlife populations that required shifts in harvesting practices (e.g., hunting at different times of year or in new areas), less time to participate in harvesting activities, and health impacts (Green, 2018). These in turn had implications for Tr'ondëk Hwëch'in and their ability to maintain responsibilities to and relationships with the natural world around them. These impacts were generally ignored by the Crown<sup>30</sup> and did not disappear with the end of the Gold Rush. While many miners left the

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<sup>28</sup> It is important to note that the years prior to the Gold Rush of 1896 involved interactions between Tr'ondëk Hwëch'in and newcomers. From 1840 to the mid 1880s, there were fur traders and, eventually, small-scale prospecting and mining within TH traditional territory (Green, 2018, p. 27). With these changes came new technologies (e.g., guns, fish nets, steel tools), institutions (e.g., trading posts, market economies), and settlers (e.g., white trappers), all of which influenced the ways in which Indigenous peoples engaged with the land and with each other (Cruikshank, 1974). However, such changes did not match the sudden and significant influx of people and mining activity associated with the Klondike Gold Rush. It is important to note that for Tr'ondëk Hwëch'in, "our participation in new ways was often voluntary. We have always been interested in new ideas and practices. Other experiences in these early years of contact were imposed upon us. This meant that although we always had agency, change itself was often forced upon us" (Beaumont, n.d.-a, p. 1).

<sup>29</sup> There are differing interpretations of why this move occurred. According to one understanding, the Tr'ondëk Hwëch'in were essentially swindled out of their land by miners and speculators. However, an unidentified Hän woman later explained that the chief at the time chose to move their settlement in order to distance themselves from the influence of the newcomers (Mishler & Simeone, 2004).

<sup>30</sup> For example, in 1909, the federal Minister of the Interior and Superintendent of Indian Affairs wrote, "In my opinion the Indians of the Yukon have not been injured as the result of the occupation of the Territory by the white people" (Green, 2018, p. 343).

region, the shift towards more industrialized and mechanized approaches to mining that followed this period continued to transform the landscape in significant ways (Green, 2018). Impacts on Tr'ondëk Hwëch'in associated with the Gold Rush were not accidents of history. Rather, they were outcomes facilitated by the colonial policies of the State, which created a combination of unrestricted access to Crown land (as defined by the federal government) for miners; open access to timber, water, and wildlife associated with mining claims; and the privatization of land for mining purposes (Green, 2018). The entrenchment of State policies, laws, and institutions that were established during and after the Gold Rush also added to changes in how governance was approached in the region. Traditional laws were consistently challenged by the newcomers' imposition of their laws and the Tr'ondëk Hwëch'in often had little choice in complying (Dobrowolsky, 2008). Indeed, the very existence of Tr'ondëk Hwëch'in law was often ignored by those establishing and enforcing State laws in the region.

This is not to say that TH was passive in the encroachment of State law. For example, following Tr'ondëk Hwëch'in's relocation to Moosehide in 1897, Chief Isaac sent TH's songs, drums, and gänhäk (sacred dancing stick) to Hän relations in Alaska for safeguarding (Dobrowolsky, 2014). The use of songs, drums, and related materials are key practices that reinforce Indigenous legal traditions (Borrows, 2005b). In protecting these practices, Chief Isaac moved to protect TH's system of law in a time that it was under threat.

#### **4.4 Post-Gold Rush entrenchment of the settler governance regime (1900s-1990s)**

The assertion of State law and systems of governance on TH homelands continued following the Gold Rush. Though the specifics of this time are beyond the scope of what is presented here, several examples related to land and resource management demonstrate some of the ways in which governance in the area continued to change. Practices central to TH governance continued to be undermined and, in some cases, banned.<sup>31</sup> The federal government “encouraged aboriginal people to be self-supporting but at the same time enacted many

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<sup>31</sup> There are some complexities to how this played out in practice. For example, while potlatches were banned, the continued to be practiced by TH, in some cases openly (Green, 2018). Enforcement of some State laws in this regard was not always clear cut.

measures that limited access to the land and its resources” (Midnight Arts, 2003, p. 3). This was witnessed, for example, in policy and regulations related to fishing, hunting, and trapping.

Changes to fishing regulations banned fish weirs and dipnets, which Tr'ondëk Hwëch'in had previously used, and expensive commercial licenses added to these barriers (Green, 2018). The power to issue and refuse commercial licences lay in the hands of the North-West Mounted Police (NWMP) Fisheries Overseers (Green, 2018). Territorial hunting policies followed a similar trajectory, imposing cost-prohibitive licenses for Indigenous Yukoners choosing to sell game meat.<sup>32</sup> To add to this, in 1928, “non-resident” hunters from Alaska – including Hän relations in Eagle – were charged a significant fee to hunt in the Yukon (McCandless, 1985), further disrupting Tr'ondëk Hwëch'in hunting cycles in the area between the Klondike River and Eagle, which was used extensively for hunting prior to the Gold Rush (Cruikshank, 1974; Green, 2018). Enforcement of the *Ordinance* at this time was also in the hands of the NWMP.<sup>33</sup>

In 1950, the introduction of registered traplines continued this trend of displacement and disruption. The government’s intention behind this system was in part to control the increasing numbers of non-Indigenous trappers and protect the interests of Indigenous trappers accordingly (Usher & Staples, 1988). It was also a means of turning trapping and the land stewardship system that encompassed it into an activity that fit the rationality of the market economy through exclusivity of use and private land ownership (Usher & Staples, 1988). In summary,

The sib and moiety relations around which hunting, fishing and trapping territories were traditionally organized, and upon which social responsibility and obligation rested were undermined by a system that conferred (*sic*) a private and exclusive right of use with trapline ownership. This created many problems between ‘modern’ and ‘traditional’ users: traditional territories were redefined arbitrarily without consideration for drainages; traditional access across ‘family’ lands were denied by individual ‘owners.’ Registration limited

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<sup>32</sup> Wildlife was one of the few areas related to lands and resources over which territorial authorities had powers delegated from the federal government (McCandless, 1985).

<sup>33</sup> In practice, enforcement of the *Ordinance* was often limited, with some exceptions. “If current practices, even if contrary to law, had no effect on game populations, there was no need to enforce that law, particularly with Indians. The only exception to this might be the restriction on killing of females, which the police often enforced, sometimes harshly” (McCandless, 1985, p. 37).

Indian land use and failed to protect it from activities that damaged habitat and which threatened wildlife. Lines that were 'resting' were not in continuous use and often considered to be in poor standing. On this basis licenses could be revoked and transfer to other family members denied. (Usher & Staples, 1988, pp. 146–147)

It is also important to note that the creation and assertion of these laws on TH traditional territory are not only about impacts to the activities themselves or related effects to subsistence or livelihoods.<sup>34</sup> They are also about disruptions to the ability of Tr'ondëk Hwëch'in to apply the laws and live within an ethical framework that have existed since time immemorial.

Tr'ondëk Hwëch'in continued to resist, accommodate, and adapt to these changes (Green, 2018). For example, in 1921, the Moosehide Council was formed, consisting of seven councillors (Dobrowolsky, 2008). While this move marked a shift towards more formalized and centralized forms of decision-making, it also created a means for Tr'ondëk Hwëch'in to navigate the relationship between their community and the State's legal system by combining their understanding of leadership with a council, a form of governance recognized by the State. This council not only worked to maintain TH values and principles by enforcing their laws and norms alongside other authorities within the community, but also liaised with the federal government on behalf of their community (Dobrowolsky, 2008).

Many of the decision-making processes regarding lands and resources in the Yukon that existed prior to the modern treaties laid the foundation for post-*UFA* governance. Processes that are now considered central to addressing cumulative effects in the Yukon, such as water licensing and impact assessment, were created through federal legislation and policy in the 1970s (Clementino, 2008; Government of Yukon, 2014). Decision-making at this time was largely centralized in the hands of or delegated by the federal government, with a limited role for Indigenous authorities. For example, under the Environmental Assessment Review Process

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<sup>34</sup> For example, in 1954, Moosehide Council member Joe S. Joseph wrote a letter to authorities, stating, "one of our boy from Moosehide got in trouble over killing his game which he really need it when he says he only had tea and salt that was all he got to eat at the time and now he really got nothing. The Indian live on game for last pass 200 years ago and they remain their country" (J. S. Joseph, 1954).

Guidelines Order<sup>35</sup> of 1984, there were three levels of environmental assessment. Level I projects often involved information being forwarded to the Council of Yukon First Nations (CYFN), but this was not required; for Level II projects, representatives from CYFN were invited to participate in the Regional Environmental Review Committee (RERC) only if they were affected by the proposed project; and Level III projects required a panel review, but there were no stipulations requiring the involvement of northern or Indigenous people (Clementino, 2008).

The limitations of these processes to adequately address impacts to Indigenous lands and peoples played an important role in setting the stage for land claims agreements. For example, in the 1980s, the Dawson Indian Band raised concerns over placer mining activities at Lousetown (Tro'chëk). Concerns related to water in this case were presented as issues of cumulative effects: “under existing procedure, water use applications are assessed individually without reference to the combined effects of numerous operations on the same watershed. A study must be undertaken to assess the cumulative effect of mining in the Klondike valley” (Dawson First Nation, 1992, p. 2). Moreover, TH raised concerns that allowing mining on a site of such significance to the First Nation would undermine the integrity of the lands claims process (Dawson Indian Band, 1988). Although Tr'ondëk Hwëch'in participated both in Water Board reviews and in the RERC process, no resolution was found to address the above concerns, resulting in the Dawson Indian Band taking Arkona Resources to court in 1992.<sup>36</sup>

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<sup>35</sup> These guidelines provided clarification to the federal Environmental Assessment Review Process of 1973 and was eventually replaced by the Canadian Environmental Assessment Act of 1995, then the Yukon Environmental Assessment Act of 2003, and finally the Yukon Environmental and Socio-Economic Assessment Act of 2004 under the *UFA* (Clementino, 2008).

<sup>36</sup> This issue was ongoing for several years and involved a number of legal disputes. It is worth noting that this case invoked a number of narratives and concepts relevant to land and resources governance at the time. For example, in a Statement of Defence, representative Bruce Willis wrote that “the Dawson Indian Band, is a band created under the Indian Act and as such cannot bring this action because it is beyond the powers or capacity of an Indian band created under the Indian Act” and “traditional use was abandoned long before 1977 when the lands became placer claims”, (*Statement of Defence*, 1992, pp. 1–2) This interpretation stood in contrast to the significance of the site for TH and its understanding of seasonal traditional land usage. While the *UFA* protected existing mining claims within identified settlement lands, the TH land claim agreement (1998) ensured that the Canadian government purchased the mining interests at the site and, in 2002, it was designated a National Historic Site of Canada (Beaumont & Edwards, n.d.).

As has been demonstrated throughout this chapter, the governance landscape continued to shift following the arrival of settlers in TH traditional territory, for both TH and settler governance regimes. During and following the Gold Rush, the settler governance regime - which largely ignored existing laws and legal systems - created policies, regulations, licensing processes, etc. that sought to define and restrict how Indigenous peoples in the Yukon related to the land and to each other. The creation of formalized governance bodies and processes related to lands and resources, such as water licensing and the environmental assessment review process, provided marginal opportunities for the involvement of Indigenous authorities in decision-making processes. However, they were ultimately dominated by Crown authority and, in at least one notable case, appeared limited in their ability to address the concerns raised by Indigenous authorities.

Returning to the tree metaphor outlined in Figure 2, the changes described here are consequences of the branches and leaves; it is therefore important to acknowledge the trunk and roots. The purpose here is simply to demonstrate that there are important ways of understanding the world and sustaining communities that shaped the State policies, processes, and laws governing land and people described above. Because these ways of understanding are often hidden, as tree roots often are, identifying the underpinnings of these concepts and the systems to which they are tied is a necessary step in understanding the context in which co-governance has emerged.

Changes to the governance landscape in the Yukon are characterized in part by shifting understandings of the land and relationships to it. Relationships with the land under State policy were characterized by the move towards individual ownership of land and resources, rather than collective responsibilities to it. As Usher and Staples describe the situation,

the staking of mineral claims was predicated on the idea that natural resources were a common property resource held by the Crown, and that the right of ownership to certain resources such as surface lands and the use of others, such as subsurface minerals, could be allocated to private interests...the Indigenous land tenure system...had no influence over the use of land and wildlife by non-Indians (Usher & Staples, 1988, p. 135).

Tied to this understanding of relationships to the land is a specific understanding of relationships between and among people, emphasizing individuality, exclusivity of use, a prioritization of some interests over others, borders defined by a nation state. In addition, these changes reflect a shift in understanding how land is used, the implication being that land is used when it is continually occupied and/or has productive capacity.

The above changes in how relationships with land and people are understood and implemented are demonstrative of the lifeworld and constitutional order at play. They are also fed by systems of beliefs, ideas, and values. For example, the concept of ownership of land, as well as the related concept of defining its value by its contribution to the economy, are grounded in the fundamental perception of land as property that humans have control over rather than as a living thing. This perception is one outcome of the lifeworld at play (e.g., the creation of human/non-human divisions). It reflects a way of understanding the world that is grounded in and supported by long-standing assumptions of human dominion over nature within Christianity<sup>37</sup> and other western traditions and the further steps of the scientific revolution<sup>38</sup> and rise of modern economics and capitalist political economy.<sup>39</sup>

The emphasis on individuality – in human relationships with the land and with each other – is similarly driven by modern science and economics. It is also reflective of a liberal constitutional order. Within this constitutional order,

we exist (or imagine ourselves to have existed) as inherently disconnected units, although we're capable of choosing inter-human connection through social contract. In this world, earth merely forms the background against which humans live out history. This world's constitutional order isn't rooted in earth but rather is spontaneously created through human will (Mills, 2016, p. 864).

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<sup>37</sup> As Ruether describes, “the language used in the bestowal upon humans of dominion over the earth in Genesis 1 is one of dominating power and sovereignty. The words translated “subdue” and “have dominion” are those of militarist trampling down and subduing of a foe” (p.226). However, as Ruether also describes, there are other themes within Christianity that point to different understandings of the human-nature relationships (Ruether, 2003, p. 226).

<sup>38</sup> Specifically, the shift away from seeing the Earth as animate, living, and unknowable to one that is primarily mechanical and knowable through science, referred to by Merchant as the “death of nature” (Merchant, 1980).

<sup>39</sup> Castree provides a useful overview of critiques of the commodification of nature within capitalism (Castree, 2003).



This constitutional order and the lifeworld to which it is tied are invoked through many of the changes to the governance landscape in the Yukon and TH traditional territory described above, including the increasingly centralized authority in the hands of the Crown and the emphasis on specific rights and duties. This is demonstrated, for example, in the Crown's allocation of ownership over land and rights to the use of resources.

A central characteristic of this constitutional order is the centrality of assumed Crown sovereignty and simultaneous denial of Indigenous self-determination and systems of governance. In the Yukon, the assertion of Crown sovereignty stands in contrast to the Crown's acknowledgement of Aboriginal title, which was evidenced by the Crown's treaty-making efforts elsewhere in Canada.<sup>40</sup> Though the Crown did not sign early treaties in the Yukon, it appears to have acknowledged Aboriginal title in the region nonetheless. For example, a letter from the Deputy Superintendent General of Indian Affairs to the Bishop of Selkirk on the Upper Yukon River, it was noted that

the Department has no jurisdiction over Indians in unsurrendered territory; nor does it appear how – without having entered into any Treaty – the Indians can be otherwise dealt with than white settlers or immigrants relative to such matters as Your Lordship refers to. (Reed, 1897, p. 1)

Despite this acknowledgement, efforts by the Crown leading up to the signing of modern treaties advanced the notion of Crown sovereignty by further entrenching its authority, in particular over lands and resources. It is worth reiterating that these efforts also required the denial of Indigenous self-determination and systems of governance.

#### **4.5 Negotiating and signing the *UFA* (1973 - 1993)**

The lifeworlds, constitutional orders, and supporting systems that shaped the governance landscape leading up to the signing of the *UFA* similarly shaped the rationale for and resistance to modern treaties. For example, in 1978, the Senate held a special committee meeting on the proposed Northern Gas Pipeline, a portion of which would pass through the Yukon. When Ron

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<sup>40</sup> Early treaty-making efforts in Canada were grounded in English law, whereby Crown sovereignty could be acquired through conquest or cession (McNeil, 2018).

Veale, legal advisor to the Yukon Native Brotherhood, discussed the need for land claims to be completed prior to a pipeline being built, the idea was met with resistance from Senators on the committee. Though lengthy, the transcript from this session is notable:

*Senator van Roggen:* We should face the fact that **this pipeline is going to be built, because if we do not build it, and if we do not have any industrial development in this country or any development of any sort, then there is not going to be any money for anybody to pay any land claims with, or anything else for anybody.**

...

*Mr. Veale:* Our position has been that the pipeline should not be built until the land claims are settled.

*Senator van Roggen:* You want to put a veto on it?

*Mr. Veale:* No, we say we should wait another 10 years for a proper settlement, as Judge Berger says, because the **land claim is a development which is going to enhance Indian people in the Yukon and create a better living.** The pipeline has many negative implications for Indian people, as established by Judge Berger and by Lysyk. The Indian people will bear the brunt of it. So what you are saying is that they have to commence at the same time, so that while trying to implement a new regime in the Yukon Territory they are going to be getting the brunt of a large-scale development, the largest in the world.

...

*Senator Frith:* The point he is making – and I think probably the answer is yes, but I would like to hear it – is that, yes, the Indian people, the **Yukon Indians claim the land because they feel they have a higher or different title than anybody else to this land.** Is that your point?

*Mr. Veale:* I agree.

*Senator van Roggen:* That is the point I am trying to get. **You are claiming a higher level of title to the land than the rest of us have to ours.**

*Mr. Veale:* Yes, I am. But you are putting it one step beyond and saying it is a veto.

*Senator van Roggen:* Well, it becomes a veto.

*Mr. Veale:* Not really, because they are prepared to settle, implement and then have a pipeline put through.

*Senator van Roggen:* But on what terms? The rest of us are not given that option, **so we are all second-class citizens.**

*Mr. Veale:* **You are doing very well for a second-class citizen.**

...

*Senator van Roggen:* I lived in the Yukon for about eight years and I was practicing law there. Now, you say these claims have been outstanding for 140 years... **I had never heard the words “Indian land claims” one single time in my life until a few years ago, and certainly not one single time white [sic] I was**

**living in the Yukon.** So don't try to tell me that the Indians were spending 140 years trying to articulate land claims. (*Proceedings of the Special Committee of the Senate on a Northern Gas Pipeline Issue, No.1, 3rd Session, 30th Parliament, 1978, pp. 111–113, emphasis added*)

This transcript is remarkable in that the senators evoked nearly every commonly cited narrative against Aboriginal and treaty rights: that they are a barrier to economic development generally and resource development specifically, that treaty rights are equivalent to a “veto”, that they elevate certain people to having “higher” level rights, and that there is no sense in “dwelling in the past”. These narratives are products of the tree described above; they are tied to the Crown’s sense of ownership over lands and resources, concern about threats to Crown sovereignty, dismissal of Indigenous self-determination, and prioritization of individual autonomy in the context of rights.<sup>41</sup>

While the settler governance landscape leading up to the signing of the *UFA* informed the Crown’s relationship to modern treaties, it was not the only tree in the forest, so to speak. The approach Yukon First Nations took to modern treaties was similarly informed by their respective governance regimes. In a workshop<sup>42</sup> of representatives involved in the negotiation of the *UFA*, participants summarized the situation as follows:

Yukon First Nations [YFNs] have throughout history understood, asserted and exercised their rights and responsibilities to govern their land and resources as well as to maintain and support all of the internal and external relationships and affairs essential to sustaining these elements... Self-government is essential to successfully implement land and resource rights, to undertake land stewardship, ownership and management (*First Principles Project: Summary of Discussion, 2020, p. 5*).

The workshop participants also laid out the importance of First Nations’ connection with the land as a principle within the *UFA*:

Yukon First Nation people view themselves as inseparable from land and water. Without land as a key component of the *UFA*, the agreement would

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<sup>41</sup> While Canada’s constitutional order does address collective rights, including the rights of minorities, the narrative of Aboriginal rights creating “higher level” rights is indicative of the prioritization of individual autonomy that characterizes the liberal constitutional order in the country (Tully, 2008).

<sup>42</sup> The purpose of the workshop was to produce a plain language summary capturing the spirit and intent of the *UFA*, from the perspective of those involved in its creation.

never have been achieved. YFNs embrace land stewardship. Land in the *UFA* carries an enormous emotional and spiritual attachment that is recognized in the values and principles that underlie the *UFA*. This differed from ownership and is predicated on a fundamental respect for all living things (*First Principles Project: Summary of Discussion*, 2020, p. 6).

In light of the above, it is unsurprising that the signatories to the *UFA*<sup>43</sup> had different motivations for signing, which were strongly tied to their respective systems of governance, from roots to leaves. Despite these differences, the parties agreed that the “*UFA* sets out a path for us to understand each other and create a place that minimizes these injustices for all. We are all treaty people” (*First Principles Project: Summary of Discussion*, 2020, p. 4).

The *UFA* and subsequent final and self-government agreements can therefore be seen as opportunities for the branches of two trees to intertwine, with hopes of producing leaves that represent a more peaceful co-existence. With this in mind, the following section outlines key components of the Final and Self-Government agreements established under the *UFA* in the Yukon. It briefly addresses self-government, then describes the rights, governance bodies and processes, and principles central to the *UFA* and co-governance framework for lands and resources, including approaches to addressing cumulative effects.

#### **4.6 Self-government and the *UFA***

The current framework for the *UFA* and co-governance in the Yukon was the result of decades of advocacy and negotiation. The *UFA* was signed in 1990, and it took another eight years for TH to sign Final and Self-Government Agreements. For Tr'ondëk Hwëch'in, the signing of these agreements marked an important turning point for governance in their traditional territory.

Until the TH Final Agreement was signed the Department of Indian Affairs had a significant amount of control over the affairs of the TH community. It was perhaps during these years that the influence of many of the original approaches, principles, and values of leadership were lessened. With the signing of the Final and Self-Government Agreements TH is in a position to develop a form of governance that combines Yukon First Nations values and

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<sup>43</sup> While the case context focuses on TH traditional territory specifically, this section refers to both the *UFA* and the TH Final and Self-Government Agreements, as the former provided the blueprint for the latter.

principles with an approach that will work in today's world (Tr'ondëk Hwëch'in, 2019c, p. 47).

A useful metaphor for understanding change within TH governance is that of an overturned canoe in a river. Mi'kmaq Elder Stephen Augustine presents the metaphor as follows: "We'll make the canoe right and ... keep it in water so it does not bump on rocks or hit the shore....[When we tip the canoe] we may lose some of our possessions.... Eventually we will regain our possessions [but] they will not be the same as the old ones" (TRC, 2015a, p. 206). Some of TH's "possessions" – or ways of understanding and approaching governance related to lands and resources – have already been described and will remain in the canoe. Others may have been lost as a result of the settler governance regime. Those that have been lost may be revitalized in new ways.<sup>44</sup> There also may be new possessions related to their Final and Self-Government Agreements. While the focus here is on co-governance, it is nonetheless worth describing in brief what form some of these "new possessions" currently take, with the understanding that they will continue to evolve to reflect present and future realities.

The Final and Self-Government Agreements laid the ground for the *Tr'ondëk Hwëch'in Constitution*. The *Constitution* details the structure of the Tr'ondëk Hwëch'in government (including the General Assembly, Council, and Courts) and its responsibilities (e.g., making and repealing law, managing lands), identifies authorities (e.g., Elders Council and Youth Council that provide guidance), potential forms of decision-making (e.g., Chief and Council resolutions), and principles for decision-making (e.g., consensus-based decision-making) (Tr'ondëk Hwëch'in, 1998). Additional guidance comes from TH legislation, such as the *Tr'ondëk Hwëch'in Land and Resources Act*.<sup>45</sup> This act outlines key responsibilities for TH, including the need to account for both present and future generations in decision-making, ensure sustainable use of the land, provide for healthy lifestyles, and preserve enjoyment of the land by Tr'ondëk Hwëch'in citizens (TH Land and Resources Act, 2004). It also guides planning processes (e.g., land use and management plans) and identifies authorities (e.g., land management advisory committee; land

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<sup>44</sup> For example, at the time of writing, Tr'ondëk Hwëch'in was undertaking a traditional law revitalization project.

<sup>45</sup> At the time of writing, this act was scheduled to be revised in the coming months.

stewards responsible for monitoring, inspection, and enforcement) (TH Land and Resources Act, 2004).

In some cases, the authorities and processes identified by the TH *Constitution* and related legislation mirror the language and structure of their territorial government counterparts. In other cases, they mirror the values and principles of Tr'ëhudè. For example, *Tr'ondëk Hwëch'in Heritage Act* describes, “our holistic perspective produces concepts of reciprocity, moderation, balance, harmony that beget a code of conduct based on the principle of reciprocity (a concept of moderation and self-control, of taking and giving back) and the supreme value of respect (an attitude of humility and gratitude)” (Tr'ondëk Hwëch'in, 2016, p. 3). This further reinforces the understanding of TH governance as an evolving concept with different “possessions” in the canoe, some of which look different and others that look the same as they did prior to the assertion of State systems of governance.

#### **4.7 Aboriginal and treaty rights in the UFA**

The discussion of rights in this section centres on those that are recognized in treaties and the Canadian Constitution. While the State may see the authority of these rights as grounded in the treaties and the Constitution, many Indigenous nations have continued to argue that their authority actually flows “from the inherent relationship of [Indigenous] Peoples with the land and their Creator” (Walkem, 2003, p. 210). The *UFA* establishes that Aboriginal title, rights, and interests remain on Settlement land. These rights notably include the “rights of Yukon First Nations to manage renewable resources on Settlement Land” and the right to peaceful use and enjoyment of Settlement land (Council for Yukon Indians, 1993, sec. 16.1.1.5, 6.1.6.3, 6.2.4.3, 6.4.3.3, 6.6.3.4, 16.12.10.3, 17.12.1, 18.6.1-18.6.2). Yukon First Nations also have the right to water flowing through or adjacent to Settlement land that is “substantially unaltered as to quantity, quality and rate of flow” and the right to compensation should this right be infringed upon (Council for Yukon Indians, 1993, sec. 14.8.1). The Water Board has the ability to grant water licences that interfere with Yukon First Nation water rights only if there are no alternatives and no mitigations (Council for Yukon Indians, 1993, sec. 14.8.3.2).

Aboriginal title, rights, and interests are ceded, released, and surrendered on non-Settlement land, with the exception of certain harvesting and access rights (Council for Yukon Indians, 1993, sec. 2.5.1.1). Specifically, the agreement guarantees harvesting rights, rights to forest resources, and certain access rights<sup>46</sup> on Crown land, with a limited number of restrictions, such as reasons of conservation or public health and safety (Council for Yukon Indians, 1993, sec. 16.4.2, 17.3.1, 6.2.2.2.). Related to harvesting rights are the rights to “employ within their Traditional Territories traditional and current methods of and equipment for Harvesting” and to “give, trade, barter or sell among themselves and with beneficiaries of adjacent Transboundary Agreements in Canada all Edible Fish or Wildlife Products harvested by them...in order to maintain traditional sharing” (Council for Yukon Indians, 1993, sec. 16.4.3, 16.4.4). Rights outlined in the agreements are both explicitly and indirectly considered in the processes described below.

#### **4.8 Governance bodies, processes, and principles established through the *UFA***

The objectives outlined at the beginning of the *Tr'ondëk Hwëch'in Final Agreement* establish important principles that guide the governance framework it establishes. These objectives reflect the centrality of land and relationships to the *Agreement*. It states that the parties to the agreement “wish to recognize and protect a way of life that is based on an economic and spiritual relationship between Tr'ondëk Huch'in and the land...encourage and protect the cultural distinctiveness and social well-being of Tr'ondëk Huch'in...[and] achieve certainty with respect to the ownership and use of lands and other resources of the Traditional Territory of the Tr'ondëk Hwëch'in”(TH Final Agreement, 1998, p. iii). Similar principles are echoed within respective chapters related to the primary avenues of decision-making related to lands and resources as established in the *UFA*, namely land use planning (chapter 11), development assessment (chapter 12), water licensing (chapter 14), and co-management of fish, wildlife, and forests (chapters 16 and 17). In this section, I will briefly describe each of these processes, focussing on

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<sup>46</sup> Yukon First Nations have the right to access Crown land to exercise harvesting rights and travel along traditional routes.

the principles, governance bodies, and decision-making authorities detailed in each. Several of these processes are described further in Chapter 5, which focuses on how they consider CE.

#### 4.8.1 *Regional land use planning*

Principles outlined in the *UFA* for regional land use planning echo the need for decision-making that recognizes and promotes the cultural values of Yukon First Nations and their responsibilities to Settlement land.<sup>47</sup> Regional planning is required to use the knowledge and experiences of Yukon First Nations and residents and “take into account oral forms of communication and traditional land management practices of Yukon Indian People”(Council for Yukon Indians, 1993, sec. 11.4.5.6). Other principles include public participation and an integrated approach to land management with the goal of pursuing sustainable development (Council for Yukon Indians, 1993, sec. 11.1.1). The agreement defines sustainable development as “beneficial socio-economic change that does not undermine the ecological and social systems upon which communities and societies are dependent”(Council for Yukon Indians, 1993, p. 7).

The *UFA* establishes the arms-length, organizing body of the Yukon Land Use Planning Council (YLUP), made up of nominees selected by CYFN (also referred to as CYI or Council of Yukon Indians) and Government.<sup>48</sup> Regional planning commissions are created for each planning region, which make recommendations for how land, water, and renewable and non-renewable resources are used in the context of a regional plan. Their memberships are based on nominations by each First Nation, Government, and the ratio of Yukon First Nations people to the total population within a planning region (Council for Yukon Indians, 1993, sec. 11.4.2). In both cases, members are independent, rather than representative of their nominator. The delegated authority of these planning bodies is largely limited to providing recommendations; Government and the respective Yukon First Nation(s) retain the authority to approve, reject, or

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<sup>47</sup> Under the *UFA*, lands are divided into Settlement and Non-Settlement lands. Within the category of Settlement lands, Category A refers to includes sub-surface rights for the First Nation, while Category B does not (Council for Yukon Indians, 1993).

<sup>48</sup> In the context of the *UFA*, Government is defined as “Canada or the Yukon, or both, depending upon which government or governments have responsibility, from time to time, for the matter in question” (Council for Yukon Indians, 1993, p. 4).



modify a recommended regional land use plan. For Government, this refers to parts of the plan that apply to Non-Settlement land and for Yukon First Nations this refers to sections of the plan that apply to Settlement Land (Council for Yukon Indians, 1993, sec. 11.6.1-11.6.5). Sub-regional and district plans are only outlined in brief in the *UFA*, presented as optional processes that can be produced separately or jointly between Yukon First Nations and Government (Council for Yukon Indians, 1993, sec. 11.8.1-11.8.5).<sup>49</sup>

#### 4.8.2 *Development assessment*

The *UFA* outlines the characteristics of a process for development assessment, which was later established and clarified further in the *Yukon Environmental and Socio-economic Assessment Act* (*YESAA*). Principles guiding the assessment process include protecting and promoting the wellbeing of Yukon First Nations, including the knowledge and experiences of Yukon First Nations, and recognizing and enhancing the traditional economy of Yukon First Nations and their relationship with the land (*YESAA*, 2003, p. 9). Other principles relevant to decision-making include pursuing sustainable development,<sup>50</sup> ensuring public participation, and establishing a process that provides certainty, efficiency, and effectiveness (*YESAA*, 2003, pp. 9–10).

YESAB, the arms-length assessment body created through Chapter 12 of the *UFA*, includes an Executive Committee, members of the Board, and additional members if required, each with representatives appointed by CYFN, the territorial government, and the federal government.<sup>51</sup> When review panels are established, membership varies according to where effects are primarily located (on Settlement or non-Settlement land), though in all cases both First Nation and Government nominate members (*YESAA*, 2003, pp. 37–38). As is the case for all Boards

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<sup>49</sup> The *UFA* also addresses “special management areas” (Chapter 10), which are not included in the scope of this research.

<sup>50</sup> While *YESAA* does not explicitly use the term “sustainable development”, it does include a nearly *verbatim* description of the *UFA*’s definition of the term, stating that projects are undertaken in accordance with principles that “foster beneficial socio-economic change without undermining the ecological and social systems on which communities and their residents, and societies in general, depend” (*YESAA*, 2003, p. 9).

<sup>51</sup> The Executive Committee is made up of 1 nominee each from CYI, territorial government, and federal government), members of the Board are made up of 2 nominees from CYI and 1 from the territorial minister, and 1/2 of the additional members are nominated by CYI and ½ nominated by the federal minister in consultation with the territorial counterpart (*YESAA*, 2003, p. 11).

established under the *UFA*, including those agreed to under Final Agreements, membership is considered independent from any Party affiliation. The recommendations made through the assessment process are then accepted, rejected, or varied by the decision body or bodies. While there are additional complexities, in general a First Nation is a decision body if a project is on Settlement land and Government is a decision body if a project is on category B Settlement land or Non-settlement land and/or relevant authorizations are required (YESAA, 2003, pp. 2–3). As a

#### 4.8.3 *Water licensing*

Principles for water resources outlined in the *UFA* centre on maintaining water in a natural condition while also providing for sustainable use (Council for Yukon Indians, 1993, sec. 14.1.1). Chapter 14 describes the Water Board, a regulatory body whose independent members are appointed by CYFN and Government, and its role in granting water licences under the *Northern Inland Waters Act*, later replaced by the *Yukon Waters Act* (Council for Yukon Indians, 1993; *Waters Act*, 2003).<sup>52</sup> As a regulatory process, the Water Board is one of the few governance bodies established through the *UFA* that has more substantial delegated authorities (e.g., the authority to make decisions rather than recommendations). The role of Yukon First Nations within this regulatory process can include intervening in public hearings, determining compliance with and revisions to terms and conditions of a licence, and receiving compensation (N. Wilson, 2018).

#### 4.8.4 *Co-management of resources*

Chapters 16-17 of the *UFA*, which relate to fish, wildlife, and forest management, identify principles of preserving and enhancing the culture, identity, and values of Yukon First Nations; ensuring participation of Yukon First Nations in resource management; honouring the harvesting and management customs of Yukon First Nations; and integrating the knowledge and experiences of Yukon First Nations and modern western science. It also identifies integrated management and responsible development as guiding principles.

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<sup>52</sup> The federal government retains jurisdiction over certain aspects of fresh water management, such as fisheries, navigation, and boundary waters (N. Wilson, 2018)/

The management bodies that the *UFA* creates are primarily responsible for making recommendations to various governments. At the territorial level, these include the Yukon Fish and Wildlife Management Board and Salmon Sub-Committee, whose members are nominated by CYFN and Government, as well as respective First Nations when dealing with salmon in specific river basins (Council for Yukon Indians, 1993). At the community or regional level they include renewable resources councils (RRCs) and regionally-specific working groups (e.g., Forty Mile Caribou Herd Working Group), where members are typically nominated by respective First Nations and Government (TH Final Agreement, 1998). While co-management boards are an important part of the lands and resources landscape in the Yukon, they are not the focus of the work here.<sup>53</sup>

#### 4.8.5 Consultation

The *UFA* codifies commitments related to consultation between the Crown and Yukon First Nations on a range of issues, from changes to legislation to access to Settlement lands to actions impacting Yukon First Nations' management responsibilities. Understandings of the duty to consult in the context of modern treaties has been further clarified through case law (e.g., *Beckman v. Little Salmon/Carmacks First Nation*, 2010)<sup>54</sup>. The relationship between the duty to consult – within and outside of modern treaties – and cumulative effects will also continue to evolve through case law. For example, while the courts have established that the duty to consult cannot be triggered retroactively (e.g., to address the legacies of historical impacts) and future anticipated impacts have limited relevance to the duty to consult,<sup>55</sup> cumulative effects and historical context (e.g., of historical impacts) may inform the scope of the duty to consult and how impacts of a proposed activity or project are addressed (e.g., *Fort Nelson First Nation v*

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<sup>53</sup> To date, co-management boards in the Yukon have not played a substantial role in the context of cumulative effects and mining.

<sup>54</sup> In *Beckman v. Little Salmon/Carmacks First Nation*, the Supreme Court rejected the Yukon Government's argument that consultation was not required because land grants were not explicitly listed as a matter requiring consultation within the relevant Final Agreement. The Court held that the duty exists both within and outside of the treaty (*Beckman v. Little Salmon/Carmacks First Nation*, 2010).

<sup>55</sup> As established through cases such as *Rio Tinto Alcan Inc v. Carrier Sekani Tribal Council*, *Chippewas of the Thames First Nation v. Enbridge Pipelines Inc.*, *West Moberly First Nations v. British Columbia (Chief Inspector of Mines)* (Audino et al., 2019).

*British Columbia (Oil and Gas Commission)*, 2017). Particular attention has been paid recently to cumulative impacts affecting the meaningful exercise of treaty rights (*Yahey v. British Columbia*, 2021), though outcomes will likely vary according to case and context.

Above and beyond the duty to consult, the *UFA* also refers to consultation more generally within the processes outlined above; for example, within the regional planning process (Council for Yukon Indians, 1993, sec. 11.9.1) or in development assessment (Council for Yukon Indians, 1993, sec. 12.13.3). The agreement describes consultation as providing

- (a) to the party to be consulted, notice of a matter to be decided in sufficient form and detail to allow that party to prepare its views on the matter;
- (b) a reasonable period of time in which the party to be consulted may prepare its views on the matter, and an opportunity to present such views to the party obliged to consult; and
- (c) full and fair consideration by the party obliged to consult of any views presented. (Council for Yukon Indians, 1993, p. 2)

While consultation is an important part of the decision-making process that is likely to continue to evolve in the territory, it is not the focus of the work presented here.<sup>56</sup>

#### **4.9 Concluding thoughts**

The purpose of this chapter has been to understand the context from which the current co-governance framework in the Yukon and TH traditional territory emerged. As has been described, the *UFA* and related agreements come from a time and place characterized by a governance landscape that involves specific ways of understanding the world and a constitutional order that shaped governance bodies, processes, and outcomes. This governance landscape was a forest of multiple trees, including TH and settler governance regimes, both of which evolved over time and informed how Yukon First Nations and the Crown approached modern treaties. Understanding these regimes separately and in relationship to one another is

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<sup>56</sup> Formal consultation (i.e., exercising the duty to consult) in the Yukon occurs on a project-by-project basis and are not public processes, therefore information on how consultation is occurring in the Yukon and its ability to address cumulative effects to Aboriginal and treaty rights and interests is limited.

critical to understanding the current co-governance regime that structures existing approaches to addressing cumulative effects.

The *UFA* provided an opportunity to conceive of a co-governance regime that intertwines branches from multiple trees, with the goal of peaceful co-existence. The broad characteristics of this co-governance regime for lands and resources – and therefore for approaching cumulative effects to those lands and resources – are described in the *UFA*. It establishes governance bodies and processes, as well as principles to guide those processes. Governance bodies under the *UFA* are largely made up of appointed (rather than elected), independent (rather than institutionally representative), members nominated by the Crown and Yukon First Nations. These governance bodies are typically limited in the extent of their authority, with the exception of the Water Board. The *UFA* identifies some roles and authorities for Yukon First Nations, the Council of Yukon First Nations, and Government (including territorial and federal governments) with respect to governance bodies and processes, authorities that in several cases are tied to Settlement and non-Settlement land. It also lays out Aboriginal and treaty rights and components of self-government.

Within this co-governance regime, there are hints as to how the pre-*UFA* governance landscape informed the current approach. For example, the relatively limited delegated authority to governance bodies and related centralization of authority by the Crown on non-settlement land<sup>57</sup> is notably tied to characteristics of the settler governance regime described previously. However, many of the principles described in the *UFA*, such as recognizing and protecting First Nation relationships with the land, invoke the Yukon First Nation governance regimes in which those principles are clarified and embedded. These multiple influences create inherent tensions within the *UFA*. For example, the principle of recognizing and protecting relationships between First Nations and the land implies a relationship with land beyond Settlement land alone, assuming such a relationship cannot be maintained on 8.5% of the land base. Moreover, certain

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<sup>57</sup> The *UFA* identifies a cap of 16,000 square miles (roughly 8.5% of the Yukon's total land mass) that can be set aside for Settlement Land. Of this, no more than 10,000 square miles (roughly 5.3%) can be Category A Settlement Land, in which First Nations maintain sub-surface rights (Council for Yukon Indians, 1993, p. 81).

rights – namely harvesting rights – are tied to the traditional territory as a whole, and not Settlement land alone. This raises questions about how these principles and rights are enacted in the context of centralized Crown authority to non-Settlement land.

The implementation of the governance processes established through the *UFA*, as well as the relationship between the parties to the *UFA*, will be important sites for navigating tensions within the *UFA* in the context of lands and resources. These processes and relationships form much of the framework through which cumulative effects will be addressed. With this in mind, I next turn to the types of cumulative effects issues being faced by the current co-governance regime and approaches for addressing them within TH traditional territory and beyond.

## Chapter 5: Current cumulative effects issues and existing approaches in Yukon and TH traditional territory

If you just look at the roading of country and then you look at the watershed impacts of a single project, I mean it covers a lot of water and it covers a lot of land, then you take multiple projects and how that combines...the spatial scope, both on a landscape basis and a watershed basis, is really dramatic. If you're only going to assess one sector in the Yukon from a cumulative effects standpoint, surely it would be mining. (PR41)

### **5.1 Introduction**

This chapter builds on the previous one to further clarify the case context. The purpose here is to analyze and synthesize the general nature of cumulative effects and their related impacts that are tied to the mining industry in the case study area, from the perspective of project participants. I also provide a high-level description of existing approaches to addressing the impacts identified by participants, including the known challenges that have been identified within these approaches. As noted previously, this does not imply that mining is the only sector that causes cumulative effects. Rather, it is being used as a window through which cumulative effects issues – both positive and negative – and approaches can be explored. This chapter contributes to the second research objective, which aims to identify existing issues and processes related to CE within the case context.

Data for this chapter are drawn primarily from interviews and document analysis. Document analysis focussed on materials pertaining to the identification of CE issues, such as project assessments and regional land use planning materials. I also reviewed papers from academic and grey literatures that focussed on the identified approaches to cumulative effects assessment and management, some of which applied to TH traditional territory and some of which apply Yukon-wide. Interviews were used primarily in section 5.2, where participants described the types of cumulative effects and impacts related to mining that they saw as important within the case study region. Section 5.3 draws more heavily on document analysis, although interview data was used to direct this analysis (e.g., when participants broadly identified the existing approaches available for addressing cumulative effects and impacts in the case study area).

## 5.2 Cumulative effects and impacts in the case study area

Discussing current cumulative effects and impacts associated with non-renewable resource extraction, and mining specifically, in Tr'ondëk Hwëch'in traditional territory requires two initial clarifications. First, placer mining and hard rock mining are different processes.<sup>58</sup> These industries often involve different activities (e.g., sifting through gravel versus digging large pits), often occur in different locations (e.g., placer mining typically occurs in valley bottoms), and potentially at different scales (e.g., family-run operations versus large mining camps), and therefore come with different impacts. In both cases, there may be additional impacts outside the operation of the actual mine (e.g., related to exploration, road or air access, remediation). Because the focus here is on cumulative effects – and therefore how all the effects of these related activities interact – I do not focus specifically on placer or quartz (hard rock) mining. Where necessary, I do clarify the type of mining to which I am referring.

Second, the CE and impacts<sup>59</sup> described here do not amount to a complete inventory or analysis. Rather, they are based on the perceptions and experiences of those engaged in addressing CE in the case study area and the territory. Consequently, this analysis is limited to “what is known” and subject to biases, such as worldview (e.g., what counts as an impact), memory (e.g., long-ago impacts or historical baselines may not be included), and area of expertise (e.g., highly technical impacts related to a niche field may not be included). A key example of this is the focus on adverse cumulative effects; for any number of reasons, participants were unlikely to describe positive cumulative effects and impacts. If cumulative effects and impacts are not addressed here, it does not imply that they are unimportant or non-existent. The purpose here is simply to provide insight into the types of issues that practitioners, decision-makers, and experts are grappling with in the case study area. This is demonstrated in how participants spoke about

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<sup>58</sup> While placer mining aims to find minerals that have already been eroded from their host, typically in old river/streambeds, hard rock mining looks for minerals still in the host rock.

<sup>59</sup> As noted in chapter 1, cumulative effects refer to changes to socio-ecological systems, and cumulative impacts are the consequences of those changes. I primarily use the term “cumulative effects” to refer to cumulative effects and their associated impacts for the sake of brevity but do differentiate where required.



cumulative effects, often describing both the type of effects and their perceptions of why the current governance system struggles to address these effects.

This section is organized first according to the types of cumulative effects outlined in Chapter 1 and then types of impacts identified through thematic analysis. While some of these effects and impacts are described in ways that are specific to the case context (e.g., specific impacts to Tr'ondëk Hwëch'in), they broadly characterize the types of issues that require attention to the core requirements of the consolidated framework from Chapter 3.

### 5.2.1 *Growth-inducing effects*

Growth-inducing effects occur when an undertaking results in further development “that may greatly exceed the cumulative impacts of the first project” (Johnson, 2016, p. 27). Many interviewees referred to growth-inducing effects largely in the context of roads opening new areas to further mining opportunities (e.g., if a road is put in, it becomes easier for another mining operation to add to that road).<sup>60</sup> One participant described that,

when a new road goes into a valley, then the next person comes along and is like ‘oh hey Valley B is open, so now I want to go further up because now I only have to push a kilometer of road after their kilometer of road, so I can get two kilometers up’. And that is how it works, it does spiral like that. (TH01)

Interviewee comments on growth-induced effects also referred to the consequences of building new roads, especially loop roads, that open new areas to other users besides miners, primarily other hunters, affecting wildlife populations and local wildlife harvesting activities.<sup>61</sup> While new resource road legislation is currently under development in the Yukon, the existing regime was characterized as lacking provisions to ensure access management (e.g., to control who uses the road) and reclaim roads (e.g., they become public roads indefinitely).

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<sup>60</sup> It should be noted that not all interviewees thought this would be the case. As one practitioner stated, “mines seldom just pop up and seldom are they all operating at the same time. Everyone thinks there’s going to be all these mines operating at the same time, I just don’t know where that’s happened.” (PR33)

<sup>61</sup> One participant disagreed that the relationship between creating access for hunters and impacting wildlife populations was clear-cut.

To add to this, the existing wildlife management regime was described as lacking the ability to effectively address issues of competing harvesting interests, further compounding the inability to address growth-inducing effects. One practitioner described the issue from an industry perspective, explaining “what's the problem with the road access? Well it will be harvest. So what does that have to do with us? Doesn't the Government and First Nations, through the *UFA*, don't you co-manage harvest? They'll say 'yeah but it's not working'. So why is that our problem as a mining project?” (PR33).

Mitigation measures related to growth-inducing effects of roads (e.g., gating, placing limits on who can hunt in an area) were also described as lacking or ineffective. As one participant commented, “if there's a gate, you'll see a way around it, here, for the most part” (YG15). This was similarly reflected in a YESAB project assessment for a road development, which stated, “to date, approaches [to access management on new resource roads] have been ineffective and unenforceable in preventing access to the back-country, where gates are bypassed, removed or not maintained in working condition” (YESAB, 2018f, p. 16). Another participant described the challenges of mitigating impacts of competing hunters through placing limits on permit hunts:

On a [permit hunt] limitation, it basically favours Whitehorse hunters and it doesn't favour the community. So there's a socio-economic impact that occurs because there's a rebalancing of who is allowed to hunt in the community or in that region. There's this whole cascading socio-economic effect. That's strictly from the standpoint of harvest, but that negates the point that perhaps development is having a negative impact on moose and perhaps what we're doing is fighting over scraps. If there is an impact on moose, at the end of the day the way it plays out is we have to reduce harvest. (YG03)

There is some consideration of these concerns in project assessments. For example, one of the few YESAB project proposals that was rejected<sup>62</sup> due to significant adverse cumulative effects was tied to a road development. Though this outcome is relatively rare, it is notable that the determination recognized that limitations in legislation and policy contribute to growth-induced effects of creating access for hunters. It specifically identified the ineffective approach to access

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<sup>62</sup> In this context, “rejected” refers to a decision by the decision body to recommend that a project not proceed.

management for new resource roads and impacts tied to limiting harvest as factors that contributed to adverse cumulative effects to moose populations (YESAB, 2018f, p. 16). Nonetheless, in the case study region – and elsewhere in the Yukon – road access and growth-induced effects continue to be a widely discussed issue (Dawson Regional Planning Commission, 2020b; Yukon Land Use Planning Council, 2019).

### 5.2.2 *Nibbling loss*

Nibbling losses – or additive losses “resulting from a cumulative increase in the footprint of human development” (Johnson, 2016, p. 27) - were also referenced frequently in interviews. Typically, such losses were described as dispersed and/or gradually expanding over time, in contrast to the concentration of activities associated with crowding effects. Again, roads played a significant role in this discussion, in addition to the footprint of mining activities directly. The nature of these losses was described by one participant, who explained, “I think it’s just the nature of the land use, it tends to be dispersed. It tends to leave not a huge direct footprint, but a dispersed footprint on the landscape...I think that’s my main rationale for why you want to consider cumulative effects of mining” (PR17). The current treatment of resource roads – in which mining roads become public highways in perpetuity and meaningful reclamation is rarely possible under existing law – played an important role in allowing for these effects. As one participant noted, “Our own laws suggest that we do not close roads once they’re open because they become public corridors. The Highways Act is an antique piece of legislation; it really gets in the way” (YG26). Other nibbling losses were referenced in relation to the loss of peatland fens and bogs in the Indian River watershed.

### 5.2.3 *Crowding effects*

Crowding effects are caused by “many projects implemented in a small area over a short time”, where the level at which a socio-ecological system is resilient to development activities is surpassed in too-short a period of time (Johnson, 2016, p. 28). These effects were referenced in specific areas where mining and related activities have been concentrated, namely the Indian River watershed. As one interviewee observed, “the Indian River watershed is used as a touchstone for what people don’t want to happen in the Dempster. They used to go [to the Indian River] and they no longer do. Was it that the Indian River watershed wasn’t as important

or is it that its nature was changed so drastically and quickly that people didn't realize it and now it's too late?" (YG29, emphasis added). Environmental and socio-economic assessments of placer mines in and near the Indian River watershed further clarify the crowding effects described in the region.

Concerns about wetlands in the Indian River watershed were raised within project assessments<sup>63</sup> from 2013-2016 (YESAB, 2013, 2014a, 2014b, 2015, 2016e). From 2017-2019, these concerns were consistently raised through the lens of CE, with project assessments specifically arguing that "the loss of unmined wetlands has occurred/is occurring over a short period relative to the length of time required for such wetlands to develop" (YESAB, 2016a, p. 41), resulting in a significant adverse cumulative effects (YESAB, 2017b, 2018g, 2018h, 2018i, 2018j, 2019a, 2019b, 2019d, 2019e).<sup>64</sup> In 2019, YESAB's approach to cumulative effects within project assessments changed slightly (described below), though the identification of cumulative effects to wetlands in the Indian River watershed appears to remain the same.<sup>65</sup>

#### 5.2.4 Legacy effects

The legacy effects<sup>66</sup> that were discussed by interviewees encompassed legacies of old mines, as well as historical legacies that impact the conditions and contexts for current mining activities. Interviewees raised concerns about mining activities that took place prior to key legislation being in place, resulting in legacies such as abandoned equipment/materials, improper reclamation, and acid rock drainage that has the potential to worsen over time. The legacies of old mines outside of the case study region, but still relevant to it, were included in this description, including those leaving territorial and federal taxpayers to pay the cleanup and remediation

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<sup>63</sup> Assessments in the Indian River wetlands are primarily for placer mining activities.

<sup>64</sup> Two other issues are identified in the Indian River watershed evaluation reports related to wetlands. One is uncertainty about whether conversion to a different type of wetland is inherently acceptable. This issue does not appear to have been addressed yet. The other is about disturbance to peatland fens and bogs, which is considered effectively a permanent loss, and is described as more of a nibbling loss than a crowding effect.

<sup>65</sup> A recent assessment states, "the importance of the Indian River wetland complex within the Tr'ondëk Hwëch'in and First Nation of NaCho Nyak Dun Traditional Territory, and the ecological, socio-cultural and intrinsic value of these ecosystems, support the determination that the cumulative loss and conversion of wetlands within the Indian River wetland complex would be irreversible with this Project" (YESAB, 2020c, p. 38, 2020e, p. 41).

<sup>66</sup> "Effects caused by past actions that persist, or even amplify, over time and often act cumulatively with the effects of current, and future, development actions." (Hackett et al., 2018, p. 422)

costs of abandoned hard rock mines across the territory (Tukker, 2017; Yukon Land Use Planning Council, 2019).

Such legacies were also seen in the context of other changes that have occurred since the arrival of settlers in the region, such as the Gold Rush, the building of the highway, and residential school, resulting in impacts such as loss of culture and loss of language for Tr'ondëk Hwëch'in peoples. From this perspective, understanding impacts of existing development activities must be contextualized with such historical legacies across the traditional territory as a whole in mind. Concerns about future legacies of current mining activities were also raised. For example, one participant explained, "if we can't manage our individual projects well, the cumulative impacts of those projects are going to build legacies that we can see coming in some cases, and in other cases we can't see coming" (YG26).

#### *5.2.5 Impacts*

The consequences of the above changes, or impacts of cumulative effects, are often discussed through the lens of values. In project assessments, for example, impacts are categorized into groups defined by valued socio-ecological system components such as wetlands, aquatic resources, wildlife and wildlife habitat, and heritage resources. These impacts and valued components are relatively consistent across project assessments, with only a few exceptions (e.g., YESAB, 2017d). In discussing impacts here, I use approximately similar labels and elaborate where required, based on interviews and confirmed through review of relevant documents specific to the case study region (e.g., YESAB evaluation reports, Dawson Regional Land Use Planning reports) and the territory (e.g., workshop reports). To acknowledge the holistic nature of these impacts, I draw attention to interconnections where possible.

One area of impact related to the above cumulative effects is stewardship. One definition of stewardship used by TH in their Land Stewardship Framework is that it refers to Tr'ondëk Hwëch'in's spiritual and cultural obligations to ensure the survival of life for future generations by protecting the ongoing health of the land and all that it includes through various management principles and strategies. Community stewardship is also identified in the draft regional land use plan for the Dawson region: "Stewardship is taking collective responsibility and actions for the

continued health and vitality of the region. It also means being part of a strong community that is connected to the land” (Dawson Regional Planning Commission, 2021, p. 8).

This understanding of stewardship was expressed by interviewees as a combination of connection to the land, the ability to be on the land, and – for Tr'ondëk Hwëch'in specifically - responsibilities to the land. As one interviewee explained, stewardship encompasses Tr'ondëk Hwëch'in traditional territory as a whole, and part of that understanding is ensuring that there are healthy areas of the territory that are “resting” or not being used. Stewardship also emphasizes ensuring that future generations retain their ability to be on the land and that the integrity of the landscape supports that ability.

Cumulative effects can impact all aspects of the above definition. For one TH employee, when a place is fundamentally transformed,

People don't want to go there anymore, yet it was an important place to them. They can't use that landscape, they don't want to be in a place that kind of looks like a gravel pit. There's a loss of a place and a space that people had been using actively. And that connects to the stewardship of the land, the strong cultural sense that folks have a responsibility to the land. Yes, you can take from it, but you need to give back or you need to take care of it. (TH02)

The concept of feeling displaced from areas of traditional use – at times unknowingly (Yukon Land Use Planning Council, 2019) – reveals the importance of considering impacts to stewardship in a broader lens. As one TH employee explained, “there's lots of moose in the Indian River and that's true. But the thing is I have talked to quite a number of TH citizens who say they don't feel comfortable, they don't feel welcome there anymore” (TH18). This sense of not wanting to be in a place, not feeling welcome in it, and not recognizing it had multiple consequences for stewardship and stewardship practices, including loss of connection for future generations (e.g., not being able to describe a place to your children), loss of responsibility and practical ability to maintain the integrity of that land according to Tr'ondëk Hwëch'in law, and potentially the loss of stories that are tied to that place. One TH employee also tied this to stewardship at an individual level, asking “Do you know what it's like for someone's spirit when

they see themselves fail over and over at the one thing that they're supposed to be doing, which is maintaining the integrity of their homeland?" (TH19).<sup>67</sup>

Impacts on socio-economic values were also discussed by interviewees. These ranged from broad (e.g., impacts to wellbeing, impacts to traditional economy) to specific. More specific impacts included pressure on services (e.g., housing, health care) related to surges in population growth from multiple mining activities and impacts to food security. One participant expressed concerns about cumulative impacts to communities:

with the pressures onto services and programs that support local communities - whether it's schools or health or social services - what are some of the cumulative pressures of more projects occurring in there and how that might be impacting the governance aspects or the programs and supports that are required to support that community. (YG24)

In another example, the project assessment referred to in section 5.2.1 identified growth-inducing effects as impacting the food security of local subsistence hunters (e.g., having to travel further to hunt, relying on more expensive and poorer quality food in the absence of being able to hunt) (YESAB, 2018f, p. 16). Such impacts may have further implications for social cohesion (e.g., relationships established through harvesting activities, sharing of harvested foods).

Related to this discussion are impacts on wildlife. Interviewees described impacts such as habitat fragmentation, loss of important habitat areas, loss of food sources, declines in animal health (e.g., more disease), impacts on animal behaviour (e.g., avoidance of certain areas), and impacts on wildlife population growth rates as concerns related to CE.

In the context of cumulative impacts on wildlife generally associated with road access, for example, the Dawson Regional Land Use Planning Resource Assessment Report explains,

Direct and indirect effects may act synergistically to cause decreases in population density and species richness. Increasing habitat loss and fragmentation, altered physical health due to disturbances and displacement from ideal habitat,

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<sup>67</sup> This has been referred to in literature as *solastagia*, which describes the relationship between cumulative impacts of environmental change and mental, emotional, and spiritual health (Galway et al., 2019).

increased hunting pressure, and projected impacts of climate change could combine to compound the overall effects of increasing access (Dawson Regional Planning Commission, 2020b, p. 403).

One participant described the cross-cutting concerns related to cumulative impacts to caribou specifically:

These herds don't have a lot of resilience because of that lack of ability to grow quickly. If it gets into trouble, which from a cumulative effects standpoint - and for caribou that's really what you're looking at is the cumulative effects - it's going to be hard to dig out. I think we're seeing that in some of these herds to the east, where they've hit that point that they can't dig out any more...With [the] Fortymile [caribou herd], we've been trying to recover them since the 1970s, so we've been without caribou in the Yukon and without harvest of those caribou since largely 1968. That was a fairly dramatic crash, but that's a long time. That's generations lost. That's stories, that's culture. The harvest is one piece, but it's stories and cultures that are lost and it's hard to get back. (YG03)

Adverse impacts on water quality and quantity, as well as related impacts to fish and fish habitat, were also discussed extensively by interviewees. Specific concerns related to sedimentation, water contamination from toxic materials, and potential hydrological impacts, and the extent to which all of these concerns interact to impact fish and fish habitat. Climate change played an important part of this discussion within interviews for its role in potentially interacting with other effects (e.g., legacy effects of mercury used in old mining activities leaching into water, combined with potential for more mercury to be released when permafrost melts in a warming climate) (Dawson Regional Planning Commission, 2020b; Willis, 1997). As one participant observed,

Longer rain events, more frequent rain events, heavier rain events. Since I've been up here the change has been incredible. It's definitely having an effect. As we travel around we see sink holes and permafrost bogs just melted out. We know that that is leaching into the receiving water somewhere and that's increasing the sediment load over and above what placer is doing. (YG23)

It's important to note that this discussion of impacts to water is not separate from discussions of other impacts described here. This point was raised through the regional land use planning process in the Dawson region:



The community is particularly concerned about the cumulative impacts of activities on water and the potential for activities in specific locations to impact the entire watershed. The Elders stress that water is part of a system, not a single resource. Any damage to water will eventually be seen in deteriorating health of the land, fish and wildlife, plants, and people. (Dawson Regional Planning Commission, 2020b, p. 163)

The above impacts – to stewardship, socio-economic values, wildlife, water, and fish – are inherently connected to concerns about cumulative impacts on rights under the *UFA*. The interviewees primarily focussed on impacts to harvesting rights, though other rights (e.g., water rights, rights to peaceful use and enjoyment of settlement land) were also discussed.

As demonstrated by the above discussion of the Indian River watershed, concerns about CE on wetlands were also expressed by interviewees. For some interviewees, impacts to wetlands were a question of inherent significance, cultural attachments, or relative rarity in the traditional territory. One TH employee described cumulative impacts to the Indian River wetlands, explaining that

it really was one of the larger wetland complexes within the traditional territory and certainly the most accessible to the base of citizens in Dawson. There was an ongoing attachment to that place, use of that place, use of the renewable resources (plants, wildlife, connection with harvesting)...it seems to citizens like the land is no longer being respected, because when you look at it, it doesn't look like a landscape should look. In this area, it isn't a functional, flourishing landscape any more. Our concerns I think are ecological, the connectivity, what is a wetland doing on the landscape? It has all of these known functions, particularly peatlands. Those you can wrap those up and I guess call them scientific or ecological concerns. Then there are these sociological, cultural concerns. (TH02)

Although there remains uncertainty about whether converting a wetland to a different type of wetland should be considered acceptable, some participants indicated that this may be one area where positive cumulative impacts could be considered (e.g., placer mining creating wetlands that support specific ecosystem services, such as waterfowl habitat). Finally, adverse impacts on permafrost and soil (e.g., erosion, contamination) were discussed by the interviewees. Other impacts that were discussed, though not extensively, included impacts to plants, berries, and migratory birds.

### 5.3 Existing approaches and established challenges

As the previous section demonstrates, a number of cumulative effects and associated impacts are of concern to individuals who are, in various ways, engaged in addressing cumulative effects in the Yukon and TH traditional territory. Similar concerns are also being raised through ongoing governance processes, such as regional land use planning and project level assessments. This section describes existing approaches to addressing identified issues. Where Chapter 4 identified the broad characteristics of the co-governance regime for lands and resources, the purpose here is to elaborate on that regime to describe how CE are considered within the structures and processes that have been established. Although the focus is on those processes established through the *UFA* and related legislation and agreements, I also identify processes and sources of guidance relevant to CE that have emerged outside of the *UFA* framework. Within all the above and where possible, I outline broad challenges that have been raised in various academic and grey literatures, specifically those relevant to addressing CE.

Figure 5 summarizes this framework and demonstrates the multiple authorities, processes, sources of guidance, and sources of information that are at play.<sup>68</sup>

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<sup>68</sup> As noted in Chapter 4, consultation is not addressed in significant depth here. Only consultation as defined by the duty to consult is included in Figure 1.

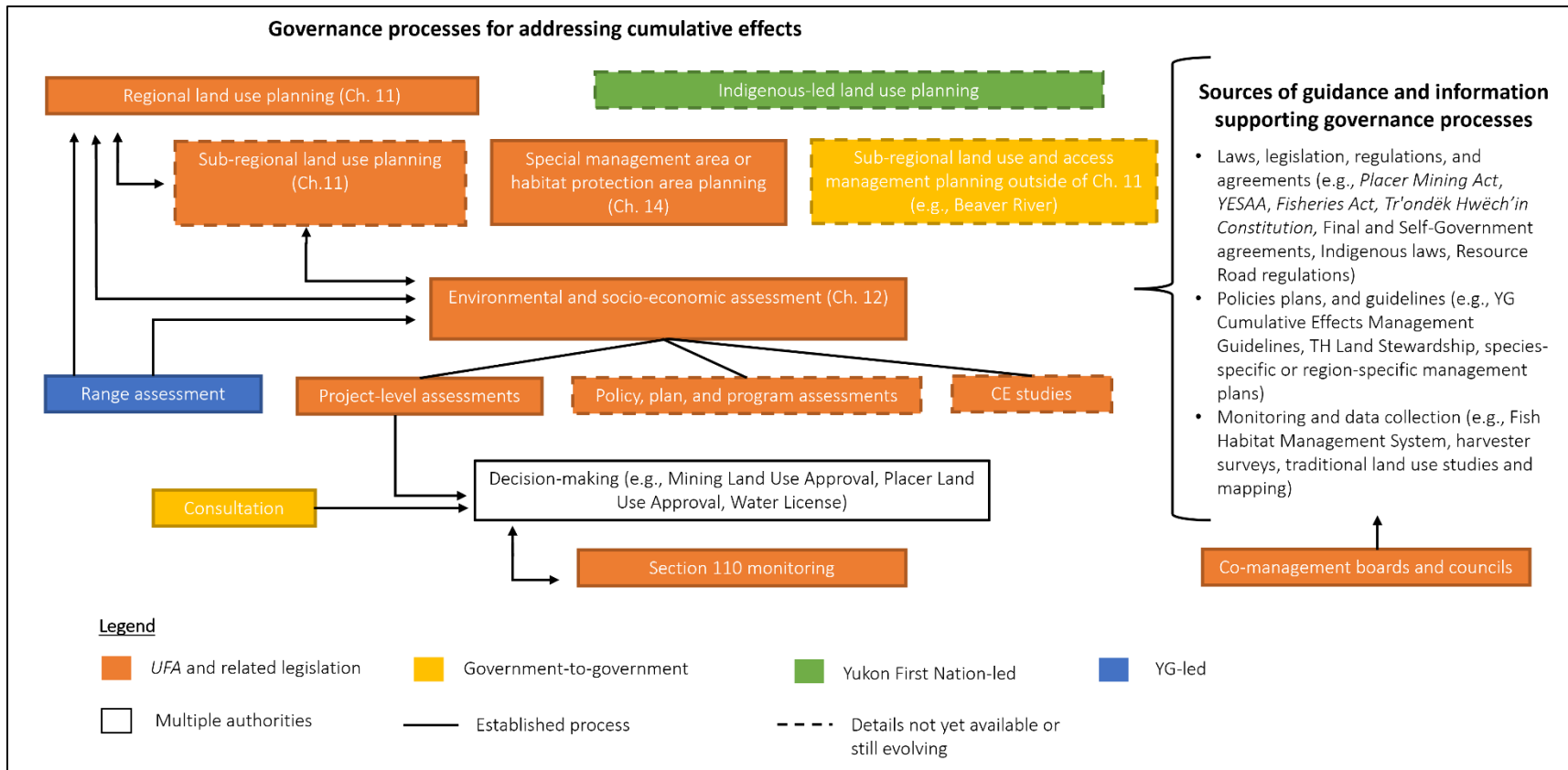


Figure 5 - Summary of governance structures and processes relevant to addressing cumulative effects and impacts in the Yukon, with specific examples from Tr'ondëk Hwëch'in traditional territory

### 5.3.1 Governance regime established through the UFA and related legislation and agreements<sup>69</sup>

Within the governance regime envisioned by the *UFA* and elaborated within subsequent legislation (e.g., *YESAA*) and agreements (e.g., *Tr'ondëk Hwëch'in Final Agreement*) (see section 4.8), there are five processes relevant to addressing CE. They include regional land use planning and sub-regional land use planning, project-level assessments, strategic level assessments, monitoring, and CE studies. Each of these are addressed here in turn.

#### i) Regional and sub-regional land use planning

Chapter 11 of the *UFA* establishes processes for regional, sub-regional, and district area land use planning. While the concept of cumulative effects is not written into the language of Chapter 11, regional planning is generally considered to be one of the primary avenues through which CE can be addressed (Pike, 2014). Of the ten planning regions in the Yukon, only two have finalized land use plans. This delay has largely been due to a series of court cases related to the Peel Watershed Regional Land Use Plan, which took nearly fifteen years to complete. The Dawson Regional Land Use Plan is currently underway. Sub-regional plans have also been slow to develop, potentially because Chapter 11 provides little guidance on the process (Ryder, 2018). While no formal sub-regional plans under Chapter 11 currently exist, processes resembling sub-regional planning and using similar language have been created outside of Chapter 11 (see 5.3.2).

The North Yukon Regional Land Use Plan, located in Vuntut Gwitchin Traditional Territory, provides insight into the existing approach to addressing CE at this level. The consideration of CE in this process was largely focussed on using ALCES® landscape CE simulation modelling to

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<sup>69</sup> Outside of the *UFA*, there is ongoing work by several Yukon First Nations on First Nations-led land use planning. While these processes are not the focus of this research, and are not (currently) taking place within the case study region, they are an important part of the current governance framework developing in the Yukon. For example, outside of the case study area, the Southern Lakes Indigenous Land Use Plan, which brings together Ta'an Kwach'an Council, Kwanlin Dun First Nation, and the Carcross/Tagish First Nation, was initiated in 2017. It specifically identified cumulative effects related to caribou as an important issue, though its role in addressing cumulative effects remains to be seen. Champagne Aishihik First Nation has also initiated its own land use planning process for its traditional territory and settlement land. Again, it is unclear whether/how cumulative effects will be addressed. In both cases, the relationship between these plans and *UFA* processes, such as Chapter 11 regional planning, also remains unclear.

consider potential oil and gas scenarios. This exercise was intended to facilitate discussions about levels of acceptable change on the landscape and possible socio-economic benefits and environmental impacts (specifically for barren-ground caribou and moose) (Francis & Hamm, 2011). As a result, the plan identifies cautionary and critical levels for two indicators, surface disturbance and linear density, associated with different planning zones to guide the intensity of development activities that can occur within different areas (North Yukon Planning Commission, 2009). It also recommends potential regional indicators to be considered during plan implementation. At the time of writing, it appears likely that a Dawson regional land use plan will follow an approximately similar approach (e.g., utilizing ALCES software, using surface disturbance and linear density as indicators, identifying various levels of disturbance and associated planning zones to guide the intensity of development) (Dawson Regional Planning Commission, 2021).

The implementation of the CE indicators and thresholds identified within regional land use planning relies on a tiered relationship with project-level assessment. Within this approach, the strategic level (at the level of policy, plans, and programs) informs the project level and vice versa. This means, for example, that if CE thresholds are identified in a regional land use plan or sub-regional land use plan, they can inform the outcome of a project level assessment. Indeed, this was the approach taken in the North Yukon Regional Land Use Plan (Francis & Hamm, 2011) and a similar approach will likely be pursued in the Dawson Regional Land Use Plan.

One of the primary mechanisms through which this tiered approach is implemented is through conformity checks. When a project application comes through YESAB, a conformity check is to be conducted to determine “whether or not the Project is in conformity with the approved regional land use plan” (Council for Yukon Indians, 1993, sec. 12.17.1), where such plans are in place. In the North Yukon Regional Land Use Plan, for example, projects must conform with linear density and surface disturbance thresholds. When a regional plan is being developed, there may be opportunities for YESAB to provide information (e.g., identifying areas where CE are likely to be a concern) to the planning commission on pending assessments, though such a relationship has not been formalized.

ii) Project-level assessment

*YESAA*, legislation rooted in Ch.12 of the *UFA*, lays out how CE are considered within environmental and socio-economic assessment. It specifically identifies “the significance of any adverse cumulative environmental or socio-economic effects that have occurred or might occur” as a consideration in project assessment (*YESAA*, 2003, sec. 42(1)). In 2019, *YESAB* clarified its position on CE, stating that an assessment cannot make a *determination* on cumulative effects, but it can *consider* them. This shift does not yet appear to have influenced the outcome of project assessments, simply the language and placement of CE within *YESAB* evaluation reports.<sup>70</sup>

iii) Strategic level review

Chapter 12 of the *UFA*, and therefore *YESAA* as well, identify the possibility for the assessment board to review any plan, program, policy or proposal that is not a project (*YESAA*, 2003, secs. 102–109). Such a strategic-level review<sup>71</sup> could consider the significance of adverse cumulative effects, as well as alternatives to the proposed plan, Final Agreement rights, and the relationship between Yukon First Nations and the environment, among other things. To date, no strategic level reviews have been conducted in the Yukon.

iv) Monitoring

Section 110 of *YESAA* clarifies a provision within Chapter 12 of the *UFA* related to monitoring (Council for Yukon Indians, 1993, sec. 12.6.1.8), which includes “monitoring of environmental and socio-economic effects, or of the effectiveness of mitigative measures” (*YESAA*, 2003, p. 3). Such monitoring can be recommended by *YESAB* to a decision body, and can also be requested by Government ministers and First Nations. *YESAB* does not track how many assessments recommend section 110 monitoring, nor does it track when those recommendations for monitoring are accepted, rejected, or modifying. However, several examples of section 110

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<sup>70</sup> For example, as noted in section 5.2.3, the terms and conditions related to cumulative effects to undisturbed wetlands in the Indian River watershed did not change in evaluation reports before and after the change in approach.

<sup>71</sup> The language of “review” versus “assessment” within *YESAA* creates uncertainties as to whether or not this section was intended to serve as an equivalent to strategic level assessment by those writing the legislation.

monitoring suggest that it has been recommended for specific values, such as monitoring public health data (YESAB, 2018b), and for monitoring the effectiveness of proposed recommendations, such as monitoring the reclamation and decommissioning of roads and trails (YESAB, 2018e).<sup>72</sup>

Though it exists outside of the case study area, the Minto Socio-economic Monitoring Program best demonstrates the potential scope, scale, and application of a section 110 monitoring requirement. The program emerged from a YESAB Evaluation Report in 2011 and was formally agreed-to by Minto Explorations Ltd., Government of Yukon, and Selkirk First Nation in 2014 (Government of Yukon, 2011; Selkirk First Nation et al., 2014). This agreement was unique in two ways. First, the current program is one of the only sources of in-depth, community-level socio-economic data in the territory. Second, the three parties agreed to develop and implement a cumulative effects assessment and monitoring framework (Government of Yukon, 2011), though it has yet to be implemented.<sup>73</sup>

v) Cumulative effects studies

Chapter 12 and *YESAA* also identify the possibility that the federal minister, territorial minister, or a First Nation may request a study “of environmental or socio-economic effects that are cumulative regionally or over time” (Council for Yukon Indians, 1993, sec. 12.8.1.8; *YESAA*, 2003, sec. 112(1)). Such a request is submitted to the federal minister if funding from the federal government is being requested or can be conducted without its consent if self-funded. Although Tr’ondëk Hwëch’in submitted a section 112 request in 2016, to date no such request had been granted.

Independent of a section 112 request, there are only a few examples of cumulative effects studies in the Yukon. One was undertaken by YESAB in response to a dramatic increase in staking activity in the White Gold district in 2010. The scope of the project was limited to focus on

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<sup>72</sup> Both examples provided here relate to quartz exploration.

<sup>73</sup> Early indications suggest that the basic components of the framework are likely to include select valued socio-ecological components, thresholds/trigger points, and associated management actions. Impetus for implementing this commitment has recently been sparked due to federal government infrastructure funding for the Northern Access Road and Casino Road projects, which is contingent on Selkirk First Nation approval. Should Selkirk First Nation and Government of Yukon fundamentally disagree on the design and management of road and induced cumulative effects in the area, the project(s) will not receive federal funding.

specific effects, primarily disturbance-related (e.g., trail development, camps) effects associated with a number of proposed projects in the area. It also focussed on potential cumulative impacts to moose from increased human access, impacts to thinhorn sheep from habitat disturbance, and impacts to caribou from habitat disturbance.<sup>74</sup> Study findings have since been incorporated into project assessments in the region in various ways (e.g., YESAB, 2016c, 2017c, 2019c, 2020d).

Perhaps in light of the YESAB White Gold study and related exploration boom in the area, a Government of Yukon Cumulative Effects Working Group created a Cumulative Effects Management Process Guidebook in 2015. This guidebook was intended to provide direction internally for how different Government of Yukon departments could work together on conducting cumulative effects management studies. It was grounded in the desire for government to be proactive and responsive to emerging concerns, coordinate and manage priority areas in a cost-effective manner, and ensure effectiveness and timeliness when challenges emerge related to existing situations or projects (Government of Yukon, 2015, p. i).

The process identified in the guidebook included the following general steps:

1. Identify an area of increased development where there is a potential need for a CE study.
2. Development Assessment Directors Committee considers questions such as who identified the need for a CE study and why, what are the activities in the area, what are the economic impacts, and what are the environmental, social, cultural, and health concerns.
3. If the Committee decides to proceed with the study, the Corporate Response Team develops a CEM study for Deputy Minister Review Committee approval. The study follows the basic steps for regional strategic environmental assessment by CCME, including attention to issues, values, spatial boundaries, management objectives, management actions, indicators, and implementation items.

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<sup>74</sup> While the project found a correlation between trail access and number of moose harvested, there was little expected increase in access resulting from the proposed projects.



4. Pending approval, implementation actions are assigned.
5. Evaluation and adaptation.

Once this guideline was in place, an internal YG pilot study exercise was conducted on the Dawson Range, which looked at different development scenarios, potential CE, and what kind of change might be considered acceptable. However, following the pilot study, there was a change in government and significant staff turnover, as well as a decline in mineral exploration in the region. There does not appear to be a significant amount of follow-up to the guidebook or pilot study by YG, at least based on publicly available information.

vi) Challenges

Within the governance regime described here, several key challenges related to CE have been raised. As noted, the regional land use planning process has been slow to unfold, due in part to the Peel Watershed court challenges, but also due to challenges within the planning process itself, such as unclear roles and responsibilities (Leach, 2011). Adding to this is a lack of clarity on regional land use plan implementation (Pike, 2014). Past experiences with incorporating scenario modelling into regional land use planning have also pointed to human resource constraints that limited the opportunities for direct, meaningful community engagement in the modelling process (Francis & Hamm, 2011). A great deal of work is also required to clarify the Chapter 11 sub-regional planning process, including composition of planning body members, funding, roles, and relationships with other planning processes (Ryder, 2018).

Efforts to implement a tiered approach to planning and assessment, especially in relation to CE, have pointed to poor implementation of conformity checks within project assessments (Caddell, 2018). In light of high expectations for regional land use planning as an avenue for considering CE, such challenges are concerning.

Additional challenges have been raised regarding YESAB's consideration of CE. In 2009, a five year review of YESAA noted that "concern about inadequate cumulative effects assessment (environmental and socio-economic) was probably one of the issues raised most often" (SENES Consultants Limited, 2009, p. 38). Key critiques focussed on the need for a clearer and more consistent scope and approach, poor cumulative effects monitoring and data, and a lack of

regional land use plans. In response to these critiques, the federal, territorial, and First Nation governments endorsed clarifying best practices related to cumulative effects assessment, such as how “future projects” are defined, encouraging the completion of regional land use plans, and supporting existing monitoring programs. It remains unclear the extent to which such recommendations were implemented.<sup>75</sup>

To add to this, the reviewers noted a lack of strategic assessments in the Yukon, despite the fact that they were described as having widespread support amongst stakeholders.<sup>76</sup> In response, it was proposed that regulations and policy guidelines directing strategic level assessment should be developed, cost-effective alternatives to panel reviews should be explored, and opportunities for linking strategic level assessments to project level assessments should be explored. Finally, the *YESAA* review noted a lack of rules for conducting cumulative effects studies and undertaking monitoring and recommended providing further clarity on requirements, as well as potential funding for First Nations to participate in such studies and monitoring activities (SENES Consultants Limited, 2009). The above changes do not appear to have yet been implemented. Regarding monitoring specifically, concerns around lack of political will and questions of financial responsibility for carrying out monitoring and compliance activities have been raised as barriers to effective implementation (Clementino, 2008).

### 5.3.2 *Interim processes*

The most obvious challenge for the governance regime laid out within the *UFA* as a process for addressing CE is the slow pace of – and in some ways entire lack of – implementation. While regional planning is underway in the case study area, there are a number of processes that have emerged in the absence of planning, strategic assessments, or CE studies, both within and

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<sup>75</sup> It is possible that recommendations from the review were disrupted by Bill S-6, which proposed changes to *YESAA* and was passed in 2015. These changes were then reversed following a change in government through Bill C-17, passed in 2017. Subsequent to this change, the *YESAA* Oversight Group was established to oversee the assessment process and ensure its ongoing improvement. CE was identified as a priority issue by this group. (*YESAA Reset MoU*, 2017; *YESAA Oversight Group*, 2018)

<sup>76</sup> Participants in the five year review noted several possible topic areas that could be considered within a strategic assessment, such as agricultural sub-divisions, forestry projects, staged infrastructure improvements, and rural residential property policies. (SENES Consultants Limited, 2009)

outside of TH traditional territory, that centre on CE. While they exist outside of the *UFA*, they nonetheless make up an important part of the governance framework in the Yukon. They include a government-to-government approach (non-*UFA* sub-regional land use and access management) and work led by Government of Yukon (range assessment).

i) Government-to-government land use and road access management planning

In 2018, the Government of Yukon and First Nation of Na-Cho Nyak Dun signed an agreement to engage in land use and road access planning process for the Tsé Tagé/Beaver River watershed in response to a proposed all-season road to a gold deposit. In addition to a land use plan, the planning committee will work with a number of other bodies (e.g., several regional and local co-management boards) to develop a road access management plan, a fish and wildlife harvest regime, and a fish and wildlife monitoring and adaptive management plan (Beaver River Land Use Planning Committee, 2019b). While this process in many ways resembles that of a sub-regional plan under Chapter 11 – for example, it uses similar language in describing its objectives – those involved have emphasized that it is not a Chapter 11 process. Reasons for this distinction remain unclear and its relationship with a future regional land use plan for the Northern Tutchone planning region remains to be seen. The extent to which it will address cumulative effects is also unclear, though cumulative effects have been identified as a reoccurring concern related to the proposed road (Beaver River Land Use Planning Committee, 2019a).

ii) Range assessment

Unlike the previous example, range assessment has been pursued primarily by YG as a tool for CE assessment and management. This has taken place explicitly in the context of intense mineral exploration and development and associated concerns about cumulative effects (Francis et al., 2013). A range assessment is “a structured process intended to assess risk to population viability, define management objectives and identify actions to meet the objectives for focal wildlife species” (Francis et al., 2013, p. 7). It encompasses six steps, including issues scoping, characterization of range condition, description of level of risk, definition of management objectives and performance measures, identification of management strategies, and monitoring and adaptation (Francis et al., 2013, p. 8). Range assessment was recommended as a tool for cumulative effects management in 2013, and since then range assessments have been

completed for thinhorn sheep<sup>77</sup> in the Dawson Range and woodland caribou, specifically the Klaza and Carcross caribou herds.<sup>78</sup>

Range assessments have been useful in the absence of land use planning as a process that takes a landscape-level approach and influences project-level assessments. For example, in 2016, a YESAB Evaluation Report recommended a proposed placer mine project<sup>79</sup> not proceed on the grounds of adverse cumulative environmental and socio-economic effects to the Carcross caribou herd that could not be mitigated. This assessment explicitly relied on the range assessment conducted for this herd by drawing on its management objectives, risk factors, and risk assessment (YESAB, 2016d). The challenges for range assessments in the Yukon include a poor understanding of class 1 mineral exploration activities,<sup>80</sup> poor follow-up and monitoring of land use activities and mitigations, a lack of mechanisms for tracking land use footprint or activities, and limited resources and competing priorities impacting collection of data (Francis et al., 2013).

### 5.3.3 *Supporting guidance and information*

In addition to the governance regime envisioned in the *UFA* and interim processes that have emerged in the absence of implementation, there are multiple sources of information and guidance that have the potential to support decision-making related to CE, often in less explicit ways. While the list is likely a long one, examples include policies, regulations, studies, and monitoring work.<sup>81</sup> Several examples emerged as themes identified by participants as especially

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<sup>77</sup> Because this range assessment was not readily publicly available, it is not addressed here.

<sup>78</sup> The peripheral range of the Klaza herd includes parts of TH traditional territory (Francis & Nishi, 2016)

<sup>79</sup> This project was outside of the case study area.

<sup>80</sup> Class 1 exploration is defined by activities falling under a number of established limits, such as limits to the number of people in a camp at any one time, the number of clearings, how much and for how long explosives are used, and access roads and trails (e.g., no new access roads) (Government of Yukon, 2020c).

<sup>81</sup> It could also be argued that management plans have the potential to provide important information relevant to CE decision-making. For example, management plans for special management areas, habitat protection areas, and specific species or herds (e.g., moose, the Porcupine Caribou herd) may provide insights relevant to addressing CE, such as broad objectives, baseline data, and understandings of past, current, and future pressures. Given the broad range of management plans within the study region, they are not included here.

relevant to the case study context; this is perhaps unsurprising, as these examples address issues related to the cumulative effects and impacts identified in section 5.2.

i) Yukon Wetland Policy

While previous attempts to develop a territorial wetland policy have been made, the implementation of the Government of Yukon's *Yukon Water Strategy* reasserted this commitment in 2014. The process of developing a wetland policy began in 2017 and, at the time of writing, remains ongoing. The aim of the policy is to provide guidance on the management of activities in wetlands within the territory (Government of Yukon, n.d.). While driven by Government of Yukon, the policy process has been described as collaborative, involving First Nations, municipal, and federal governments, as well as various *UFA* boards and councils, NGOs, and industry associations (Glynn-Morris & Nelson, 2018). Throughout the process, cumulative impacts to wetlands have been raised as a concern (Government of Yukon, 2019). While the policy will likely provide some guidance that may be relevant to CE, it is unlikely to make explicit recommendations for dealing with them. For example, a draft of the policy identifies that outside of protected wetlands, some loss to wetland functions or benefits is permissible, but that these losses must remain below ecological or management thresholds to avoid unacceptable cumulative impacts. However, it does not explicitly identify what those thresholds are, instead relying on region-specific processes (e.g., regional land use planning) to identify them.

ii) Resource Road Regulation

In 2018, Government of Yukon embarked on an engagement process for developing a new Resource Road Regulation, largely due to limitations of existing regulations. As noted in section 4.2, under the *Territorial Lands Act* and *Highways Act*, private industry-use roads that are intended to have a limited lifespan typically become public roads that exist on the landscape indefinitely, are often without responsible authorities able to ensure reclamation, and have been critiqued for ineffective mitigations. Interviewees described all of these issues as factors contributing to adverse CE, and indeed, these issues have been a driving force behind the new regulation.

The new resource road regulation is intended to ensure the entirety of a resource road's lifespan - from construction to decommissioning - is regulated, as well as promote co-operative planning

and use of roads to limit redundancy and overall adverse impacts (Department of Energy, Mines and Resources, 2018). The regulation development process includes considering a number of options for addressing identified issues, including but not limited to a public review process for turning a resource road into a public road (and vice versa), permitted use to control access, multi-user agreements with access management plans, consistent road standards, requirements for closure and decommissioning (e.g., security to cover costs of reclamation), and additional compliance and enforcement tools (Kuiper, 2018). In summary, the new regulation may create processes (e.g., access management) that could mitigate CE concerns raised in section 4.2 (e.g., growth-inducing effects), it may avoid addressing some of those issues (e.g., the perception that gating is an ineffective mitigation to control access), and it may leave certain decisions relevant to CE (e.g., thresholds for how many roads should be in a given area to avoid nibbling losses) to other processes (e.g., regional land use planning).

iii) Traditional land use studies and related approaches

The YESAA five-year review from 2009 notes limitations to YESAB's approach to understanding socioeconomic and cultural impacts, especially in the context of impacts to Yukon First Nations. It cites the First Nation Caucus's joint submission as stating that "indicators and supporting data to document the form, function and trends of Yukon First Nations' traditional economies are woefully inadequate" (SENES Consultants Limited, 2009, p. 59). It follows that if socioeconomic and cultural impacts are not being addressed at the project level, they are similarly an issue of cumulative effects, as described in section 5.2.

Over a decade later, this is only slowly beginning to change, primarily due to work being done by First Nations themselves. For example, Selkirk First Nation has undertaken a Traditional Land Use study and mapping process, which will likely play an important role – along with Socio-economic Monitoring data - in the section 110 CE framework being developed in their traditional territory (described above). As one participant at a CE workshop in Whitehorse described, "Selkirk First Nation made it clear that [traditional use is] more than a set of activities. It's a way of life and there is a whole social and economic environment behind it that people need to understand. We don't all experience or explain cumulative effects in the same way and we need to be clear about that" (Yukon Land Use Planning Council, 2019, p. 14).

Within the case study area, Tr'ondëk Hwëch'in began working on a Land Stewardship Framework<sup>82</sup> in 2018. Potential outputs from this work (e.g., mapping products) are expected to provide direction to the regional land use planning process that is currently underway (Tr'ondëk Hwëch'in, 2019a). It is unclear the extent to which this will influence approaches to addressing CE.

iv) Monitoring and data collection

Monitoring and data collection play an important role in the context of CE, such as providing an understanding of baseline conditions and ensuring management actions or mitigations align with anticipated outcomes. Indeed, several of the processes described above identify lack of data and monitoring as a challenge. A number of research and monitoring processes exist in the Yukon outside of those specific to project assessments (i.e., section 110 monitoring) (Government of Yukon, 2020a) and several provide important information relevant to CE and the established processes for addressing them described above. Of these, the monitoring program most frequently referenced by interviewees – especially in the context of mining within the case study area – was the Fish Habitat Management System (FHMS) for Yukon Placer Mining.

The current approach to managing the effects of placer mining activities on fish habitat through watershed authorizations<sup>83</sup> was adopted in 2008. While the *Fisheries Act* is administered federally, the FHMS is governed as a collaboration between Fisheries and Oceans Canada, the Government of Yukon, and the Council of Yukon First Nations (Gagnon, 2021). The System uses a risk-based approach. This means that in areas where fish habitat is more resilient, standards (e.g., for sedimentation) may be less stringent and in areas with more sensitive habitat, standards will be more stringent. This system is intended to be used in conjunction with YESAB and the water licensing system, which may create further recommendations. The monitoring component of this System is an Adaptive Management Framework, which relies on results from

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<sup>82</sup> **Ninànkāk hqzq wëk'àtr'ènhcha**

<sup>83</sup> Watershed authorizations only apply to class 4 placer mining operations. Class 4 mining operations require “more than 300 cubic metres of: water use per day; or deposit of waste in a watercourse.” (Government of Yukon, 2020b)

economic health monitoring, aquatic health monitoring, water quality monitoring, traditional knowledge, and compliance monitoring (Gagnon, 2021).

While the management system does not explicitly address CE, interviewees often pointed to the system as an example of a thresholds approach. Pre-determined standards for maximum impact of a project are set based on an evaluation of physical, biological, environmental, and cultural values in a habitat suitability model (Yukon Placer Secretariat, 2017). Going beyond these standards would trigger a site-specific review to determine acceptability. Monitoring theoretically then allows for adaptation within this approach, insofar as the permitted activities are capable of sufficient adjustments. A number of challenges in implementing the FHMS have been identified. Key challenges include, but are not limited to, tracking implementation, engaging with Traditional Knowledge, ensuring conformity, considering all three monitoring programs together, managing data, and determining the relationship between level of placer activity and condition of watercourses (Yukon Placer Secretariat, 2017).

#### **5.4 Concluding thoughts**

In this section, I analyzed dominant themes identifying key cumulative effects and impacts in the case study area through the lens of mining and related activities. The effects discussed by interviewees were wide-ranging and, in many cases, interviewees shared perspectives on why these effects have emerged as concerns within the current governance regime. The impacts tied to these effects are equally wide-ranging and interact in important ways. The nature of these effects and impacts emphasizes the need for approaches that are future-oriented and broadly scoped (geographically and within their understanding of values) and address the pace and scale of development as well as past and future legacies.

Building upon these concerns, I outlined key components of the governance framework through which identified issues are meant to be addressed (see Figure 5). In discussing elements of this framework, a cross-cutting theme was simply the number of venues through which CE are being discussed. In many cases processes are still unfolding and connections between them are unclear. In other words, the tree of co-governance is still growing. Challenges identified by academic and grey literatures make it apparent that even if elements of a framework through



which cumulative effects might be addressed are in place, significant work remains. In the next chapter, I consider the extent of the work that remains, specifically in reference to criteria established in Chapter 3.

## Chapter 6: Specifying the framework

### 6.1 Introduction

The purpose of this chapter is to take the generic framework of criteria for developing and applying sustainability-based approaches to addressing cumulative effects in a co-governance context (per chapter 3) and specify it to the governance framework and cumulative effects issues outlined in chapters 4 and 5. I review criteria introduced in Chapter 3 and describe how they fit within the context of the Yukon and TH traditional territory, based on existing issues, expectations of decision-makers and practitioners, and relevant concepts established through legislation, regulation, and policy. The resulting suite of specified criteria sets the stage for Chapter 7, which then applies the specified framework in an evaluation of approaches and associated governance structures for addressing CE in the case context. Together, these chapters address the third research objective identified in Chapter 1: I will specify this framework to the case context and analyze the ways in which current decision-making structures and processes relevant to addressing CE in the Yukon and TH traditional territory meet and/or fail to meet the specified criteria.

Methodologically, this chapter draws on an integrative literature review and synthesis (Chapter 3), as well semi-structured interview data and document analysis. Per Charmaz's approach to grounded theory, each preconceived idea earned its way into the analysis (Charmaz, 2006). Attribute values (e.g., organizational affiliation) are used sparingly<sup>84</sup> to explore the extent to which participants with different affiliations referred to specific criteria, where relevant. Further quantitative data demonstrating the relative strength of the themes was not central to the analysis. Such a quantitative approach did not fit well with the nature of the analysis.<sup>85</sup>

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<sup>84</sup> The ability to quantify such information was limited by the fact that only one federal government representative was a participant; therefore, to identify all organizations except the federal government as identifying certain themes or issues would be misleading.

<sup>85</sup> For example, while non-codified forms of TH governance, such as legal traditions and sustaining law through ceremony, were referenced by two participants as a dimension of self-determination, this number alone does not represent the significance of non-codified forms of TH governance. Rather, the fact that these references came from

## 6.2 Specifying criteria to the case context

To specify the criteria to the case context, key characteristics are highlighted. In some cases, data was not available to analyze its application in great depth. In other cases, certain criteria are combined. A summary is presented in Table 7, which includes examples of how the criteria were understood and described in the case context.

### 6.2.1 Normative characteristics

#### i) Future-oriented

The conceptual framework identified the importance of long-term considerations when identifying and assessing futures and alternative pathways. Interview data similarly reflected this expectation. To add to this, *YESAA* requires consideration of present **and future** needs for renewable resources.

#### ii) Learning and co-learning

Learning and co-learning was not an explicit theme within the data that was collected.<sup>86</sup> This may be because individuals see learning as part and parcel of meaningful participation (see Sinclair et al., 2008). While learning is undoubtedly occurring in the case context (e.g., through monitoring), available data did not support analysis for application in significant depth.

#### iii) Meaningful public participation and engagement

Meaningful public participation and engagement was reflected within interview data as an expectation and, as noted in Chapter 4, is identified as an objective in Chapters 11 and 12 of the *UFA*. However, it was not a common theme in the context of analyzing its application and therefore is not addressed here in significant depth.

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those within TH government, but not other parties, raises questions that would be missed if a quantitative approach were being taken.

<sup>86</sup> One exception was a TH employee who spoke to the need for institutional learning or co-learning, especially between First Nation and Yukon governments. They explained, “you can forget how far apart two institutions are culturally when two individuals can sit and connect and relate and make sense to each other on an individual level really well. I think some of the opportunity is a huge educational piece that needs to happen” (TH19).

iv) Meaningful engagement with affected Indigenous peoples as decision-makers

Meaningful engagement in this context includes ensuring impacted Indigenous peoples have decision-making authorities and influence within the process as inherent rightsholders rather than stakeholders, questioning whose legal traditions are used to make decisions, and ensuring the decision-making process is mutually defined. Interview data aligned with this definition to a certain extent. Participants similarly described the expectation that the influence and decision-making authorities of Yukon First Nations, and specifically Tr'ondëk Hwëch'in in the case study area, should be respected within regulatory, assessment, and management processes, though perspectives on the appropriate extent of this influence varied.

Interview data also highlighted the overlapping expectation that approaches to CE and related governance structures protect and respect First Nation rights and interests. As noted in Chapter 4, the *UFA* and subsequent Final Agreements provide some guidance on First Nation treaty rights, including identifying specific rights related to water, forestry, harvesting, and settlement areas and clarifying the nature of those rights. The connection between First Nation decision-making authorities and influence and treaty rights and interests as components of meaningful engagement is important to underscore. For example, several participants voiced that the ability of First Nations to participate as authorities within decision-making is central to ensuring that treaty rights are being protected.

Questions about whose legal traditions are used to make decisions and a mutually defined decision-making process were not strong themes in the interview data. Further attention to legal traditions is considered in the analysis below (see section ix below).

v) Credibility

The conceptual framework identified credibility as reliant on a process that is both explicit and open, with clear justification for decisions. Credibility was not a dominant theme within the data that was collected. Participants may have considered that credibility can be effectively addressed through other avenues (e.g., ensuring accountability, ensuring public participation). It is not included in the subsequent analysis in great depth.

vi) Accountability

Accountability within approaches to CE requires clear roles and responsibilities, with mechanisms to ensure responsibilities are set out and met. Participants discussed accountability within processes for addressing CE and reflected a similar expectation.

vii) Sustainability purpose

A sustainability purpose implies that values, objectives, criteria, and processes “foster undertakings that make positive contributions to sustainability, while also avoiding or minimizing adverse effects” (R. Gibson et al., 2020, p. 12). Chapters 11 and 12 of the *UFA* and *TH Final Agreement* identify sustainable development as an objective, defined as “beneficial socio-economic change that does not undermine the ecological and social systems upon which communities and societies are dependent” (TH Final Agreement, 1998, p. 8).

viii) Goal of peaceful co-existence

The goal of peaceful co-existence has been defined here as self-determining parties mutually agreeing on the terms of their relationship, “based on principles of mutual recognition, mutual respect, and shared responsibility for maintaining those relationships into the future” (TRC, 2015b, p. 5). The emphasis within this definition on self-determination is clear; it implies a mutual recognition of the nature of each party as self-determining. This is addressed further below. Participants referred to the relationship between Yukon First Nations and the Crown using a range of labels, from co-managers to co-governors. They placed emphasis on the fact that all signatories to the *UFA* share a responsibility to maintain this relationship as entrenched in the Final Agreements. They also emphasized the processes through which that relationship is maintained and/or required, including those processes defined through the *UFA* (e.g., regional land use planning) or outside of it (e.g., the Yukon Forum).<sup>87</sup> Despite this emphasis, there was little data through which the application of these expectations could be explored. This criterion is addressed further in Chapter 8 in the context of barriers and opportunities.

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<sup>87</sup> The Yukon Forum is a regular meeting involving Government of Yukon, Yukon First Nations, and the Council of Yukon First Nations. Its goal is “to build strong government-to-government relations and collaborate on shared priorities” (Government of Yukon, 2018b).

ix) Self-determination in the context of understanding and respecting distinctiveness

Self-determination entails the recognition, awareness, and where necessary support for revitalization of Indigenous responsibilities, rights, governance institutions and processes, and legal orders. It is addressed here alongside the criterion of understanding and respecting distinctiveness, where differences are understood in the entirety of their philosophical and historical contexts. As demonstrated in Chapter 4, the current co-governance context requires understanding the relationship between all components of a governance regime, from roots to leaves. While the definition of self-determination above speaks to some of these elements, appropriately considering the entire “tree” of multiple governance regimes also requires attention to differences within philosophical contexts and fluidity, concepts grounded in understanding and respecting distinctiveness.

Interview and document analysis data elaborated on four interacting expectations for this criterion. First, they described the responsibilities and laws central to Tr'ondëk Hwëch'in that require recognition, awareness, and support in the context of self-determination. The distinction between responsibilities and law are not intended to be clear-cut. One TH employee explained that “TH still has a legal – as an Indigenous law and TH legislation – responsibility to maintain this landscape” (TH19). Though the *Tr'ondëk Hwëch'in Final Agreement* and *TH Constitution* do not explicitly reference Indigenous law, one TH employee explained that these documents “do touch quite a bit on respect for First Nations culture and values, which is your law” (TH19). With this understanding in mind, the *Constitution of the Tr'ondëk Hwëch'in* identifies that one of the objectives of the Tr'ondëk Hwëch'in is “to govern Tr'ondëk Hwëch'in citizens, lands, and resources in accordance with Tr'ondëk Hwëch'in culture and traditions” (Tr'ondëk Hwëch'in, 1998, sec. 3.2.1). Similar references to TH culture within the *TH Final Agreement* are described below.

Secondly, the *TH Constitution* and *TH Self-Government Agreement* identify some processes, principles, and bodies that make up part of TH governance. As described in Chapter 4, other institutions, processes, legal traditions, and legal orders that require recognition, awareness, and support also exist outside of these written documents.

Third, participants described the need for recognition, awareness, and support for TH rights and interests, which is described above.

Finally, as Chapter 4 notes, the *UFA* identifies key objectives for the Final Agreements, as well as for specific chapters. They are broadly summarized as recognizing, protecting, and/or enhancing Yukon First Nations way of life based on their relationships with the land, culture and well-being, knowledge and experiences, traditional economy, and traditional land management practices. Similar objectives are identified in the *TH Constitution*, including the need to respect ancestral lands, promote and preserve the language and traditions of Tr'ondëk Hwëch'in, protect TH culture, and support the physical, mental, emotional, and spiritual health of Tr'ondëk Hwëch'in (Tr'ondëk Hwëch'in, 1998, sec. 3.2.2-3.2.7).

These objectives are what ground the above laws, responsibilities, and governance systems within TH lifeworlds. In other words, the expectation that Indigenous responsibilities and laws, rights, and governance institutions and processes will be recognized and supported within approaches to CE and their associated governance structures requires the recognition and protection of everything that roots these systems. These roots are broadly recognized in the *TH Final Agreement*, and a range of participants described their relevance to designing and implementing approaches to CE. It is also important to note that TH representatives also described such roots independently of the *Final Agreement*; the need to sustain TH's connection to the land is not just an objective of the *Final Agreement* but is also central to TH's identity as Dënezhu, applies to the whole of TH homelands (not just identified Settlement lands), and is central to sustain for future generations of Dënezhu. Similarly, while the *Final Agreement* identifies the need to protect TH way of life, it is TH that defines what this term means in practice.

x) Effectiveness, efficiency, and fairness

The criterion of clear and consistent overall guidance combined with flexibility to address context-specific and arising issues, as well as predictability of process, is reflected in the *UFA*, which identifies an overall objective of providing certainty regarding lands and resources. Chapter 12 (development assessment) also identifies certainty, efficiency, and effectiveness of process as an objective. Participants primarily discussed effectiveness as a substantive issue in

the context of follow-up, monitoring, and enforcement, and it is therefore addressed below (see section 6.2.2. criterion iv). Participants did not widely discuss expectations of certainty or expectations for fairness. This criterion is not addressed in significant depth in the subsequent analysis.

### 6.2.2 *Substantive characteristics*

#### i) Establish a reference framework

The criterion of establishing a reference framework encompasses a number of sub-criteria, (e.g., identifying roles, responsibilities, and relevant jurisdictions; the terms of the relationship between those involved; required capacities and resources). Participants did not widely discuss these sub-criteria, but some aspects of them have been laid out through the *UFA*. For example, while the *UFA* identifies decision-making powers and authorities relevant to regional land use planning and development assessment, it does not identify whose legal traditions define how decision-makers are identified. Decision-making powers and authorities specifically are addressed in greater detail within other criteria, but this criterion as a whole is not addressed in great depth within the subsequent analysis.

#### ii) Strategic level direction

Strategic-level direction developed through strategic/regional level processes requires long-term objectives and consideration of multiple future alternatives. It also may include all or some combination of values; indicators; temporal and spatial boundaries; effects (including, positive, negative, and cumulative effects), stressors, and trends; management targets and thresholds<sup>88</sup> grounded in best available knowledge; and authoritative products/requirements. Participants discussed a similar set of expectations regarding strategic level direction. They discussed the

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<sup>88</sup> The term “thresholds” – or similar concepts, such as management triggers – has been used in a range of different ways. It is used here to refer to points at which “an indicator changes to an unacceptable condition” (Salmo Consulting Inc., 2006, p. 2). In some cases, ecological thresholds are distinguished from management thresholds. Both types are included in the understanding of thresholds considered here, as both reflect a high degree of complexity and uncertainty and both are informed by “the best available science, local and traditional knowledge, and grounded in community values” (Metlakatla Stewardship Society, 2019, p. 34).



need for long-term objectives, especially at the landscape level, but also within specific sectors and through decision-making processes (e.g., policy, regional land use planning).

Participants also discussed the need for values that are broadly scoped and relevant to appropriate contexts and scales. The concept of being broadly scoped was especially important in terms of encompassing a full suite of socio-economic, socio-cultural, and environmental values. This emphasis is similarly reflected in *YESAA*; when the legislation was written, it was often considered ahead of its time for its inclusion of impacts on socio-economic values. The concept of being relevant to appropriate contexts was also important for participants, especially in terms of paying attention to how TH defines values, what the *UFA* says about values (e.g., Chapter 11, which points to the need to recognize and promote Yukon First Nations cultural values), and what is important to local people in TH traditional territory (including TH and non-TH citizens).

Spatial and temporal boundaries were also discussed by participants, especially in the context of considering the health and integrity of TH traditional territory as a whole and considering future needs and impacts. While effects, stressors, and trends were not discussed widely by participants, beyond the inherent discussion of cumulative effects, it is worth noting that positive effects – and therefore positive cumulative effects – are not included in *YESAA*.

Management targets and thresholds were more broadly described by participants as conversations about acceptable change. This was a dominant theme under the criterion of strategic level direction. Under the umbrella of acceptable change, participants focussed on three questions. First, where can change occur? This question was relevant to preventing adverse cumulative effects in important areas (e.g., areas of conservation value, areas of cultural significance), but was not considered cumulative effects management on its own. Indeed, many participants acknowledged that identifying areas where change could occur was only a precursor to considering how much and what kind of change is acceptable, which is where important conversations about cumulative effects management are centred.

This second question – how much and what kind of change is acceptable without pushing a system into a new unpredictable and/or undesirable state – is where conversations about

targets and thresholds (or equivalents) were centred. Participants noted that thresholds are an important part of addressing the pace and scale of development. These discussions also overlapped with other criteria; participants noted that thresholds are important for maximizing positive contributions to sustainability and are important for considering future generations. One of the tensions within this discussion was revealed by the difference between those who described thresholds as biophysical versus those who described thresholds as a socially defined. One participant captured this tension as follows: “The difference between the cultural endpoint and what we’re comfortable with culturally and potentially what we’re comfortable with biologically, that’s a big challenge” (ID #140).

The third question about acceptable change discussed by participants was “how do you know when change is happening and what should be done about it”, which addresses the need for indicators and monitoring of those indicators. This discussion also reflected a tension between those who described the need for quantitative indicators that can be measured versus those who described the potential for a non-quantitative approach.

The need for authoritative products and outcomes is addressed in detail below, under enforcement and compliance.

iii) Review, decision-making, and regulatory processes

The need for project-level assessment, decision-making, and regulating processes that reflect various qualities (e.g., allow for uncertainties and alternatives, ensure transparency) was not widely discussed by participants, perhaps because the general structure of these processes has been thoroughly established and more specific qualities are addressed in other criteria. One exception was the participants’ general acknowledgement of informed decision-making. For some, this meant that evidence informs decision-making processes and outcomes. Others emphasized the need for drawing on multiple knowledge systems, including the need to ensure Indigenous knowledge or traditional knowledge is considered on equal footing as Western science. Similarly, Chapters 11 and 12 in the UFA identify the need to incorporate Yukon First Nations knowledge and experience. Data did not indicate the extent to which this criterion was met in application.

iv) Follow-up and monitoring

Follow-up and monitoring were identified by participants as an important expectation for addressing cumulative effects. There were multiple examples that elaborated this expectation. Participants described the need for follow-up that reflects an adaptive approach and, relatedly, the need to monitor for new information, unanticipated impacts, uncertainties, etc. Participants also noted that ensuring the effectiveness of responses – for example, through monitoring and enforcement – plays an important role for mitigating adverse cumulative effects.

v) Enforcement and compliance

The expectation for tools to deliver effective direction and ensure compliance, combined with flexibility where necessary, was described similarly by participants. For example, requirements and capacity for enforcement were discussed in the context of project-related permits and authorizations, as well as compliance with regional land use plans. In these examples, terms and conditions for projects, as well as thresholds established by regional plans, are often seen as mitigations for reducing seriously adverse cumulative effects.

### 6.2.3 *Governance capacities and characteristics*

i) Proactive

The criterion of early initiation within the design and implementation of processes for addressing CE was described similarly by participants. Participants referred to the expectation that issues potentially leading to CE should be anticipated and addressed before they arise, and attention should be paid to regions where adverse CE are likely to arise.

ii) Data management, sharing, and coordination

Data management, sharing, and coordination was not a dominant theme within the data that was collected. This may be because the criterion was invoked through discussions of other criteria (e.g., data management and coordination required to support effective tiering). This criterion is not addressed in significant depth in the analysis below.

iii) Collaboration and co-operation

Collaboration and co-operation were described by participants as an expectation that applied both within and between governing bodies and jurisdictions. Participants did not widely discuss

the expectation of space and capacity for Indigenous authorities to engage in collaboration as decision-makers, though decision-making authority is addressed within other criteria.

iv) Integrated and tiered application

Participants voiced the expectation for strategic and regional level processes that influence and are influenced by broader management decisions and project-specific assessments. At a high level, commitments to an integrated approach to management are made in *UFA*, specifically in chapters related to regional planning and co-management, the broad structure of a tiered approach to planning and assessment is also established in the *UFA*.

### **6.3 Concluding thoughts**

In this chapter, I outlined the ways in which generic criteria for developing and applying sustainability-based approaches to CE in a co-governance context, as identified in Chapter 3, were specified to the case study context. This context focusses on the governance framework established in part through a modern treaty and on cumulative effects issues and impacts tied to non-renewable resource extraction in the Yukon and TH traditional territory, as outlined in Chapters 4 and 5. This process of specification involved highlighting, elaborating, and combining generic criteria to reflect interview and document analysis data, as well as characteristics of the case context. This exercise highlighted key implications of the modern treaty context for approaches to addressing cumulative effects by elaborating on the expectations clarified within the *UFA* and by key actors within the governance system. For example, the case study specified how meaningful engagement with Indigenous nations as decision-makers and self-determination within the context of understanding and respecting distinctiveness can be understood. However, it was also noted that these concepts cannot fully be clarified relying on the provisions of the *UFA*, and expectations for such criteria are established within and outside those agreements.

Table 7 provides a summary of the specified framework of criteria for developing and applying sustainability-based approaches to addressing CE in the context of a modern treaty and non-renewable resource extraction in the Yukon and TH traditional territory.

Table 7 – Summary of criteria for developing and applying sustainability-based approaches to addressing CE in the context of a modern treaty and non-renewable resource extraction

	Criteria	Specified definitions and examples from case context
Normative criteria	<i>Future-oriented and long-term commitment</i>	Long-term considerations when identifying and assessing futures and alternative pathways. Examples: <ul style="list-style-type: none"> <li>- Consideration of future impacts and effects</li> <li>- Decision-making with future generations in mind</li> <li>- Identifying opportunities and values that are important to sustain in the future</li> </ul>
	<i>Learning and co-learning</i>	Individual and collective learning, while respecting the boundaries of what knowledge can be appropriately shared within those relationships. Examples: <ul style="list-style-type: none"> <li>- Learning through monitoring</li> <li>- Territorial and federal governments learning about TH understandings, laws, and lifeworld</li> </ul>
	<i>Meaningful public participation and engagement</i>	Ensuring those impacted and those with interests in the process are involved. Examples: <ul style="list-style-type: none"> <li>- Open houses held during regional planning processes</li> <li>- Public comment period during project assessment</li> </ul>
	<i>Meaningful engagement with affected Indigenous peoples as decision-makers</i>	Attention to the influence and decision-making authorities of Yukon First Nations, protecting and respecting First Nation rights and interests, and attention whose legal traditions are engaged. Examples: <ul style="list-style-type: none"> <li>- Yukon First Nations authority over Settlement Land, traditional territories, etc.</li> <li>- impacts on rights being considered</li> <li>- impacts on the meaningful exercise of rights being considered</li> <li>- rights for future generations being protected</li> </ul>
	<i>Credibility</i>	Explicit and open process, with clear justification for decisions. Examples: <ul style="list-style-type: none"> <li>- Opportunities for public engagement in the regional planning process</li> </ul>
	<i>Accountability</i>	Clear roles and responsibilities with mechanisms for ensuring responsibilities are carried out.

	Criteria	Specified definitions and examples from case context
	<i>Sustainability purpose</i>	Positive contributions to sustainability (preferably multiple, mutually reinforcing, equitably distributed and lasting gains), avoiding or minimizing adverse effects to ecological and social systems. Examples: <ul style="list-style-type: none"> <li>- precautionary approach</li> <li>- long-term temporal scales (e.g., sustainability for future generations) and broad geographic scales (e.g., at the landscape level)</li> <li>- consideration of impacts and change from a holistic perspective (e.g., positive and negative impacts; interdependencies and feedbacks)</li> <li>- attention to net benefits</li> </ul>
	<i>Goal of peaceful co-existence</i>	Responsibility to maintain mutual relationship as reflected in the Final Agreements, grounded in self-determination.
	<i>Self-determination in the context of understanding and respecting distinctiveness</i>	Recognition and support for TH responsibilities and laws; governance processes, principles, and institutional bodies; rights and interests; and way of life and identity. Examples: <ul style="list-style-type: none"> <li>- recognizing and supporting TH's responsibilities to the integrity of the traditional territory as a whole, future generations, and to relations</li> <li>- recognizing and supporting TH's legal traditions such as sustaining law through ceremony and through relationships</li> <li>- recognizing and supporting TH's relationships with the land, culture and well-being, knowledge and experiences, traditional land management practices, language, emotional and spiritual health</li> </ul>
	<i>Effectiveness, efficiency, and fairness</i>	Clear and consistent overall guidance combined with flexibility to address context and arising issues, as well as predictability of process. Examples: <ul style="list-style-type: none"> <li>- Clear processes with specific timelines within impact assessment</li> </ul>
Substantive criteria	<i>A reference framework</i>	Reference framework for co-governed approaches to CE that guides the structure and process. Examples: <ul style="list-style-type: none"> <li>- decision-making roles and responsibilities established through the <i>UFA</i></li> <li>- clarification of how different legal traditions and governance bodies (recognized within and outside of Final and Self-Government Agreements) are involved</li> </ul>

	Criteria	Specified definitions and examples from case context
	<i>Strategic</i> – long-term objectives	Examples: - objectivities at the landscape level, within specific sectors
	<i>Strategic</i> – values and indicators	Broadly scoped (e.g., full suite of socio-economic, socio-cultural, and environmental values, including their interactions and intergenerational considerations) and context-appropriate values and indicators. Examples: - how TH defines values, how the <i>UFA</i> describes values, what is important locally
	<i>Strategic</i> – temporal and spatial boundaries	Examples: - spatial boundaries that consider the health of TH traditional territory as a whole - temporal boundaries that consider future needs and impacts
	<i>Strategic</i> – effects, stressors, and trends	Examples: - positive and negative cumulative effects, including interactions
	<i>Strategic</i> – targets and thresholds	Examples: - how much and what kind of change is acceptable
	<i>Strategic</i> – alternatives	Examples: - future scenarios identified in regional land use planning
	<i>Review, decision-making, and regulatory processes</i>	Examples: - Project-level assessment and regulatory processes established through the <i>UFA</i> and related legislation - Decision-making processes informed by evidence or recent learning, drawn from multiple knowledge systems

	Criteria	Specified definitions and examples from case context
	<i>Follow-up and monitoring</i>	Follow-up that is adaptive; ensuring effectiveness of responses; monitoring for new information, uncertainties, etc. Examples: <ul style="list-style-type: none"> <li>- regional land use plans evolving when new concerns or information become available, especially when implementing thresholds</li> <li>- ensuring indicators for cumulative effects thresholds are doing what they are supposed to be doing</li> </ul>
	<i>Enforcement and compliance</i>	Tools to deliver effective direction and ensure compliance, combined with flexibility where necessary. Examples: <ul style="list-style-type: none"> <li>- legal “teeth” to ensure compliance with strategic/regional processes</li> <li>- enforceable terms and conditions related to mitigations proposed to avoid cumulative effects</li> </ul>
Governance criteria	<i>Proactive</i>	Early initiation. Examples: <ul style="list-style-type: none"> <li>- Early identification of issues potentially leading to CE</li> <li>- Attention to regions where adverse CE are likely to arise</li> </ul>
	<i>Collaboration and co-operation</i>	Collaboration and co-operation across governing bodies and jurisdictions. Examples: <ul style="list-style-type: none"> <li>- territorial and First Nation government authorities informing one another’s decision document on project assessments or, at times, producing a joint decision document</li> </ul>
	<i>Data management, sharing, and coordination</i>	Examples: <ul style="list-style-type: none"> <li>- data on human disturbances is accessible to land use planning, range assessments, etc.</li> </ul>
	<i>Integrated and tiered application</i>	Strategic and regional level processes that inform and are informed by related governance processes and project-specific assessments. Examples: <ul style="list-style-type: none"> <li>- values identified in project assessments informing sub-regional planning</li> <li>- thresholds identified in regional land use plans informing the determination of significance within project assessment and decision-making</li> </ul>



## Chapter 7: Applying the framework

“It's easy to throw everything into the cumulative effects box and say ‘no one is dealing with this’. I mean pieces of it are [being dealt with]... it has been addressed as-needed...You know all this stuff continues to evolve and lessons learned from other jurisdictions - and from our jurisdiction for that matter - which causes changes to expectations.” (YG24)

“The simple answer is that we aren't dealing with cumulative effects. We honestly aren't.” (YG03)

### **7.1 Introduction**

The quotes above are representative of two dominant perspectives reflected when interviewees for this research expressed their views on the extent to which cumulative effects were effectively being addressed in the Yukon. These two perspectives can broadly be described as “we aren't addressing cumulative effects” and “we are addressing cumulative effects where we can, sometimes indirectly”. The differences between these perspectives are indicative of the different ways in which expectations for the current approach to cumulative effects have or have not been met, which is the focus of this chapter. While chapter 6 specified criteria from the generic framework to the case context, this chapter applies those criteria to evaluate the design and implementation of approaches to CE and associated governance structures in the Yukon and TH traditional territory. Data for this chapter is drawn from semi-structured interviews and document analysis.

Application of the above criteria to the case context is approached here in three sections, based on the description of existing approaches to addressing cumulative effects identified in section 5.3. While the governance regime relevant to addressing CE and established under the *UFA* and related legislation was the focal point for data collection, two other categories of processes also emerged from the interview data as potential avenues for addressing cumulative effects, also outlined in section 5.3, including interim processes and supporting sources of information and guidance. Because these latter processes were emergent themes, in some cases applying outside of the case context and in others applying territory-wide, data from interviews was limited. In these cases, analysis relies primarily on existing documents. They are included here as a

supplementary analysis, with the purpose of understanding the nature and type of avenues that exist outside of the *UFA*. For each process, multiple criteria are considered, where data was available. In many cases there are clear opportunities for additional criteria to be met, yet data was not available to support the extent to which they have been meaningfully realized.<sup>89</sup> Table 9 summarizes the findings presented here.

## 7.2 Applying the framework: Evaluating *UFA* structures and processes related to CE

Components of the governance regime related to CE and established under the *UFA* and through related legislation include regional and sub-regional land use planning<sup>90</sup>, project-level assessment, and a tiered relationship between those processes, as well as strategic level reviews, monitoring, and cumulative effects studies. I address each of these processes in turn. Figure 6 identifies these processes within the context of the broader governance landscape laid out in Chapter 5 (Table 5).

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<sup>89</sup> Perhaps mostly obviously, there are clear opportunities for learning through relationships and the gathering of new knowledge in most of the processes described here. It is less clear whether there are opportunities for other forms of learning (e.g., critical education) and whether existing opportunities are being realized in practice.

<sup>90</sup> As previously noted, sub-regional land use planning under the *UFA* has not been implemented, although a process similar to sub-regional planning is being undertaken in the Beaver River watershed. For that reason, sub-regional planning is addressed in section 7.3.

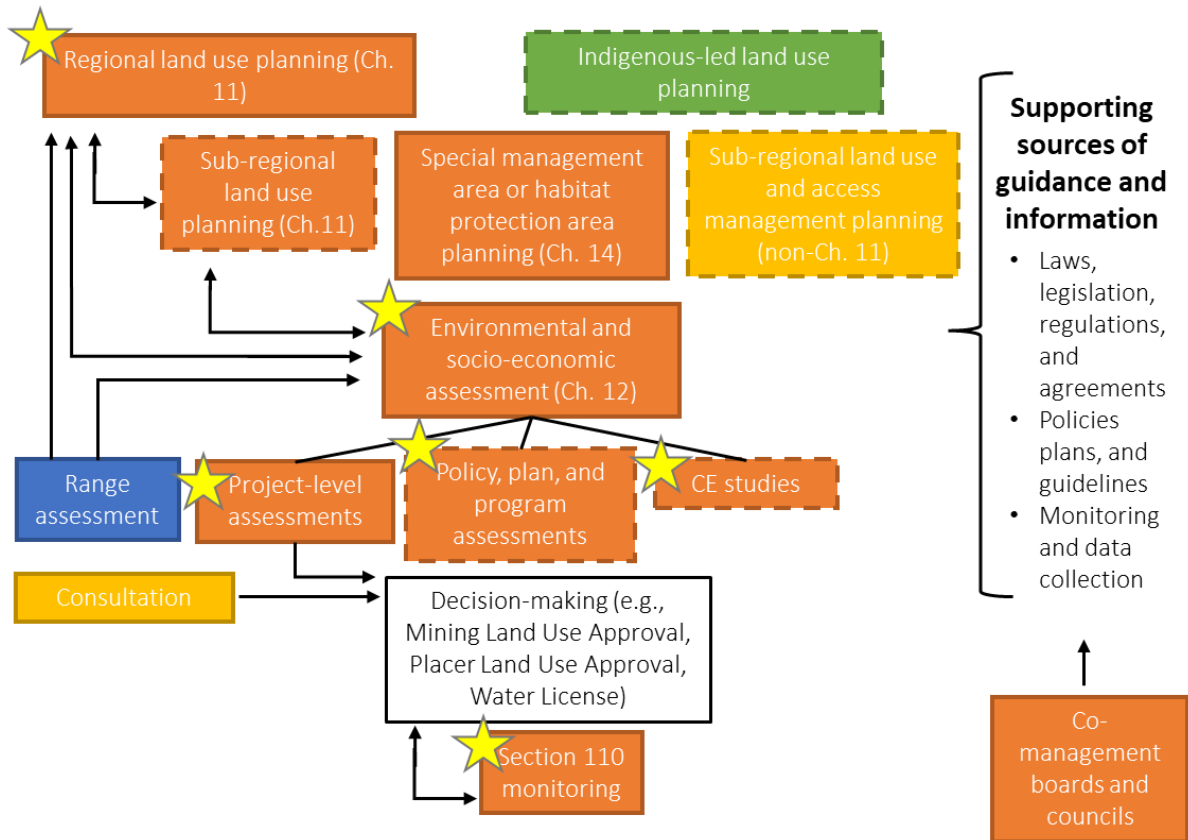


Figure 6 - Areas of analysis for section 7.2, based on Table 5

### 7.2.1 Regional land use planning

Data<sup>91</sup> indicated thirteen criteria relevant to the expectations that regional land use planning has met and not met to varying degrees.

**Future-oriented:** Participants were optimistic about the ability of regional land use planning to be future-oriented, especially in the context of building future opportunities and values and considering the needs of future generations. One participant explained that “you get to say what your preferred future is and then develop objectives based on that and certain management regimes to check in to make sure you're going that way and making decisions that way” (YG24).

<sup>91</sup> Data on regional land use planning included references to regional planning processes outside of TH traditional territory. Such data was included here because the process for regional planning in TH traditional territory is ongoing, and thus far has followed a very similar process as other regional planning processes.

In the case study, this was supported by the Dawson Planning Commission's use of future scenarios to better understand potential effects, including cumulative effects, from surface and linear disturbances (Dawson Regional Planning Commission, 2020a). This approach reflects a similar approach taken in other planning regions in the Yukon (Francis & Hamm, 2011). One participant described the role of scenarios in addressing the needs of future generations, stating "I think a very pragmatic way to deal with [concern for future generations] is through your cumulative effects scenario analysis. You want to be looking at meaningful time scales. You want to do some modelling that takes you 25 or 50 years in the future" (PR17). Besides this example, there was no specific timeframe identified consistently by participants as sufficient for capturing the full effects of projects for present and future generations.

**Meaningful engagement with affected Indigenous peoples as decision-makers:** Consideration of the extent to which regional land use planning is meeting expectations for meaningful engagement was not a dominant theme within participant interviews. Nonetheless, decision-making authorities and influence are laid out to some extent within the *UFA* and *TH Final Agreement*, as described in Chapter 4.<sup>92</sup>

Reflection on how this treatment of Tr'ondëk Hwëch'in decision-making authorities and interests has been implemented as a component of meaningful engagement was not explicitly addressed by participants in the context of regional planning. Some participants<sup>93</sup> did identify a more general perception that the *UFA* has contributed to the ability of Yukon First Nations to inform decision-making. However, there are important similarities between how this criterion is considered within regional planning and how it is addressed in the context of project-level assessment; the general concerns raised within that context similarly apply here. While further detail is provided below, the fundamental limitation of this component of meaningful engagement is the application of Tr'ondëk Hwëch'in authority to Settlement Land versus non-

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<sup>92</sup> In brief, the YLUPC is made up of independent representatives from both CYFN and Government. Both TH and Government are decision-makers in the regional planning process that is ongoing in the case study area. While both governments are responsible for nominating members to regional planning commissions, TH's authorities include the ability to approve, reject, or modify the regional plan in the context of Settlement Land. Yukon Government's authorities include the ability to approve, reject, or modify parts of the regional plan on non-Settlement land.

<sup>93</sup> None of these participants were representatives of Tr'ondëk Hwëch'in government.

Settlement Land. This limitation is tied to another component of meaningful engagement: whose legal traditions are used to make decisions. As noted in Chapter 3, Tr'ondëk Hwëch'in law relates to the integrity of Tr'ondëk Hwëch'in homelands as a whole, not to distinct parcels of land. One TH representative noted that understanding TH authority in such a way ignores the broader intent of the TH Final Agreement, explaining that

that whole part about 'we have this and you have that', it shocks me that anyone thinks that that's remotely what [the UFA] is. It's like yes, the First Nations have title to various chunks of Settlement land, but that doesn't mean that Yukon Government gets to make all of the decisions on things outside of Settlement land, at all, full stop. It doesn't mean it in a legal sense and it certainly doesn't mean it when you look at all the other elements of the Final Agreements. (TH19)

However, it is important to distinguish between what is written and what occurs in practice. Indeed, the regional planning process is intended to be a mutually defined decision-making process, with both Parties signing off on a mutually agreeable regional plan, a purpose that was underscored through the Peel regional planning process. However, a fundamental question remains: if the Parties meaningfully engage in the process of regional planning, yet ultimately disagree on the outcome of that process (in the form of a regional plan), will the limits to Tr'ondëk Hwëch'in authorities as laid out in the TH Final Agreement still apply? On paper, the answer appears to be yes. If yes, the corollary question is then, what relationship would such a plan have to TH legal traditions that apply to the entirety of TH traditional territory?

Other components of this criterion, including attention to Tr'ondëk Hwëch'in rights and interests, were not widely discussed by participants. This may be because regional planning does not explicitly address Aboriginal and treaty rights. However, the process does provide for land use decisions that then affect the condition of values that are tied to Tr'ondëk Hwëch'in rights. One participant explained this approach in the context of the North Yukon regional plan:

Our whole premise for that plan in many ways was how can you maintain a landscape that will keep caribou on it forever, with caribou being a core, central value to the wellbeing, cultural, and socio-economic system of the Vuntut Gwichin people. That's a very philosophical grounding, but it is a way so that those opportunities to keep that caribou harvester system alive are there...[it is] that idea of needing to maintain a landscape that will support wildlife populations

and other values at an acceptable level where those rights can continue to be exercised. (PR17)

One concern raised by Tr'ondëk Hwëch'in within the ongoing regional planning process is that their rights and interests will be impacted by development activities that are occurring while regional planning is taking place. A Tr'ondëk Hwëch'in representative explained that

if it's business as usual and there are no interim measures until land use planning actually takes place insofar as mineral withdrawals or withdrawals on staking, then...everybody has already staked their interests. If we have a thousand claims for example and we have one historic site that's important to Tr'ondëk Hwëch'in, who do you think the assessors and the Yukon Government is going to protect? It is really difficult to protect our interests in that scenario...all of a sudden they've told us that we can't buy out these claims because it will bankrupt the Yukon Government, so we are probably going to hear that same excuse and scenario with the Dawson Regional Planning process. (TH06)

The existing approach to addressing potential impacts to TH rights and interests while regional planning occurs appears to rely on the assessment and regulatory process (CBC News, 2020). Further detail on the treatment of this criterion within assessment is addressed below (see 7.2.2).

**Sustainability:** The Dawson regional planning process has incorporated sustainability to the extent that it invokes the definition of sustainable development provided in the TH Final Agreement. Using this concept as a guiding principle, the DRLUPC identifies that achieving sustainable development requires sustaining ecosystem integrity, sustaining communities and cultures (which is tied to ecosystem integrity), and fostering sustainable economic activities (Dawson Regional Planning Commission, 2021, p. 16). It also associates this principle with balancing competing land and resource uses for current and future generations (Dawson Regional Planning Commission, 2021, p. 8). This interpretation of sustainable development, specifically the separation of values into three pillars and attempts to “balance” them, undermines the ability of the plan to find mutually reinforcing solutions that make positive contributions to sustainability.

Nonetheless, ongoing activities within the planning process, such as building future scenarios, may encourage discourse on such solutions. Moreover, the relatively positive perception that the planning process is future-oriented, with specific attention for future generations, as well as

the current planning approach to considering longer-term temporal scales contributes to its ability to provide for inter-generational equity.

**Self-determination in the context of understanding and respecting distinctiveness:** The extent to which the regional planning process reflects recognition of and support for Indigenous responsibilities, rights, governance institutions and processes, legal orders, and way of life in the entirety of their philosophical and historical contexts was only discussed by TH government representatives. It was primarily discussed in the context of the governance system as a whole, though land use planning was certainly recognized as part of that. Several participants noted areas of inherent tension or disconnect between processes such as land use planning and aspects of TH self-determination. As noted in Chapter 4, TH governance emphasizes relationships between Dënezhu and the land and within a community. One TH representative provided context for the expression of this principle in TH law, explaining that “other things that come into play are the *TH Constitution* and the objectives in that, [and] our heritage law. There are different pieces like that and they are all about maintaining the integrity of the land as a whole. And not just it as a physical thing, but making sure that the relationship is still there” (TH19).

Another TH employee explained that this relationship with and responsibility to TH homelands as a whole is difficult to capture within land use planning, where “we’re seeing these processes that are fracturing and breaking down the landscape into these tiny little components” (TH09). This disconnect similarly applies to relationships between the authorities involved in planning: “Talking about land use planning, if your whole world is shaped on taking action, then when you’re talking about land use planning you’re envisioning something that will be this ongoing relationships. If your whole world is based on a thing, you’re envisioning creating a thing and then being done” (TH19).

Nonetheless, regional land use planning does have the potential to identify specific areas important to TH and limit disturbances to those areas, as well as meaningfully reflect values that may be important to First Nations way of life, rights, and responsibilities. In other words, there are opportunities to support some aspects of self-determination through regional planning. However, such an approach does not necessarily require ensuring these components of self-

determination are embedded within the entirety of their philosophical contexts. For example, Tr'ondëk Hwëch'in have chosen – thus far – to include an explanation of their laws and the lifeworld from which they stem within the planning process. In presenting their “issues and interests”, Tr'ondëk Hwëch'in explained that,

When our world was different than it is today our culture hero Tsà' Wëzhè travelled our territory and brought order to the world. He established relationships with our non-human relatives and formalized our responsibilities to them and to each other. His journey and the agreements he made are Tr'ëhudè, our way of life, our law. Living our law by engaging with our land brought our society into existence and has shaped our culture and created our identity. Central to this is the requirement to uphold a reciprocal relationship with the land and all living things and to maintain the integrity of our homeland as an interconnected entity. This is the essence of our existence as Dënezhu. (Tr'ondëk Hwëch'in, 2019b, p. 1)

It is unclear how this information was treated within the planning process and whether it meaningfully informed the draft plan. Nonetheless, it raises an important question about what it looks like for a regional plan to meaningfully support self-determination within the entirety of a specific philosophical context, especially in light of the potential tensions within processes such as land use planning.

**Proactive:** Participants identified regional land use planning generally as a potentially proactive process. One participant explained that “[regional land use planning is] a real strength in the Yukon in terms of the potential in the Yukon to deal with these things through land use planning and for the most part dealing with it fairly proactively” (PR44). The obvious limitation to meeting this expectation is the relatively slow pace at which regional planning is being implemented. There were also suggestions for how the process could be more proactive, especially in the context of preparing the regional planning commissions to consider cumulative effects. For example, conducting disturbance mapping prior to regional planning was identified as an opportunity to inform the scenario analysis and modelling work that planning currently relies on in setting CE thresholds.

**Strategic level direction:** Within the broad criterion of strategic level direction, regional land use planning meets some, but not all, components of this expectation. Regional planning can identify



long-term objectives and the use of scenarios does contribute to conversations about multiple future alternatives. However, the absence of completed regional plans territory-wide – including TH traditional territory<sup>94</sup> - was seen as a primary barrier to realizing this potential. Nonetheless, the potential for regional planning to provide such objectives does exist.

Regional planning also allows for a discussion of a broad range of values and indicators that are broadly scoped and relevant to the local and regional context. Participants were generally confident in the expectation of regional planning meeting this criterion. However, some also warned that regional planning cannot address all values and indicators. This is demonstrated most clearly by the planning commission's current approach to cumulative effects. At present, the plan will likely continue to rely on two main disturbance indicators within its CE framework, including surface disturbance and linear density. These indicators have been used within other planning regions in the Yukon and support the ability to contemplate different future scenarios by using ALCES software (Dawson Regional Planning Commission, 2020c). The software uses "landscape models to examine different land use scenarios to assist in identifying different management options" (Dawson Regional Planning Commission, 2020d). The draft plan in its current form contemplates the possibility of additional CE indicators outside of the existing two (Dawson Regional Planning Commission, 2021, p. 39). This approach is likely to be useful where clear linkages between landscape disturbances specific values and indicators exist (e.g., wildlife avoidance of busy roads). It is less clear how CE to values with less explicit or no linkages to landscape disturbance will be captured. This example draws attention to the choices that are made within the planning process and how these choices impact the scope of values and indicators reflected within the regional plan. It also raises questions about the extent to which any limitations to the scope of values and indicators will be made clear.

The ability of regional planning to meet expectations for appropriate and meaningful spatial and temporal boundaries were not a significant component of the data collected. It is nonetheless worth noting that the spatial boundaries of the planning region do align with TH's traditional

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<sup>94</sup> The Dawson regional planning process was put on hold in 2014 and did not re-start until 2018-2019.

territory, and the planning process draws on scenario analysis to ensure a future-oriented approach to temporal boundaries (e.g., 10-, 20-, and 50-year scenarios).

When discussing thresholds and management targets, participants identified regional land use planning as being capable of answering important questions related to acceptable change, including where change can occur (e.g., where more/less disturbance will be considered), how much change can occur (e.g., through the identification of disturbance thresholds), and how you can tell when change is occurring (e.g., through the identification of disturbance indicators). However, similar to the conversation about values and indicators, there is an inherent tension between identifying thresholds that are sufficiently representative of important values and recognizing the practical constraints on feasibility. Participants acknowledged that the process will not deal with everything in the conversation about thresholds and acceptable change. This perception was in part tied to the feasibility of setting thresholds for multiple values: “I don’t think it’s feasible that a regional plan can take every LMU and set thresholds for every value that might be affected by a certain type of development” (PR47). It was also tied to the perception that because certain values – in particular socio-economic and cultural values – may be difficult to measure or characterize, it may also be difficult to identify thresholds relevant to them.

An additional barrier to the identification of thresholds was the understanding that they require significant baseline data and knowledge of dynamic system behaviour, which is widely considered to be lacking in the Yukon. Using the North Yukon approach as an example, one participant explained the challenge of creating surface and linear disturbance thresholds when data on disturbances are lacking:

the North Yukon Planning Commission said “here’s our best estimate of what disturbance is out there already” because there’s been oil and gas exploration since the 50s and there’s old disturbances that haven’t really recovered. Here’s our best estimate. There was no field work, no satellite interpretations, they just took available maps and kind of mashed them together and tweaked it a bit and came out with an estimate. By making an estimate, it stimulated the work that is now being done to calculate a more accurate disturbance estimate. (PR11)

To add to this, the implementation of thresholds requires significant monitoring data. As one participant described, “You’ve got a land use plan that says ‘these areas are fine for these

activities', but things change and [caribou] herds change where they're going. I think a plan also has to be a bit of a living document. And my god, that's a lot of work." (PR48). Another participant pointed to an example from the North Yukon planning experience to highlight issues of resources: "If the vegetation is that high then that's no longer considered a functional disturbance. The problem is that it's difficult to measure that. We've been using satellite telemetry, although it has been problematic determining whether the vegetation is high enough to be viewed from satellite telemetry, and there's not enough resources to go out in the field" (YG25).

Several broader challenges in identifying thresholds and management targets were identified by participants, though not specific to regional planning. In the case study area specifically, participants raised concern with the ability to set thresholds or management targets in areas where thresholds have already been crossed. One participant explained that "it's challenging in the Dawson region because there's already a significant footprint there. If the aspirations for some of those land units within the broader Dawson Regional Planning area had been articulated ten or fifteen years ago they might look quite different than they do now" (PR44). Further limitations in the ability to set thresholds related to the multiple ways in which thresholds might be interpreted. For example, in the North Yukon regional land use plan (and likely the Dawson regional land use plan), one participant explained that "they have a threshold around linear disturbance, which is interpreted in a couple of different ways. Some people see it as a hard line, some people see it as a cautionary level, other people see it as a little flag. It depends on who you talk to" (YG03).

Although there is a clear authoritative product resulting from a regional planning process, the nature of this authority is potentially limited (see Compliance below).

**Collaboration and co-operation:** Some participants noted that land use planning was a good example of the bare minimum for collaboration, in that there is a requirement for co-operation between TH and Yukon Government via the regional planning commissions and various working groups and committees. However, data did not indicate the quality or extent of collaboration through regional planning and its ability to meet expectations set out in this criterion. Much of

the interview data related to collaboration and cooperation spoke more generally about a lack of collaboration within governments (e.g., departmental silos).

**Credibility, Accountability, Integrated and tiered application, and Enforcement and compliance:**

Participants acknowledged the importance of conformity checks as one of the primary means through which a tiered approach is currently being implemented. They also described the important role that YESAB and YESAB materials (e.g., evaluation reports) can play in informing regional planning processes. However, this process is not clearly institutionalized or formalized. The efficacy of this tiered approach is also limited by the absence of sub-regional plans (as outlined within the *UFA*) and an unclear relationship to land use and access management planning occurring outside of the *UFA* (see section 7.3).

Conformity checks also play an important role in ensuring compliance with a regional plan as an authoritative product. However, the potential for this authority is limited within the *UFA*, which explains that “where a Decision Document states that a non-conforming Project may proceed, the Project proponent may proceed with the Project if permitted by and in accordance with Law” (Council for Yukon Indians, 1993, sec. 12.17.4). Similarly, there is no clear requirement for a justification of non-conformity. While there may be opportunities to build credibility through the planning process (e.g., there currently exist clear opportunities for public participation), the lack of credibility within the tiered application of a regional plan undermines this potential.

The *UFA* also identifies that a conformity check should be directed to a regional land use planning commission (Council for Yukon Indians, 1993, sec. 12.17.1); yet, thus far, regional commissions disperse after the completion of a plan. The current approach to filling this gap is for the Yukon Land Use Planning Council to conduct a conformity check process, though the authority of this process appears limited.<sup>95</sup> While there may be opportunities to build accountability through the regional planning process, the lack of accountability in the tiered

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<sup>95</sup> The Planning Council currently conducts a process similar to a conformity check, though it is technically not called such in light of its lack of legislated authority to do so. Rather, the council provides an opinion as to whether a project is in conformity. The authority to do so is laid out in section 11.3.3.5 of the *UFA*.

application of a regional plan undermines this potential. It is also unclear how this gap will impact capacities for ensuring compliance with regional plans.

**Accountability, Integrated and tiered application, and Follow-up and monitoring:** While the need for regional plan follow-up was described generally by participants, many of the specifics for how it will occur will likely be left for implementation. Perhaps for this reason, the final North Yukon regional land use plan identified when and how a regional plan might be revised, but left specific timelines to be identified within plan implementation (North Yukon Planning Commission, 2009, pp. 7–2). The extent to which the review of plans allows for the integration of new information from related processes (e.g., monitoring data, studies) is unclear.

As noted above, monitoring data required to implement thresholds (e.g., to determine when a disturbance is considered recovered, to determine the effectiveness of the approach relative to key values) through a tiered relationship between planning and assessment has previously been a challenge in the Yukon. One participant explained the significance of monitoring for this application, in that quantitative thresholds for surface and linear disturbance “need to be supported by an ongoing monitoring and evaluation process. These are the numbers we set, but are they actually achieving the goals?” (PR44). However, there is an apparent lack of clear roles, responsibilities, and capacities for carrying this out.

This limitation is best demonstrated by a project outside of the case study area, in the North Yukon planning region. The Eagle Plains Multi-Well Exploration Program was an oil and gas exploration project proposed in the Eagle Plains basin, a region that falls within the North Yukon Regional Land Use Plan (NYRLUP). According to the NYRLUP, the project fell within a land management unit with surface and disturbance thresholds that allow for the highest level of development. However, when the 2016 YESAB Evaluation Report for the project recommended referring the project to the YESAB Executive Committee for a higher level of screening, it argued that industrial development in the area under the NYRLUP was predicated on the “fulfillment of goals for information collection as set out in the NYRLUP and associated annual reports” (YESAB, 2016b, p. 14). The Evaluation Report pointed to specific areas of data collection on cumulative effects indicators as identified by the NYRLUP, including “baseline data to assess cumulative effects and development thresholds (e.g., cumulative surface disturbance impacts and potential

effects on habitat quantity and quality)” as well as “cumulative impacts of exploration and development activities on access to and use of the Porcupine Caribou Herd by First Nations and the Inuvialuit” (YESAB, 2016b, p. 15).

While the NYRLUP indicates that identifying these priorities for data collection does not create implementation obligations for the signatory Parties (North Yukon Planning Commission, 2009, pp. A4-1), the Evaluation Report seems to imply that there is some level of responsibility as there are “outstanding priorities that remain unaddressed by the parties to the NYRLUP” (YESAB, 2016b, p. 2). Thus, an integrated, tiered approach to planning and assessment requires clear accountabilities and capacities for monitoring. This has been identified as a gap within the NYRLUP and there is at minimum a possibility that such challenges will be similarly present within the Dawson Regional Land Use Plan.

### *7.2.2 Project level assessment and regulatory processes*

Data indicated six criteria important to the project level assessment, which in many cases was described alongside regulatory processes.

**Future-oriented:** Application of this criterion to project level assessment and regulatory processes is in part intuitive; the process of project-level impact assessment is directly related to anticipating future impacts and effects. Interview data indicated two areas where project-level assessment has struggled to meet this expectation. One area of concern was how future projects and activities are accounted for vis-à-vis the consideration of cumulative effects within project assessment. Assessment practice in the Yukon does consider interactions between proposed projects and past, present, and/or future projects and activities, but continues to struggle with how “future likely” projects are defined.<sup>96</sup> One participant explained that

we don’t have crystal clear criteria for what future likely projects we do or do not consider. Certainly YESAA, that section that talks about cumulative effects, says

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<sup>96</sup> Since data for this research was collected, YESAB issued an update to criteria regarding the definition of “future likely”. These criteria included a) the announcement of an intent to carry out a future activity, b) a notice of a submission for assessment or regulatory review, and c) “the completion of the project being assessed could facilitate or enable future activities” (YESAB, 2020b, p. 3). It is unclear whether these criteria have added sufficient clarity for those engaged in assessment.

YESAA will consider future likely projects. I think we need to have pretty solid documentation or we need to be pretty confident that that future development is going to happen in order to consider it within current assessments. (PR47)

Another area of concern raised within discussion of this criterion was related to the inherent limitations of project-by-project assessments and their ability to consider implications for future generations. This was explained by one participant as a consequence of the limited temporal scope of project assessments.

We're also fragmented in terms of where we locate our thinking in time. We're in the here and the now. We're not thinking about what is the result of 100 years of activity. We're not even looking forward. From a sustainability standpoint, what are the implications of opening up this country for instance with new roads? What are the implications of that for future generations? (PR41)

While there are examples of projects that consider implications of allowing roads in previously inaccessible areas (e.g., YESAB, 2018f), this has largely been through the lens of immediate impacts rather than impacts to future generations.

### **Meaningful engagement with TH as decision-makers**

The expectation of meaningful engagement with TH as decision-makers within project level assessment, and in particular attention to influence and decision-making authority, was described in Chapter 4; a First Nation is a decision body if a proposed project is on Settlement land. As noted previously, this authority is important and likely contributed to the perception of some that the *UFA* has generally contributed to meeting expectations for meaningful engagement. The limitations of this authority noted previously equally apply here. For example, where a First Nation and Yukon Government are both decision bodies, efforts are typically made to produce a joint decision document, the assumption being that such an approach is indicative of meeting expectations for a mutually defined decision-making process. It also can be seen as an example of **collaboration and co-operation**. Yet, a fundamental limitation remains: if the Parties meaningfully engage in producing a decision document, yet ultimately disagree on the outcome of that process, the result will be one set of terms and conditions for non-Settlement land and another for Settlement land.

For example, in the case study area, one participant described the assessment of a proposed placer mining project that resulted in two sets of terms and conditions, and the response that followed:

It was one of those [evaluation reports] that had terms and conditions related to wetlands, undisturbed wetlands...the recommendation was “do not develop undisturbed wetlands”. It was accepted by TH and varied by YG. That then went to the Water Board for their consideration in issuing a licence. Ultimately, I believe the proponent removed the piece on Settlement land. (YG24)

In this example, the term within the YESAB Evaluation Report that the two decision bodies disagreed over was related to cumulative effects to wetlands. As the participant described, the project proponent simply moved components of the project so that it did not overlap with Settlement land, ensuring TH was no longer a decision body. There also may be cases where the reverse is true, with proponents purposefully moving components of their projects on to Settlement land to ensure the respective First Nation is a decision-maker. In both cases, the power to make such a determination is in the hands of the proponent.

In the context of non-Settlement land, the decision-making authority and influence of Tr'ondëk Hwëch'in – and meaningful engagement more generally – relies heavily on impacts to TH rights and interests. YESAB has clarified that while it does not directly assess impacts to Aboriginal and treaty rights, these rights do inform YESAB's choice of valued components within an assessment and/or provide context in the determination of significance of adverse effects (YESAB, 2018a). Explicit attention to impacts to First Nations rights and interests is therefore relegated primarily to the consultation process within the regulatory process, and as noted previously, consultation is not within the scope of this research. Nonetheless, implicit attention to Aboriginal and treaty rights within project assessment offers important insight into meaningful engagement.

Some participants saw the assessment process as an avenue for addressing impacts to TH rights and interests, as valued components within project assessments can be reflective of impacts to Aboriginal and treaty rights. One participant gave an example of a project evaluation where “effects to way of life were directly assessed and that was selected as a VSEC based on effects to rights. It's not the same as assessing effects to rights directly, but I think it can have the same



outcome” (PR46). Such examples are especially important given the reliance on assessment and regulatory processes for addressing impacts – including cumulative impacts – on First Nation rights and interests while regional planning is taking place (see section 7.2.1 above).

Such examples may have contributed to the perception by some participants that Aboriginal and treaty rights and interests are being protected and reflected within the current governance system. Nonetheless, others voiced concern that Aboriginal and treaty rights and interests are being adversely impacted within the current system. Several limitations of the current approach to considering rights and interests through project assessment and regulation may have contributed to this less optimistic perception.

First, the current approach to addressing impacts to rights and interests through consultation – which occurs on a project-by-project basis – raises the question of the respective responsibilities of all Parties to the *UFA* and *TH Final Agreement* vis-à-vis Aboriginal and treaty rights. One participant explained this in the context of cumulative effects on treaty rights, arguing that

If you’re protecting a treaty right, then what are the implications for assessing cumulative effects on the treaty right? The *UFA* doesn’t help us at all in terms of how to do that. The *UFA* doesn’t help us at all in terms of how you achieve enhancing and protecting Indigenous ways of life and culture. The frustrating thing is that governments typically have not made the effort to say ‘ok how do we think about this stuff? How do we restructure so that we can live up to these obligations?’ Regrettably, the thinking that goes into how to think about this stuff tends to be the burden of the First Nation...the burden of implementation, of protecting a treaty right, of advancing some of these purposes, in the first instance it falls on the First Nation. (PR41)

To add to this, several participants pointed out that the work required to be “button-pushers” through the lens of impacts to rights can be more difficult because the rights conferred under Final Agreements can be limited and do not necessarily capture the full range of TH interests. One TH government representative explained that when working with the Crown,

Often for example their consultation letters are written in such a way that say “please state the rights that this project will effect”, then we are forced to - if we want to fit into their framework - we are forced to quote individual passages of the Final Agreement. It’s almost like we are boxing ourselves in. In some ways in the Final Agreement, you know there’s nothing in here about protecting

wetlands...In some cases there aren't provisions that are really helpful that we wish we could use. (TH02)

Another participant noted the burden that this approach can place on First Nation governments, especially when staffing or time may be limited. One TH employee explained that "I really do feel that First Nations end up being the button pushers through their Final Agreement rights. I don't know that that's appropriate. I think we have so many other things that we could be spending our time doing. From my point of view, there's so many other things our department could be working on that could be proactive. We could get citizens out on the land doing things" (TH02).

Second, there can be uncertainty in how rights are interpreted. One participant provided an example within the context of the regulatory process, explaining that "the Water Board has to consider [treaty rights] when they're issuing licences - what are the Chapter 14 rights, principles and responsibilities? But they're principles. They're not anything you can measure or point to for the most part" (YG32).<sup>97</sup> This is especially significant in the context of the Water Board, where rights conferred under the *UFA* are not unlimited. Rights to "quantity, quality, and rate of flow" can be infringed upon, but such infringements must be accompanied by compensation. Such an approach necessarily requires a dollar value being assigned to the right, reinforcing the need to ensure rights that do not lend themselves to quantification are measurable.

Third, several participants noted that the focus on Aboriginal and treaty rights can result in the overshadowing of Tr'ondëk Hwëch'in law. One TH employee explained that within the current approach, "unless it hurts someone's hunting rights, why does the First Nation even care? You don't have to have anyone hunt at all, and TH still has a legal – as an Indigenous law and TH legislation – responsibility to maintain this landscape" (TH19). This example highlights another dimension of the limits of considering rights and interests through project assessment and regulation, one that is specifically tied to the question of whose legal traditions are being used or reflected.

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<sup>97</sup> For example, treaty rights under chapter 14 include the unaltered quantity, quality, and rate of flow for water flowing on, through, or adjacent to Settlement land. While chapter 14 (water management) was not explicitly part of this research, the example provided here is a generic one that similarly applies to other chapters.

**Self-determination in the context of understanding and respecting distinctiveness:** The previous discussion of Aboriginal and treaty rights within the assessment and regulatory process similarly applies to the criterion of self-determination. In addition, in the same way that impacts to rights can be reflected through the identification of values relevant to those rights, impacts to other aspects of self-determination can potentially be recognized within values identified through the assessment and regulatory process. For example, one project evaluation produced by YESAB within the case study area identified Tr'ëhudè/way of life as a valued component and considered potential impacts to it through that lens (YESAB, 2017d). Though this example was pointed to as the exception rather than the rule, it does highlight both the potential and the challenges associated with such an approach. One participant explained several of these challenges in the context of the aforementioned project evaluation:

[Impacts to values such as] sense of place is a big red flag for the law. What the hell does that mean? And so assessors get pushed...And so with [this assessment] there was a dialogue saying like clearly there is a major impact here. Give us everything you have. Unfortunately, not all projects attract that much attention and time and resources. (YG29)

In other words, while the project was able to recognize Tr'ëhudè/way of life as a value embedded within a distinct philosophical context, it took a significant amount of work, especially given the expectations of the dominant legal system and related challenges of measuring impacts that are not easily quantifiable.

Another TH employee spoke more broadly about the disconnect between how processes such as project assessments often struggle to understand the philosophical context in which TH knowledge is based:

They'll be like 'we need your TK' and I'm like Tr'ondëk Hwëch'in participating in a YESAB submission is TK. That's it, full stop...and they'll be like 'can you just send us the TK'. I'm like, are you asking me for information that so and so was up the Dempster and saw a moose at such and such and you somehow think that's TK? That's not TK. That's an observation that anyone could make. What that means to that person when it comes to whatever project is coming on and what TH government as a whole decides to do with that information, that's the TK part. (TH19)

**Sustainability:** The fact that *YESAA* makes a commitment to sustainability within the purposes of the act, based on a definition of sustainable development that stems from the *UFA*, is an important step towards meeting expectations for such a criterion. Nonetheless, participants pointed to the challenge of realizing this commitment in practice. In particular, participants reflected the inherent challenge of taking an approach to assessment that identifies net contributions to sustainability when there is no attention to positive effects, including positive cumulative effects, within the legislation. One participant explained that

the purpose [of *YESAA*] directs us towards a positive - enhancement and maintenance of a way of life. And then you look at the operational details of what *YESAA* looks at, at the end of the day, the judgement is about making things less bad, it's not about making a positive contribution. That to me is a huge flaw in the legislation. Typically when you're dealing with the [assessment] board, they're focussing on their job being making a recommendation to make things less bad. Not even avoidance. It's really about mitigation, but nothing about enhancements. Whatever the board has to say about enhancements are passing comments and observations, but they don't have the weight. They're not a recommendation. (PR41)

As previously noted, limits to the future-oriented nature of project assessment in turn limit its potential for considering intergenerational effects, a central part of a sustainability agenda.

**Follow-up and monitoring, Enforcement and compliance:** Two dominant themes within data related to project assessment and regulatory processes emerged within application of these related criteria to the case context. First, participants raised issue with the ability of these processes to follow-up on recommendations and related terms and conditions to determine the effectiveness of their response, in particular where the likely effectiveness of a required mitigation is either unknown or known to be unsatisfactory. A participant explained that

We know there isn't a road left in North America where [gating] worked; why would it work here? Yet that seems to be an established mitigation in the assessment process...Are you actually mitigating the effect? Are you dealing with the significance? The reason you are agreeing to that [term] is that there's a significant impact and you're agreeing to mitigate it so that it's not significant. Well, if it doesn't work, is that effect still significant? I would argue quite often yes. (YG03)

While section 110 of *YESAA* does consider the ability to monitor the effectiveness of terms and conditions, further details on the limitations of that process are addressed below (see section 7.2.4).

Second, participants widely reported that enforcement of terms and conditions within regulatory processes was lacking. This was directly related to a lack of authority to enforce terms and conditions. As one participant voiced, “I really feel for the guys doing enforcement because they need better legislation, they need better language in the authorizations in the permits in order for them to really be able to [do their job]” (YG13). Nonetheless, some participants did note that enforcement within the regulatory process was improving. This is addressed further in section 7.4.

### 7.2.3 *Strategic level review*

As has been noted, the potential for strategic level reviews under sections 102-109 of *YESAA* has not yet been exercised. Evaluation of this process is therefore based solely on those criteria that apply to the written guidance within the legislation. On paper, the legislation lends itself to a **future-oriented** approach in that it identifies the requirement to consider future needs (*YESAA*, 2003, sec. 108 (3)(g)). It also identifies **First Nations as an authority** in that they, along with federal, territorial, and municipal governments can request a review of a plan. The need to protect **Final Agreement rights** is also identified. While the scope of matters to be considered within a review is sufficiently broad that it could include specific attention to a **sustainability** agenda, it is not required.

To the extent that it names specific Parties as the originators of a request, outlines where consent from federal or territorial ministers may be required, and identifies various responsibilities of the YESAB Executive Committee (e.g., establishing a panel to conduct the review, identify terms of reference for it, select members of the panel), the legislation builds some **accountability**. However, mechanisms for ensuring responsibilities are carried out are unclear (e.g., no requirements for the rationale supporting or denying consent by a federal or territorial minister to be made public). In addition, beyond potential for significant adverse environmental or socio-economic effects, there are no specific criteria or rules through which

the review can be initiated. Section 103 identifies that the review *may* be public or may be “some other form of review”. There are no guarantees that the final report will be made public, nor is there any role for the public guaranteed within the review process. There is also no indication that any decision to decline the recommendations identified in the review must be made public. This combination of effectively undermines the potential for reviews to meet expectations for **public participation, credibility, and accountability**.

Regarding **strategic level direction**, the legislation outlines effects - which include cumulative effects, but only adverse cumulative effects – and alternatives as matters of consideration. It acknowledges the need for effects **monitoring** as well. However, attention to such matters is not specifically required. The only clear authoritative product from the process is a set of recommendations from the panel. Moreover, with no clear connection to other processes (e.g., future project-level assessments, sectoral decision-making), there remain significant questions about how findings from the process would deliver effective direction for **integrated and tiered application** and ensuring **compliance**. Consequently, such a review would be limited in achieving the potential of strategic/regional level assessments that has been identified in other jurisdictions, especially as it relates to the management of cumulative effects.

#### 7.2.4 *Monitoring*

Unlike the sections of *YESAA* that focus on reviews of plans, sections 110-111 – which identify a process for effects monitoring and project audits – have been implemented. However, this implementation has not been tracked by YESAB, making it difficult to evaluate. Moreover, as has been previously noted, participants did not focus specifically on section 110 monitoring and instead reported a general need for improved monitoring. Consequently, what is available to this analysis are details within *YESAA* legislation and examples of projects,<sup>98</sup> largely outside of the case study area, where section 110 monitoring has been proposed. These examples, summarized in Table 8, demonstrate the varied nature of and response to section 110 recommendations, but do provide some insight into their application.

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<sup>98</sup> These examples were identified by YESAB employees, based on their best available knowledge.

Table 8 - Examples of section 110 recommendations

Example of section 110 application	Monitoring parameters	Party responsible for carrying out monitoring	Decision body accepts, rejects, or modifies and reasoning for decision (where applicable)
Multiple evaluation reports, <sup>99</sup> primarily for proposed quartz exploration outside the case study area	<ul style="list-style-type: none"> <li>- Distribution of access roads and trails</li> <li>- Annual road reclamation efforts</li> <li>- Annual hunter success (for existing and new access) (YESAB, 2018d)</li> </ul>	YG	YG varied because it “does not have the mechanisms in place to provide specific data in all the parameters considered in the monitoring program recommended” (Government of Yukon, 2018a, p. 2)
Evaluation report for a proposed access road to a quartz exploration site outside the case study area	<ul style="list-style-type: none"> <li>- Traffic on proposed road</li> <li>- Wildlife collisions on road</li> <li>- Changes to wildlife abundance and distribution, specifically related to moose and moose habitat (YESAB, 2017a).</li> </ul>	Not identified in Evaluation Report	YG and NND accepted the recommendation
Evaluation report for a proposed quartz exploration camp outside the case study area	<ul style="list-style-type: none"> <li>- Monitor usage of local health centres by non-local residents of mining and mineral exploration camps to facilitate the management of cumulative effects tied to public health (YESAB, 2018b, p. 30).</li> </ul>	YG	YG modified the recommendation, citing a lack of existing mechanisms to provide the data required.
Evaluation report for proposed quartz exploration within the case study area	<ul style="list-style-type: none"> <li>- Monitor the effectiveness of commitments, terms and conditions in facilitating unimpeded migration and expansion of the Fortymile Caribou Herd</li> <li>- Report on residual effects of the project (YESAB, 2018c)</li> </ul>	YG	YG rejected the recommendation on the grounds that it had already undertaken work to achieve the purposes of the recommendation
Major mine outside the case	<ul style="list-style-type: none"> <li>- Project-specific socio-economic and socio-cultural</li> </ul>	YG, Selkirk First Nation,	YG accepted the recommendation. Selkirk

<sup>99</sup> See project numbers 2018-0068, 2018-0103, 2018-0107, 2018-0112, 2018-0123, 2018-0134, and 2018-0137.

study area (Minto Mine Phase IV Expansion project)	monitoring program (e.g., employment, income, cultural and community wellbeing) - Cumulative effects assessment and monitoring framework for ecological, socio-economic, and socio-cultural components	and the Proponent	First Nation accepted the recommendation with minor changes
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Based on requirements within *YESAA* legislation and the examples listed above, a key strength of section 110 recommendations is simply that it provides a clear avenue for conducting **follow-up and monitoring**, which is otherwise not mandatory under *YESAA* and generally not done.

However, monitoring is not tied to a specific effective response. Rather, *YESAA* identifies that section 110 recommendations will result in a report that may include recommendations, which are to be given “full and fair consideration” by the federal or territorial minister or First Nation. There are no clear avenues for **integration**.

Moreover, section 110 recommendations are not always accepted by decision bodies. While in some cases this is due to overlap with existing monitoring programs, other cases demonstrate a clear disconnect between the type of data identified by *YESAB* as necessary – often in the context of cumulative effects – and what is considered necessary and feasible by a decision body. In other words, the section 110 process reveals gaps in its potential to be a comprehensive and **integrated** process to deliver needed monitoring information, particularly on cumulative effects matters.

Another gap within section 110 monitoring is **requirements and capacities for enforcement**; nothing in the *YESAA* legislation speaks to how section 110 monitoring is enforced. Unless a section 110 recommendation is included as a mandatory condition of a licence or permit, then its authority stems from the decision document produced by the decision body/bodies. Yet, decision documents have no clear enforcement mechanism outside of licences and permits. In other words, it can deliver effective direction, but lacks the ability to ensure compliance.

The Minto socio-economic monitoring program reveals the potential of section 110 – in particular, its explicit attention to **unanticipated effects**, requirement for **collaboration and co-**



**operation** between governments, and foundation for **engagement with Selkirk First Nation as a decision-maker**. The cumulative effects monitoring framework for Minto indicates further potential, particularly in reference to informing **strategic level direction**. One participant discussed what this program could look like, noting that the Parties will need to agree on what are the valued components, and then “agree on trigger points as to when you’re going to get concerned about those things, and you need to agree to what actions will you take when those trigger points are hit” (ID #138). While this remains a possibility alone and is only broadly instructive, it is illustrative of the potential for this section to be applied more comprehensively. Nonetheless, the Minto programs remain exceptions rather than the rule in section 110 implementation so far. More generally, the by-request approach of section 110 contrasts with the common view that monitoring and follow-up should be a common feature in assessment cases to increase prospects for **effectiveness** in mitigation and enhancement, to enable assessment **accountability and credibility**, and to facilitate **learning** from assessment experience.

#### 7.2.5 CE Studies

As noted in Chapter 5, section 112 of YESAA provides for cumulative effects studies, though it has yet to be implemented. Some aspects of this section lend themselves to key criteria, namely that it supports **learning**, as well as **credibility**, in that the results of the study must be made publicly available. Conversely, the legislation also identifies that the report will be given “full and fair” consideration, but does not require specific actions that stem from its findings. There is therefore no incentive for clear justification of a decision that could stem from a study, limiting the potential for an **accountable and credible process**. This is not necessarily unique to the case context; it applies to studies in general, and is what distinguishes a study from, say, an assessment. Adding to these limitations is the fact that section 112 lacks attention to **integration**. Even if a CE study were to provide authoritative direction, it is unclear how other assessment, regulatory, and planning processes would be informed to ensure **compliance**.

The best – though certainly dated – example of what this process *could* look like and what opportunities could exist, from the perspective of Yukon Government at least, is reflected in the

*Cumulative Effects Management Process (CEMP) Guidebook* produced in 2015.<sup>100</sup> The guidebook identifies core components of a process to provide **strategic level direction**.<sup>101</sup> This includes values that are broadly scoped and relevant to context; a high-level understanding of historic, current, and future stressors and trends; criteria for value selection; and relevant spatial and temporal boundaries. The process also includes identification of indicators and important direction for what qualities those indicators should reflect (e.g., economically feasible, relevant), management targets; and consideration of alternatives. It also contemplates management actions and opportunities that could provide clear guidance. However, given the lack of authority for section 112 studies, there is no guarantee of an authoritative product that lends itself to ensuring **compliance** with recommendations. The CEMP guidebook identifies steps for **monitoring** and **follow-up**, including means of ensuring objectives are being met and responses are effective.

The CEMP guide also indicates the potential for CE studies to be **proactive** and **future-oriented** (e.g., by identifying the need to proactively respond to emerging issues, identifying opportunities to develop future scenarios) (Government of Yukon, 2015, p. 12). It also demonstrates possibilities for improving **collaboration**, in this case across Yukon Government departments. As one YG employee explained, the guidebook was intended to address internal stove-piping issues: “We had a pile of people at the table, like there was somebody from health and social services sitting beside me. It was truly the full cumulative effects rather than just the ecological stuff that I naturally go to” (YG36). However, neither the CEMP guidebook nor section 112 of *YESAA* provide attention to how a broad range of key criteria would be met, including requirements for **meaningful engagement with First Nations, credibility, and accountability**.

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<sup>100</sup> It is important to clarify that this guidebook is not indicative of current understandings of section 112; it was produced for internal Yukon Government purposes only and was completed by a previous territorial government. Many of the Yukon Government staff members who were interviewed for this research either did not know about the guidebook or thought it was too internally (within YG) focussed to provide useful guidance for section 112.

<sup>101</sup> The process for CE studies outlined in the guidebook draws heavily from processes for regional/strategic assessments (Government of Yukon, 2015, p. 6), potentially blurring the lines between assessment and studies.

### 7.3 Applying the framework: Evaluating interim processes and structures related to CE outside of the UFA

Two interim processes were identified in Chapter 5, including a government-to-government land use and road access management planning process, as well as range assessment. Because both processes occurred primarily outside of the case study areas, analysis relied largely on written documents that are publicly available and limited interview data. As data related to these processes is limited, this section can be treated as a brief review that may illustrate the kinds of opportunities and concerns that applying the framework can reveal. Figure 7 identifies these processes within the context of the broader governance landscape laid out in Chapter 5 (Table 5).

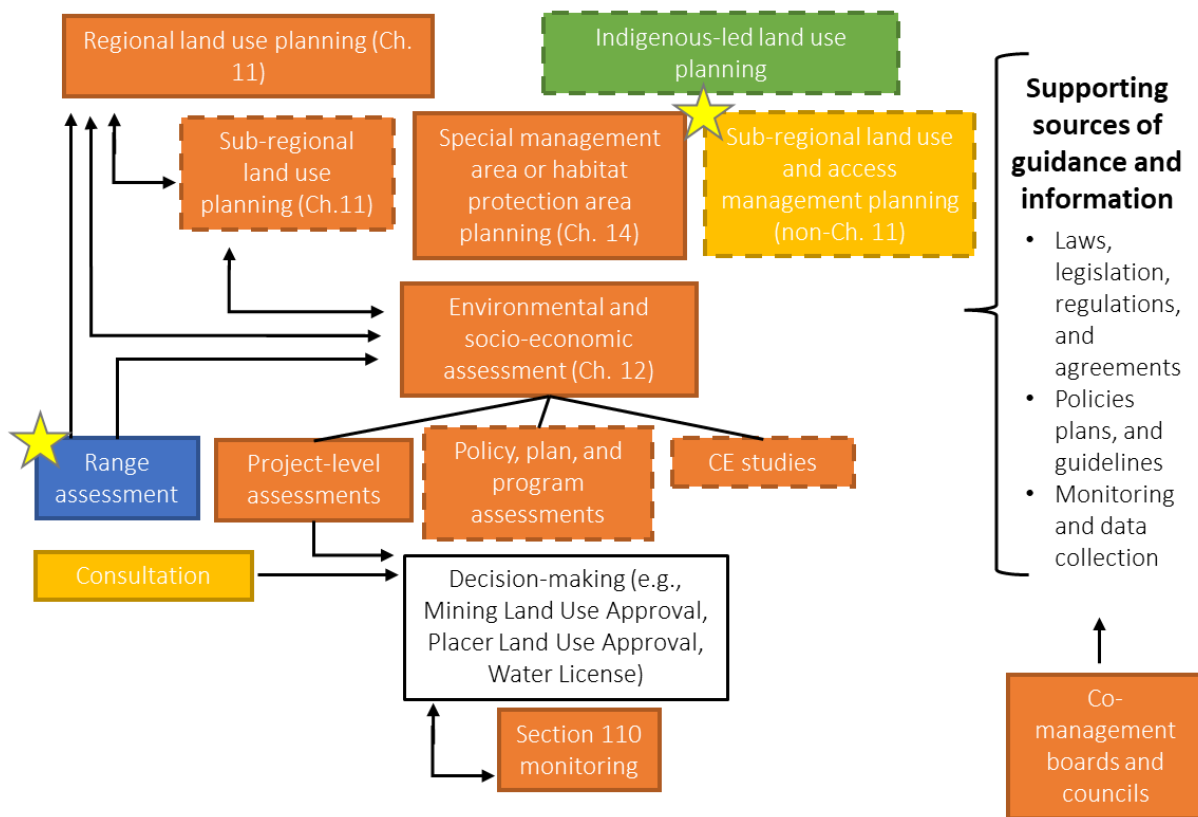


Figure 7 - Areas of analysis for section 7.3, based on Table 5

### 7.3.1 *Land use and road access management planning in the Tsé Tagé watershed*

Although the Tsé Tagé/Beaver River watershed is outside of the case study area, it nonetheless provides insight into a government-to-government process that exists outside of the *UFA* and is intended to address cumulative effects tied to non-renewable resource development. The agreement between the two Parties, Na-cho Nyäk Dun (NND) and YG, to engage in this process meets some substantive and process criteria (Government of Yukon & First Nation of Na-cho Nyäk Dun, 2018). For example, it provides some **accountability** by identifying key roles and responsibilities, though the extent to which roles and responsibilities are clear and carried out in practice remains to be seen. It also aims to provide **future-oriented, strategic level direction** using an approach that appears, thus far, to mirror the approach taken within regional level planning (e.g., use of land management units, ALCES software). This includes identifying values and indicators and management targets and thresholds. It names multiple authoritative products, as well as processes for **collaborative follow-up and monitoring**, including the land use plan, road access management plan, fish and wildlife monitoring and adaptive management plan, and a fish and wildlife harvest regime (Government of Yukon & First Nation of Na-cho Nyäk Dun, 2020). It is assumed that the authority of these products is grounded in the agreement signed by the two governments, though means of ensuring **compliance and enforcement** remain unclear. While the extent to which these criteria have been fully implemented has yet to be seen, they are at minimum committed to on paper. However, early barriers to meeting the criteria laid out on paper are already apparent. In particular, several participants reported that meeting expectations for an efficient timeline have been challenging for the process.

Although both governments are treated as **decision-makers** in the internal process under the agreement, in that each appoints representatives to the planning committee, the nature of decision-making in the delivery of process products is uncertain. For example, it is unclear whether limits to decision-making authority will follow the regional planning example of determining authority based on Settlement versus non-Settlement land where disagreement over the plan occurs. Similarly, while the government-to-government agreement identifies the need to “take into account traditional land use by NND citizens and their traditional land management practices; and promote development that does not undermine the ecological and

social systems upon which NND citizens and their culture are dependent” (Government of Yukon & First Nation of Na-cho Nyäk Dun, 2018, p. 2), the extent to which these principles will be applied in ways that help meet criteria for **self-determination** and **sustainability** is unclear.

As noted in Chapter 5, the **tiered relationship** between regional land use planning, sub-regional land use planning for the Tsé Tagé watershed, and project-level assessment is unclear. Based on current similarities to the regional planning approach of identifying landscape management units, it is possible that tiered application will occur through a conformity check. If this is the case, similar challenges and limitations as identified previously could apply.

### 7.3.2 Range assessment

In Chapter 5, the general approach to range<sup>102</sup> assessment as a CE management tool was described. This description drew attention to key substantive and process criteria, including **strategic level direction** and **follow-up and monitoring**. Unlike the Tsé Tagé process, where multiple values could be contemplated, range assessment is value-specific. However, the general approach is similar to a planning process (Francis et al., 2013, p. 16). A range assessment identifies indicators; considers effects, human and natural stressors, and trends; and identifies management objectives and strategies (e.g., identifying areas where with no new surface access and minimal human footprint should be considered). It also identifies processes for **follow-up and monitoring**, though the extent to which follow-up has been implemented is unclear. It is **future-oriented**, in that it contemplates the use of potential future scenarios within a specific **temporal boundary** (e.g., 25 years in the future) in its assessment.

However, range assessments are not authoritative products in that the implementation and **enforcement** of its recommendations rely on their subjective inclusion in assessment and regulatory processes or other realms of decision-making; it is not specifically required. One participant noted the limitations of this authority,<sup>103</sup> specifically for implementing the thresholds

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<sup>102</sup> Referring to where a species (in this case, caribou) spends time, historically, currently, and/or in the future.

<sup>103</sup> In this example, the participant was referring to a report specific to human disturbance on caribou winter habitat, rather than a range assessment. However, the similarities between the reports (e.g., both assessing human impacts to caribou habitat at a broader geographic level, both reports produced for YG that rely on recommendations being implemented through assessment and regulatory processes) allow for a comparison.

that they establish: “a [range assessment] report in the Southern Lakes area...said, ‘OK no more development in this kind of habitat because there's only seven percent of that key important wintering range left on the landscape for that population’. It should have been a threshold. But development continues in those areas” (YG35). This is not to say that they have not been successfully **integrated** into assessment and regulatory processes. Indeed, one participant explained that “the range assessment for the Carcross Caribou Herd, that was used in two [project] assessments...and [it was] pivotal in coming to a recommendation of significance...That range assessment was really an incredible tool for looking at effects to the Carcross Caribou Herd in the region” (PR46). Moreover, the general approach to range assessment identifies additional processes in which the findings of range assessment should be integrated, including the Yukon Cumulative Effects Management Framework,<sup>104</sup> regional land use planning, sector-specific planning, and wildlife harvest management (Francis et al., 2013, pp. 7–8). Again, while there is no data to reveal the extent to which this has been realized in practice, at minimum it is contemplated on paper and in several project assessments. If follow-up to ensure the assessment remains relevant and effective is not occurring in practice, then this could further limit its capacity for integration.

Of the remaining normative and governance criteria relevant to range assessment, range assessments do draw attention to the potential need for **collaboration and co-operation** within YG. However, the process as laid out by Francis et al. (2013) envisions an internal YG process only. The two examples of range assessments – for the Klaza and Carcross herds – only acknowledge the boundaries of First Nation traditional territories and Settlement land, as well as the role of First Nation citizens as harvesters of the species. There are therefore clear limits to the extent to which range assessments have thus far envisioned meeting criteria such as **meaningful engagement** with affected First Nations as decision-makers. It is important to note

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<sup>104</sup> Because there is little reference to such a framework in most publicly available government documents, it is assumed that the framework mentioned in the Francis et al. piece refers to the YG cumulative effects working group that was working on the CEMP guidebook.

that affected First Nations may have chosen not to engage with this process, though there is a lack of clarity as to whether this was an option available in the first place.

#### **7.4 Applying the framework: Evaluating supporting sources of guidance and information related to addressing CE**

As outlined in Chapter 5, several sources of guidance and information were identified by participants as having the potential to support governance processes and structures related to cumulative effects. These sources of guidance and information may align with the need for specific relevant criteria in their own right (e.g., requiring attention to meaningful engagement with affected First Nations as decision-makers, identifying a sustainability purpose) and/or contribute to the ability of other processes to meet key criteria (e.g., by supporting learning or understandings of context-specific values). Only two processes are considered here; both were referenced by participants as relevant to the case study context. Figure 8 identifies these processes within the context of the broader governance landscape laid out in Chapter 5 (Table 5). As data related to these processes is limited, this section can be treated as a brief review that may illustrate the kinds of opportunities and concerns that applying the framework can reveal.

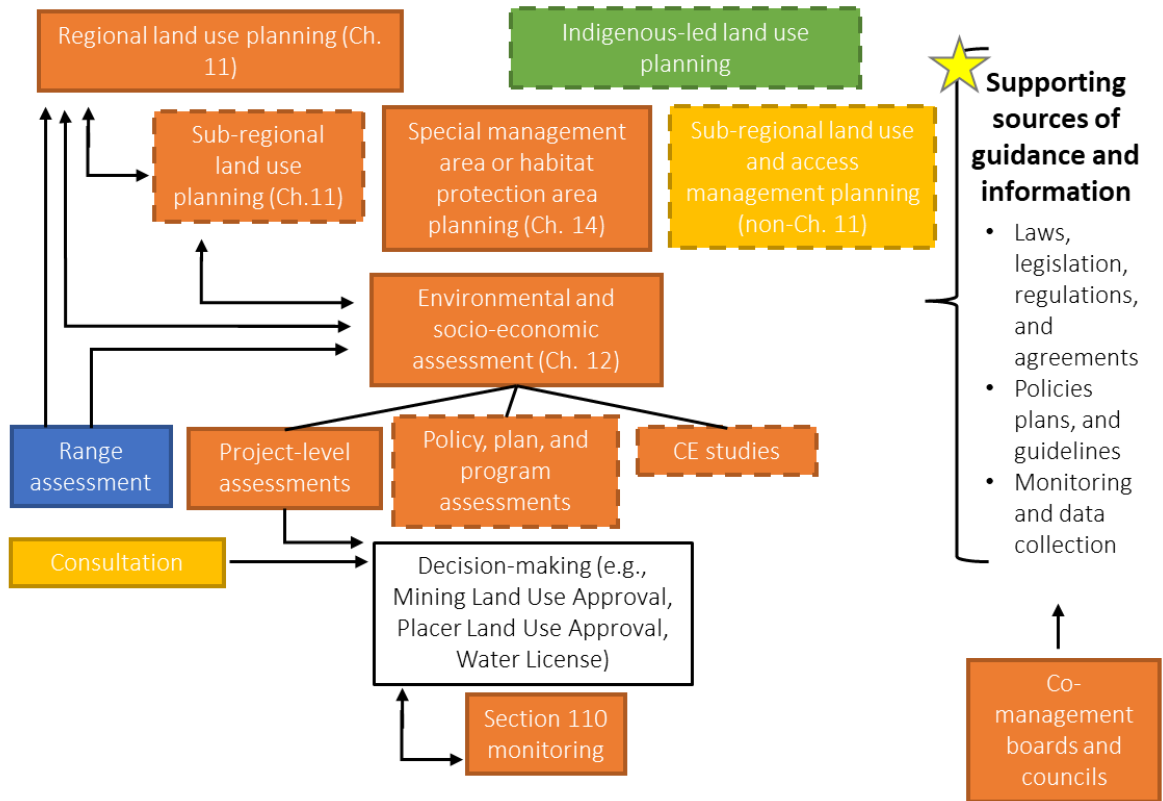


Figure 8 - Areas of analysis for section 7.4, based on Table 5

#### 7.4.1 Yukon Wetland Policy

The development of the Yukon Wetland Policy remains ongoing. At present, it seems likely that the policy will have the opportunity to support **strategic level direction**, including identifying value-specific management objectives. Given the number of parties involved in the policy process – from industry associations to non-governmental organizations to First Nation governments – these objectives are likely to be widely debated and *potentially* mutually defined. The policy will likely provide broad guidance for where change cannot occur (e.g., through the recognition of ecologically or culturally important wetlands) (Government of Yukon, 2021, p. 9), but it is unlikely to delve further into the discussion of acceptable change (e.g., how much and what kind of change is acceptable). One participant explained the importance and limitations of such a policy:

we don't have clear guidance on what the goal posts are. Are we talking about no net loss to wetlands? Should we not be developing wetlands at all...is reclamation



ok, are we looking at compensation somehow? A policy should flush those things out. It would be helpful to know. But a policy's not going to get you down to the level of whether an individual project should be reclaiming wetlands a certain way or is placer good or is placer bad here. It won't help with that. (YG32)

It is likely that processes such as the Wetland Policy will ultimately rely on tools such as regional planning to engage with the more in-depth questions about acceptable change. This is especially important given the limitations of regional planning to engage with a broad range of values, as described above. **Follow-up** to review the effectiveness of the policy is currently identified as occurring within a ten-year period (Government of Yukon, 2021, p. 19).

The policy development process will not result in an **enforceable**, authoritative product with a clear means of ensuring compliance. Instead, it will provide guidance and data<sup>105</sup> to assessment, regulatory, and planning processes. If the data collected meets the needs of various governance processes, then the policy may lend itself to an **integrated** approach, **learning**, and **data sharing**. This is notable given the general lack of integration within the current governance system for addressing cumulative effects, a common theme identified by participants. One participant involved in the policy process pointed to the explicit need for integration, explaining that,

we're intimately aware of how this needs to interact with those other processes, but also a little bit uncertain on how it's actually going to work out...But that said, YESAB, Water Board, regional land use planning folks, they're all part of the conversation on developing this policy, so the hope is that they're in the room and they're providing some direction on what they need this policy to do for them and what they don't want this policy to do, so that we can try and get to the right place before we sign off on the policy. (YG40)

The current draft of the policy pays some attention to **accountability** and opportunities for **collaboration** by identifying actions for plan implementation and parties responsible for implementing actions, including where First Nations will be engaged. Mechanisms for ensuring responsibilities are being met are unclear, as are the extent to which collaboration will amount to meaningful engagement.

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<sup>105</sup> The current draft of the Wetlands Policy prioritizes the collection of data to establish a wetlands inventory (Government of Yukon, 2021, p. 9).

#### 7.4.2 Resource Road Regulation

Unlike the Wetlands Policy, the Resource Road Regulations currently under development do not focus on a specific value where there are concerns about cumulative impacts (e.g., wetlands), but rather focus on a specific stressor where there are concerns about cumulative effects (roads). Thus far, the regulations appear to focus on imposing mitigation requirements to minimize or avoid the potential for adverse cumulative effects (e.g., road access control and requirements for decommissioning to minimize or avoid growth-inducing effects). This approach would improve the **enforcement** mechanisms available to assessment and regulatory processes (e.g., enforcing the terms and conditions for how a road is built or used). The optimism participants reflected about this potential is perhaps unsurprising in light of the general lack of authoritative products generally.

However, participants were also cognizant of the limitations of enforcement. One participant explained that

Even if you had perfect enforcement, you're still going to have cumulative effects. Even if you had perfect legislation, you're still going to have cumulative effects because it still comes back to the number of authorizations and the number of activities and what's occurring in an area. (YG13)

In other words, enforcement is part of minimizing the potential for cumulative effects on a project-by-project basis, but it does not capture all of the broader concerns for cumulative effects at the landscape level. Indeed, the regulations are not intended to support a **strategic level direction** that defines a line between acceptable and unacceptable additional stresses (i.e., how many roads are too many roads in a specific area). As previously noted, it appears likely that expectations to address broader cumulative effects will rely on regional planning.

Legend	
✓	Clear areas of success indicating that expectations have been met, partially met, or are likely to be met
X	Clear gaps indicating expectations have not fully been met or no clear opportunities for expectations to be met
?	Clear opportunities for expectations to be met or partially met exist, but extent to which they are likely to be met is unclear
	Relationship between criterion and process is unclear, inapplicable, or data is lacking

Table 9 - Summary of application of criteria to case context

	Criteria	UFA governance system					Interim processes		Supporting guidance	
		Regional planning	Project level assessment and regulatory processes	Strategic level review	Monitoring	CE Studies	Land use and access management planning	Range assessment	Wetland Policy	Resource Road Regulations
Normative criteria	Future-oriented and long-term	✓	X	?		?	?	✓		
	Learning and co-learning									
	Meaningful public participation and engagement									
	Meaningful engagement with affected Indigenous peoples as decision-makers	X and ✓	X and ✓	?	?	X	X and ✓	?	?	
	Credibility	? and X	?	X	X	X and ✓	?			
	Accountability	✓ and X	?	✓ and X	X	X	?		?	
	Sustainability purpose	X and ✓	X and ✓	X			?			

	Criteria	UFA governance system					Interim processes		Supporting guidance	
		Regional planning	Project level assessment and regulatory processes	Strategic level review	Monitoring	CE Studies	Land use and access management planning	Range assessment	Wetland Policy	Resource Road Regulations
	Goal of peaceful co-existence									
	Self-determination in the context of understanding and respecting distinctiveness	? and ✓	X and ✓	X			?			
	Effectiveness, efficiency, and fairness									
Substantive criteria	Establish a reference framework									
	Strategic – long-term objectives	✓				?	?	✓	?	
	Strategic – values and indicators	X and ✓			?	?	?	✓		
	Strategic – temporal and spatial boundaries	✓			?	?	?	✓		
	Strategic – effects, stressors, and trends	?		? and X	?	?	?	✓		
	Strategic – targets and thresholds	X and ✓			?	?	?	✓		
	Strategic – alternatives	✓		?		?		✓		
	Review, decision-making, and		✓							

	Criteria	UFA governance system					Interim processes		Supporting guidance	
		Regional planning	Project level assessment and regulatory processes	Strategic level review	Monitoring	CE Studies	Land use and access management planning	Range assessment	Wetland Policy	Resource Road Regulations
	regulatory process									
	Follow-up and monitoring	? and X	X	X	X and ✓	?	✓	?	?	
	Enforcement and compliance	? and X	X	X	X	X	?	X	X	✓
Governance criteria	Proactive	✓ and X		?		?	?			
	Data management, sharing, and coordination									
	Collaboration and co-operation	✓ and ?	?	X	✓ and ?	?	✓ and ?	X and ✓	?	
	Integrated and tiered application	X and ✓	?	X	X	X	X	✓ and ?	?	

## 7.5 Concluding comments

In this chapter, I examined the case context to evaluate the design and implementation of approaches to CE and associated governance structure, guided by the criteria specified in Chapter 6. As Table 9 summarizes, this analysis found both support for and gaps within the ability to meet various criteria. There are areas where opportunities exist for criteria to be met, and areas in which results are still unclear or data is lacking. Given this mix of experiences, the two quotes at the outset of this chapter are unsurprising; some individuals see the current approach as demonstrative of efforts being made and others see cross-cutting gaps.

Rather than determining whether the current approach is, in sum, effective or ineffective at addressing cumulative effects, it is more useful to consider what this analysis says about attention to the particular criteria. Where data was not available to support further exploration of a criterion (e.g., goal of peaceful co-existence, learning and co-learning, public participation, data management), more focussed, in-depth analysis may be required (e.g., specifically looking at opportunities for learning and co-learning within the various processes). Where data was available, the following themes emerge.

- There are places where **future-oriented** approaches are either being realized or have the potential to be realized, within and outside the *UFA* governance system. A critical gap is within project-level assessments.
- Experiences with **meaningful engagement with affected First Nations as decision-makers**, as well as **self-determination**, demonstrate clear attention to decision-making authorities (e.g., authorities on Settlement land, authorities to request processes and appoint members to committees in the same capacity as territorial governments) and treaty rights (i.e., rights identified in Final and Self-Government Agreements), primarily within explicitly co-governed processes (e.g., regional planning, land use and access management planning based on a government-to-government agreement), as well as clear limits to these authorities and rights. These limitations reflected a sense of being contingent upon a specific set of circumstances (e.g., TH decision-making authority as contingent upon Settlement land; impacts to way of life as contingent upon significant

time and resources, especially for First Nations; engagement with TH law and governance as contingent upon those components that are specifically defined within Final and Self-Government Agreements, such as harvesting rights).

Experience also demonstrates inherent tensions within governance processes and their ability to meet these criteria (e.g., approaches that require data to be modelled or quantified versus limits to what can be modelled or measured), which raises questions about what it looks like for these processes to engage meaningfully with the “tree” that is TH governance in the entirety of its philosophical context. There also remains a great deal of uncertainty about how these criteria will be treated in the future, especially in situations where Parties within co-governed processes are unable to reach mutual agreement. Some uncertainty is perhaps understandable within relatively recent processes that are still unfolding, such as government-to-government land use and access management planning. However, this uncertainty raises larger flags for why greater attention to these criteria has not been paid within processes that have been established for several decades (e.g., strategic level reviews, CE studies).

- While some evidence and opportunities for **credibility** and **accountability** do exist, there are clear gaps where open and explicit processes (e.g., how conformity checks occur, and how the ad hoc approach to section 110 monitoring operates) should be detailed and similar gaps where clear roles and responsibilities should be delineated (e.g., within strategic level reviews). Notably, there are few processes with explicit requirements for transparent justification at key decision-making points and there are unclear or non-existent mechanisms for ensuring responsibilities are being met.
- Use of future scenarios and attention to future generations have contributed to a **sustainability agenda**. However, despite the fact that the *UFA* explicitly identifies a sustainability agenda, the definition it lays out has proven unhelpful in supporting an interpretation and application of sustainability that translates to mutually reinforcing solutions (e.g., interpretations that focus on balancing pillars, lack of attention to positive

and negative effects). This concept is also not widely and explicitly reflected across all *UFA* related governance processes (e.g., strategic reviews).

- Some elements of processes that provide or support **strategic level direction** are apparent, most clearly within regional planning and range assessment processes. There are also several processes with the potential to provide strategic level direction, as demonstrated by a broad and ambitious application of section 110 monitoring (especially the Minto cumulative effects monitoring program) and hinted at in the Yukon Government cumulative effects guidebook. Although regional land use planning – and likely sub-regional planning within or outside of the *UFA* – demonstrate the most likely avenues for identifying authoritative targets and thresholds, they are limited in the scope of values and indicators that can likely feasibly be addressed. This is especially notable given the number of related processes that will likely be relying on regional planning to identify thresholds (e.g., Wetlands Policy, Resource Road Regulations, project-level assessments).
- Processes that pay attention to **follow-up and monitoring** are distinctly mixed. At minimum, the need for it is often acknowledged, and in some cases follow-up and monitoring is implemented. Section 110 monitoring is the clearest avenue through which this criterion is implemented. While the potential for this process has been demonstrated in specific cases, the general ad-hoc approach has limited opportunities – specifically for assessment – in important ways. Generally, there is a lack of attention to responsibility and accountability for implementation of follow-up and monitoring and limited means of ensuring an effective response.
- The lack of adequate means of **enforcement and ensuring compliance** is also consistently a barrier. This absence underscores the optimism expressed by participants for supporting mechanisms such as the Resource Road Regulations currently being developed.



- Although there was a general perception that **collaboration** within YG was lacking, several processes paid explicit attention to the need for addressing this challenge (e.g., range assessment, CEMP guidebook). However, these processes are not widely implemented.
- Under the criterion of **integrated, tiered application**, there is scaffolding in place through which tiering can occur, though it is not institutionalized and is limited in specific ways (e.g., absence of sub-regional planning, unclear relationship with planning processes outside of the *UFA*, limited authority for applying strategic guidance at the project level). Outside of a clearly identified relationship between regional planning and assessment, as laid out through the *UFA* and related legislation, tiered application and integration lacked consistency across multiple governance processes and bodies. Some success – though potentially inconsistent - has been witnessed within range assessment and there remains optimism for future opportunities (e.g., Wetlands Policy).

With these themes in mind, the next chapter considers the barriers as well as the opportunities that may contribute to building upon these existing successes and overcoming existing gaps.

## Chapter 8: Barriers and opportunities

“If you can’t pull this off in Yukon, we’re really in trouble.” (PR17)

### **8.1 Introduction**

As Chapter 7 demonstrated, there are areas where the potential of existing approaches to address cumulative effects is not being fully realized. This chapter analyzes the apparent barriers to realizing more effective approaches to cumulative effects in the case context. It also reflects on opportunities and options for addressing existing barriers.

The analysis presented in this chapter is grounded in multiple sources. The analysis of barriers (8.2) draws on themes from semi-structured interviews and, where relevant, contextualizes the implications of those themes within the academic and grey literature highlighted in chapters 3 and 5. The nature of these barriers varies widely (e.g., some are technical or legal in nature, others are rooted in dominant norms and values), but they are connected as underlying causes of the limited or lacking ability of current approaches and associated governance structures to meet key criteria. The analysis of opportunities (8.3) draws on themes from semi-structured interviews to an extent, although participants identified significantly more barriers than opportunities. This section therefore builds on the previous one to focus on how opportunities might be realized to address underlying issues and build mutually reinforcing contributions to key criteria. It also draws on academic and grey literature for further elaboration.

### **8.2 Barriers**

#### *8.2.1 Barrier: Reliance on project-level assessment in the absence of established targets/thresholds*

A common barrier identified by participants was the reliance on project-level assessment as an avenue for addressing CE, especially in the absence of established targets or thresholds. A participant explained that,

I think YESAB’s mandate is rather narrow, as is project-based assessment more generally, and that is to characterize and determine the significance of project-level effects. And in so doing, our assessors have to consider cumulative effects, but we’re not necessarily making a determination as to the significance of those effects

or necessarily offering mitigation on how to manage those cumulative effects...In essence, we are not directly assessing cumulative effects. (PR45)

As the above quote notes, YESAB's current understanding of its mandate, as laid out through YESAA, is explicitly narrow in its ability to address CE. Such an approach acknowledges that there are cases where project-level assessments can be an effective tool through which CE can be addressed, but generally it is not on its own sufficient. This is perhaps unsurprising; the fact that the scope of project-level assessment is typically inadequate for the purposes of assessing CE, yet continues to be relied upon for those purposes, is widely discussed within CE literature (Duinker & Greig, 2006; Harriman & Noble, 2008). The implications of this barrier spark an important question: within the existing confines of YESAB's mandate, what purposes *can* project-level assessments serve in addressing CE?

The fact that an absence of targets and thresholds was frequently identified as a barrier by participants is similarly unsurprising, especially in light of findings highlighted in Chapter 7. Indeed, the need for established thresholds, and the struggle to identify them, is echoed across CE literature (Sinclair et al., 2017). In the case context, a participant explained that

I think the failure to get at thresholds is a huge, huge barrier. Of course, then we've got all of the twitchiness that the government has about words like thresholds. It's like, use any word you want but don't call it a threshold. Call it a benchmark, a frame of reference or a reference trigger, but please don't use the word threshold. (PR41)

The absence of thresholds was also influenced by other barriers, namely a lack of data (e.g., lack of data to identify thresholds, lack of data to implement thresholds effectively).

Participants also identified a number of underlying causes that contribute to the absence of thresholds. First, participants explained the general hesitance towards placing limits on growth (i.e., through a threshold). One participant explained that "as a society, as individuals, it's hard for us to bump up against a solid no. It's hard for government to make a solid no" (YG35). Related to this hesitance was the confidence that where there are impacts, they can be mitigated or managed. Another participant explained that "we're pretty convinced as a society that we can mitigate, manage everything. I'm not convinced of that personally." These observations are not unique to the Yukon; the willingness of society to accept limits on human activities is central to effective implementation of a thresholds approach to CE management (Kennett, 2006).

Second, the inherent uncertainty and complexity of identifying a threshold was perceived as a barrier. As one participant explained, thresholds can be relatively arbitrary:

We do not have the knowledge to precisely predict impacts. You can't say "our experience on the landscape is that if (exactly) 70% of the fens are destroyed, the water quality coming from them will be *significantly* impacted". It's kind of a relatively arbitrary number based upon best estimates and it will probably always have to be that way. It is, however, the application of the precautionary principle. (PR11)

Similarly, a TH employee acknowledged the limitations to quantification for certain values in particular, explaining that "aesthetics and visual connection is a really hard thing to measure and maintain. People's connection to space is really hard to maintain." Another TH employee expanded on this, describing the preference for quantification as follows:

it's almost like the regulatory bodies expect somebody to be there with a clicker counter counting how many TH citizens are walking on to that parcel of Settlement land, what they are doing there...we've struggled to find a way to put these things into words that might be meaningful to Yukon Government.

To add to this, the information used to understand thresholds and whether they are being approached also involves uncertainty (e.g., downstream effects or risks may be hard to predict) and complexity (e.g., understanding causes of effects may be difficult to identify).

These underlying barriers are therefore not solely technical; rather, they highlight the norms and concepts with which dominant governance systems often struggle. This emphasizes understandings within the CE literature that take issue with current approaches to CE that mask political and ethical choices as purely technical (Jones, 2016). The implication is that approaches to CE may require greater attention to framing and navigating political and ethical issues that may arise (e.g., what uncertainties or risks decision-makers are comfortable accepting and who benefits and who does not from those decisions), especially within conversations about thresholds.

### *8.2.2 Barrier: There is a lack of data, yet in some cases, more data will not solve the problem*

One of the primary barriers raised by participants – as well as within Chapter 7 - was the need for more or better-quality data. Even where data does exist, it is not always easily accessible, as described by one participant: "Easily accessible data - where the data is there, it's got to be made

easy to get” (YG29). Data management can also present challenges. Such challenges have also been echoed previously in the Yukon context (Drukis, 2017; Francis et al., 2013; SENES Consultants Limited, 2009; Yukon Placer Secretariat, 2017) and throughout CE literature (Acharibasam & Noble, 2014; Arnold et al., 2019; Duinker et al., 2013; Duinker & Greig, 2006; J. Gunn & Noble, 2009b; Jones, 2016; Stinchcombe & Gibson, 2001).

An underlying contributor to this barrier – as well as others – was a lack of capacity (i.e., to collect data) and resources (i.e., to pay for long-term data collection). One participant explained the interactions between these barriers specifically in the context of monitoring and enforcement, explaining,

Lack of data, poor information, bad historic data, or lack of historic data or inaccuracy in historic data. Technology has advanced so far that we can be way more accurate in our monitoring and data logging than we could ten years ago. That’s I think our big challenge and unfortunately we don’t control that budget or challenge or whatever. We have to sit back and wait for others to establish information collection point that we can tap into. (YG23)

These interacting barriers emphasize not only the significance of good data management and coordination for cumulative effects management (Sheelanere et al., 2013), but also the importance of ensuring capacities exist to provide leadership on good data management (Kristensen et al., 2013). Though the role of traditional knowledge in filling gaps in understanding within CE management (Parlee et al., 2012) was not a theme referenced by participants, it can be assumed that similar capacities for providing leadership on engaging with traditional knowledge within CE management are also essential.

However, participants also indicated that more data will not always be the solution, especially when more data is equated with a sense of certainty and uncertainty is utilized as an excuse to avoid action or decision-making. One participant explained that “we could keep collecting baseline data for years and years and years, but you always have to move forward with that level of uncertainty...we will always be uncertain about exactly what's going to happen. If we weren't uncertain then we wouldn't need a decision-making process” (PR33). Again, this further reinforces the point that within CE practice, decisions are rarely solely technical.

### 8.2.3 *Barrier: Differences between governance systems*

Another barrier described by participants encompassed differences between TH and non-TH governance systems – in essence, differences between the trees described in Chapter 4. One participant explained that

these are really different cultural worlds in terms of how we manage a landscape and a population...and of course that has implications for cumulative effects. If we're looking to manage cumulative effects...part of it is a function of, well what do we understand management to be about? We all agree that we need to move pieces around on the chessboard. What do we even understand the chessboard to be? (PR41)

However, it was not simply the existence of differences between governance systems that mattered to participants, but the fact that these differences are made significant through the concentration of power and authority by one party (non-Indigenous authorities), which fails to create space for multiple governance systems. A TH representative explained that “if you are so deeply engrained in a structure that keeps you with the power and the authority then you're going to fight it all the way. That's what we're constantly seeing” (TH19).

Similar barriers have been identified within the co-governance literature, in particular experiences noting the centring of Western governance frameworks (Diver et al., 2019) and maintenance of meaningful authority and decision-making power in the hands of the Crown (Dodson, 2014; Te Aho, 2010). Such barriers raise issue with processes that ultimately displace Indigenous rights and Indigenous governance (Grey & Kuokkanen, 2019, p. 2). However, as Chapter 7 demonstrated, the barriers identified here have not necessarily resulted in the displacement of Indigenous rights and Indigenous governance; rather, they have influenced which aspects of Indigenous governance are centred within approaches to addressing CE. Specifically, the above barriers have translated to a focus on engagement with aspects of the TH governance system that are concretely defined within Final and Self-government Agreements. A corollary of this focus is a disconnect with the components of TH governance that are either loosely defined within the agreements (e.g., way of life) or exist outside of those agreements.

#### 8.2.4 *Barrier: Capacity and resources*

A cross-cutting theme frequently identified by participants as a barrier to more effectively addressing CE was limits to capacity and resources, typically referring to funding, time, and human resources. These challenges were identified across a range of processes, such as baseline data collection, CE assessment, CE studies, and monitoring. Similar challenges have been echoed within the case context (e.g., human resource constraints within regional planning, limited funding for monitoring impacting range assessments) (Drukis, 2017; Francis et al., 2013; Francis & Hamm, 2011).

This barrier was described as applicable to a range of different governance bodies, including multiple levels of government and assessment and planning bodies. For example, one participant explained that “whatever the funding mechanism, YESAB is only a certain size of an organization. If you’re going to have them do some of these big cumulative effects assessment, someone’s going to have to pay for it, you’re going to need more people” (PR12). Capacity and resource restraints were also identified as especially significant for specific circumstances, such as specific types of data. For example, “when we can get the information in areas that are important for a sense of place or any of those really less tangible things is great and we can use it, but it is hard getting that information and I think frankly First Nations have been put under a lot of pressure to produce it, which may not be realistic or fair” (PR48).

Similar constraints have been noted across other jurisdictions grappling with CE (Acharibasam & Noble, 2014; Arnold et al., 2019; Noble, 2004). It’s also notable that co-governance efforts – including co-governance approaches to CE – may require specific capacities and resources (e.g., political space, technical capacities) (Bowie, 2013; Diver et al., 2019; Harmsworth et al., 2016; Latta, 2018; Te Aho, 2010), especially when multiple legal traditions may be involved. Though participants did not identify capacity and resource challenges specifically in the context of co-governance, it is worth noting given the previously identified barrier.

#### 8.2.5 *Barrier: Political will*

Another commonly identified barrier was insufficient political will, a finding that echoes observations in the Yukon (Drukis, 2017) and other jurisdictions (Acharibasam & Noble, 2014; R. Gibson et al., 2010; Noble et al., 2012). One YG employee explained that “until something from

higher up comes down to say this is how YG is dealing with cumulative effects, the non-upper management can't do anything. It has to be a push from above. It has to come from upper management" (PR49). Another former YG employee used the cumulative effects management process guidebook (referred to as CEMP) as an example of the barriers presented by political will:

We tried to bring [CEMP] up and raise it as a way to deal with some of these cumulative effects issues, especially around placer mining - Indian River wetlands issue was really hot while I was there - and we would be like, 'let's try CEMP, let's use CEMP'. And we had the opportunity...to be right in the room with five [Deputy Ministers] and be at that level saying, 'yes we have a process for this, we should invoke this' and the conversations just did not go anywhere, ever...There was never any uptake. (YG42)

While there may have been other rationales beyond political will for not implementing CEMP specifically, it is nonetheless indicative of the perception that political will – including the will of senior public servants, ministers, and other politicians - to implement processes relevant to cumulative effects is lacking.

Another dominant theme identified by participants as an underlying cause or contributing factor to the barrier of political will was the long history of mining and perceived strength of the mining industry in the region. One participant noted that, in the context of ongoing monitoring work,

I suspect that if [the monitoring studies] say the placer miners are doing things that are impacting things negatively I won't get to see that study. Because the political climate makes it difficult to make things any more restrictive to placer miners...it's beyond my control and has nothing to do with science. (YG28)

Similar to the previous example, there may be any number of reasons contributing to the perceived lack of political will. However, this example highlights the significance of a sustainability agenda within CE literature. Moving away from the idea that CE management is about determining where development can and cannot occur, and instead focussing on mutually reinforcing contributions to sustainability with clear attention to trade-off rules, is central to a shift towards the acceptance of limits to growth (Salmo Consulting Inc., 2006) and is potentially more politically palatable.



### 8.2.6 Barrier: Regulatory and legislative challenges

One of the most commonly referenced barriers cited by participants focussed on outdated, non-existent, or insufficient legislation and regulations. For example, one participant described that “YESAA is still unique in Canada and it was way further ahead in many ways, but its probably going to be behind [the *Canadian Environmental Assessment Act*]<sup>106</sup> now with respect of cumulative effects analysis” (PR12). Such barriers manifested in issues identified throughout Chapter 7, such as limitations to meeting key criteria that are explicitly written into legislation or are generally absent from existing legislation. This barrier reflected the underlying concern that for CE issues and approaches to be taken seriously, then they need to be tied to clear legislative requirements. One participant summarized this concern: “I think if it’s not mandatory, then it’s just going to be haphazard” (PR12). Participants also described this barrier more broadly, outside of explicit references to CE, though still impacting approaches to them. An especially common theme was the role of outdated mining legislation within the Yukon. For example, one participant explained that

We have really outdated royalties. We talked about funding and the resources to manage and do all this stuff, but the royalty feels that we collect through all of this is so marginal it doesn’t actually cover the admin or the operating costs, let alone the ability to be able to do some of this other work, whereas in other jurisdictions the fees for resource extraction are a lot higher, whether it’s renewable or not, so they’re able to take those and dump funding back into it to better learn and understand what’s going on and to develop better practices. (YG13)

This barrier therefore played a contributing role in furthering additional challenges, in this case related to limited resources (see above). Similar legislative and regulatory challenges have been noted within other jurisdictions (Gachechiladze-Bozhesku & Fischer, 2012; Noble, 2004). This barrier highlights important issues related to the pace and scale of socio-ecological change in the context of CE relative to the abilities of governance systems to keep up with evolving needs and expectations that must be reflected within regulations and legislation.

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<sup>106</sup> The *Canadian Environmental Assessment Act* is now the *Impact Assessment Act*.

## 8.3 Opportunities

### 8.3.1 *Opportunity: Landscape-level and interim processes, with explicit attention to thresholds*

In reaction to the challenges presented by relying on project-level assessment to address CE, especially in the absence of established targets/thresholds, participants saw landscape-level processes as an opportunity. This is perhaps unsurprising; as Table 9 highlights, much of the existing potential for future-oriented, strategic level direction (and its sub-components, including targets and thresholds) currently lies within processes scoped beyond the project level. Of the landscape-level processes identified by participants, regional land use planning was most frequently identified as an opportunity:

Let's get that planning framework in place so that it helps the regulators make good decisions rather than having to spin our wheels. YESAB has been a helpful tool - no denying that - in doing the assessments, but without a planning framework out there you're just sort of dealing with it [on a] proponent-driven or case by case rather than taking a more comprehensive approach. (YG21)

The possibilities for regional level planning to deliver, at least in part, an effective approach to CE has been similarly recognized elsewhere (Atlin & Gibson, 2017; Clogg et al., 2017).

Realizing this opportunity requires a nuanced understanding of the case context and challenges within that context. As noted in Chapter 7, there are certainly opportunities that may allow regional planning to be more proactive in its ability to address CE. However, collaborative, comprehensive regional planning that seriously considers a sustainability agenda is an unavoidably complex process. Simply implementing it faster seems unlikely without a substantial investment of resources and capacities, which, as noted in the previous section, has already been identified as a barrier. Moreover, the feasibility of creating a land use plan that, on its own, adequately addresses the broad range of cumulative effects and impacts identified in Chapter 5 seems unlikely at present. Realizing this opportunity therefore requires attention in two directions; one, identify how regional planning can be made more effective in its ability to meet mutually reinforcing and currently lacking criteria and two, identify opportunities outside of regional planning that can meet the need for strategic-level direction.

Within regional planning, opportunities exist to collaboratively explore how a broader range of values can be considered through a CE lens (e.g., identified, assessed, established thresholds for,

monitored). This opportunity is underscored by experiences within CE literature and practice, which have often pointed to the need for attention to values and indicators that are not solely biophysical in nature (Atlin & Gibson, 2017; Ehrlich, 2010; Mitchell & Parkins, 2011). The governance mechanisms through which this broader attention could occur are multiple, including internal (e.g., led by the Yukon Land Use Planning Council), external (e.g., Indigenous-led cumulative effects management frameworks, collaborative monitoring programs), or combined approaches. This is considered further in section 8.3.3.

Participants also identified opportunities for landscape-level processes outside of regional land use planning, including sub-regional and interim processes. A participant explained that cumulative effects “could be addressed at a landscape level...I don’t know if regional planning is going to do the trick, but sub-regional planning - once the large-scale regional plan is completed, then [sub-regional plans] can also delve into it” (TH01). As Chapter 7 demonstrated, land use and access management plans may offer a potential option avenue for delivering strategic level direction within a – theoretically – shorter time period, relative to regional planning. Though data on this process – and therefore on the extent to which it will be realized as an opportunity for advancing approaches to CE - was limited, it nonetheless demonstrated the option for a proactive process that is responsive to an area where CE concerns are arising, as well as one that is responsive to the needs of the relationship between the Crown and a First Nation, and has connections to the *UFA* and NND’s Final and Self-Government Agreements (e.g., reflecting rights key principles laid out within those agreements). Similarly, range assessments introduce the possibility for expanding value-specific assessments aimed at identifying targets/thresholds for a broader range of values, and lessons from experiences to date offer insight into the need for similar processes to adopt potentially more collaborative and authoritative approaches.

There are therefore opportunities within regional planning and outside of it to address the challenges of relying on project-level assessment, as well as suggestions for how these opportunities should be carried out to meet multiple, mutually reinforcing criteria. Within all of the above, participants identified the need for explicit attention to targets/thresholds as a key opportunity to advance approaches to CE in the Yukon. As one participant summarized, “from a cumulative effects perspective, it’s understanding how much is too much or how far you can go. Until you can answer that, I don’t really know...” (YG13).

In light of the barriers related to thresholds identified in the previous section, there is a need for explicit attention to the non-technical, socially and culturally embedded dimensions of thresholds, as well as an acknowledgement that the inherently uncertain and complex nature of thresholds should not be used as a rationale for avoiding them altogether. The CE literature provides some direction on how this might be realized, specifically by broadening understandings of thresholds, how they are identified, and how they are implemented. First and foremost, it should be understood that precise thresholds may not exist, and rather can be expressions of different levels of risk or socially-defined points “that reflect the desired balance between human activities and ecological and social sustainability” (Salmo Consulting Inc., 2006, p. 12). In addition, thresholds should not be based on western science alone but are instead grounded in the best available knowledge (including Indigenous knowledge and law, local knowledge, and western science) (Clogg et al., 2017; Salmo Consulting Inc., 2006). While both points are relatively well-established within CE literature, experiences within the case context demonstrate the slow pace at which they are being adopted in practice.

Equally as important are the processes through which thresholds are defined. However, beyond the need to ensure the process is participatory and grounded in stakeholder values (C. Joseph et al., 2017), efforts have been limited.<sup>107</sup> This gap and potential opportunities for addressing it is explored further below, in the context of broadening understandings of co-governance arrangements.

Finally, capitalizing on opportunities related to thresholds requires attention to implementation. Specific areas for attention were identified in the previous chapter. For example, clarifying roles and responsibilities for conformity checks and identifying potential criteria to guide decisions that allow a non-conforming project to proceed would support a more effectively tiered, accountable, and authoritative process for implementing thresholds identified within regional planning. However, given the barriers identified in the previous section, specifically those related to the hesitance towards placing limits on growth and concerns around political will, such changes are not enough. CE and sustainability literatures are instructive in this regard, highlighting that limits

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<sup>107</sup> One notable exception is the explicit attention the Metlakatla First Nation has paid to the use of structured decision-making as a guiding process for defining thresholds (Metlakatla Stewardship Society, 2019).

to human activities are more likely to be seen as acceptable – and therefore thresholds more implementable – if they require clear attention to trade-offs (e.g., between activities that aim to take up space within a threshold, between different objectives) (Kennett, 2006), especially trade-offs that are grounded in a sustainability agenda (e.g., activities that provide the greatest, mutually reinforcing contribution to sustainability criteria), guided by clear rules (R. B. Gibson et al., 2005; Morrison-Saunders & Pope, 2013).

### *8.3.2 Opportunity: Identifying roles for project-level assessment*

While further establishing landscape level and interim processes was identified by participants as a key opportunity critical to addressing CE in the case context, it is equally important to reconsider the question posed in 8.2.1: what purposes *can* project-level assessments serve in addressing CE, despite clear limitations? Though this was not a strong theme within the interview data, CE literature provides broad direction, noting the need to continue project-level assessments with an eye to consistently improving the approach in a way that reflects considerations central to CE (Sinclair et al., 2017). Gaps identified in Chapter 7 provide more specific guidance as to what this might look like.

One opportunity is improving integration between project assessments and processes where new knowledge and learning occurs (Sinclair et al., 2008). For example, experience with range assessment demonstrated the utility of regional, value-specific knowledge that translated well to the project scale. However, it is also apparent that when new knowledge is gained through one-off processes, its utility quickly fades. This furthers the need for improved integration between project assessments and processes such as section 110 monitoring. The case demonstrated the potential for more consistent and broader application of section 110 monitoring, as well as a need for establishing a clearer connection between the processes to build understandings of respective needs and outcomes. This is especially relevant in the context of ensuring the effectiveness of measures intended to mitigate adverse cumulative effects identified through assessment.

Project-level assessments can also more effectively utilize the sustainability lens embedded within its legislation, a principle that stems from the *UFA*. Doing so would encourage approaches to assessment that aim to maximize net benefits and adopt a longer-term, future-oriented approach (R. Gibson, 2006b). This is particularly relevant in the context of enhancing positive socio-economic effects, including cumulative effects (Atlin & Gibson, 2017). For example, such an

approach would be relevant in regions experiencing a concentrated pace and scale of development, whereby project level assessments can more effectively determine whether positive socio-economic effects (i.e., jobs) can practically be realized, especially within a regional context (e.g., whether there is a sufficient labour pool to realize local benefits when there are multiple large projects in a small geographic region).

Similarly, such an approach would better situate project-level assessments to consider positive and negative legacy effects impacting future generations (Atlin & Gibson, 2017). While YESAB has made it clear that it can only make determinations on *adverse* effects under its existing legislation, there is nothing preventing positive effects – including positive cumulative effects – from being a factor to be *considered*. A combination of the above opportunities would allow for an assessment process that more effectively meets expectations for a future-oriented, credible process that contributes to a sustainability agenda and establishes clear avenues for learning and integration.

### 8.3.3 Opportunity: Broadening understandings of co-governance arrangements

A central tension identified in the previous section is that the co-governance space that has been created through the current interpretation of the *UFA* is one that is grounded in the constitutional order, legal traditions, and laws of one governance system over another, establishing a narrow lens through which Indigenous governance systems are considered. This tension cuts across other barriers and opportunities. Effective co-governance arrangements are critical to the identification of thresholds that are based on the best available knowledge, including Indigenous knowledge, and there are opportunities for exploring new governance arrangements within various landscape-level processes, as well as the processes they are supported by (e.g., processes for identifying values and CE indicators to inform regional planning, interim processes for providing strategic level direction, processes for identifying thresholds).

As previously noted, co-governance literature has emphasized the need to ensure Indigenous rights and Indigenous governance are not displaced in the context of shared decision-making and management processes (Grey & Kuokkanen, 2019). Lessons from co-governance models have also drawn attention to the need for learning that challenges ways of knowing and being that are rooted in oppression, which requires making room “for a more generative space to emerge, where humility and truth and attention and resonance could create the conditions for deep listening and respect” (Jimmy et al., 2019, p. 92). In the case context, these lessons are critical to realizing

opportunities for co-governance arrangements that engage with Indigenous governance in its entirety. Two such opportunities are immediately apparent. First, non-Indigenous authorities should consider – with intention – what it means to create space for Indigenous law, legal traditions, and constitutional orders within existing approaches established through the *UFA* (e.g., regional planning, strategic level reviews) when a First Nation decides to bring them forth. Such consideration could apply to how decisions are made, who makes decisions, determination of temporal and geographic scope, etc. This also requires non-Indigenous authorities to consider what their responsibilities are as treaty partners to understand and learn to uphold aspects of a treaty and a treaty relationship that are defined by Indigenous partners. These aspects may be loosely defined within a treaty (e.g., way of life) or may not be explicitly laid out within a written agreement at all. As noted previously, there is ongoing work being carried out by TH that may contribute to TH-specific laws, understandings, or metaphors for guiding the relationship between TH and the Crown, which could play a central role in guiding co-governance approaches to addressing cumulative effects and associated governance structures. This opportunity is critical to realizing the *UFA* as a co-governance regime that intertwines branches from multiple trees, with the goal of peaceful co-existence.

The second opportunity is for non-Indigenous authorities to contemplate co-governance arrangements beyond the current approach. The current approach largely focuses on avenues for shared decision-making through arms-length, nominated authorities at regional scales (e.g., regional planning, land use/access management planning) and for consultation on a project-by-project basis (i.e., project-level assessment outside of Settlement land).<sup>108</sup> However, co-governance through Indigenous-led processes has been less frequently contemplated, at least publicly. Indeed, there have been examples of Indigenous-led regional planning, Indigenous-led assessments, and Indigenous-led monitoring – all core aspects of a CE framework – in multiple jurisdictions. It is worth noting that while there was not significant interview data related to this opportunity specifically, participants did identify that there may be opportunities for Indigenous-led processes that can contribute to CE management in general. Other governance arrangements

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<sup>108</sup> Shared authorities through participation in collaborative (though not decision-making) processes (e.g., co-management) are also included in the *UFA*, but are not addressed here.

(e.g., co-governed processes with fully delegated authorities and representative rather than independent members) also have yet to be fulsomely explored within the case context.

#### *8.3.4 Opportunity: Utilizing existing avenues for monitoring supported by collaborative resourcing options*

The opportunity for addressing data gaps is relatively intuitive; if data is lacking, then more data – and systems that support it - is needed. The need for specific attention to and investment in addressing key data gaps and robust monitoring systems has been recognized as a critical opportunity within CE literature (Parkins, 2011). Though there are a broad range of contributing factors required for this to be effective, such as effective data management and coordination (Kristensen et al., 2013), Chapter 7 demonstrated that, at minimum, there are existing opportunities in the case context to provide clear governance processes to ensure the credibility and influence of monitoring results on decision-making (Cronmiller & Noble, 2018). For example, if strategic level reviews under *YESAA* were to be implemented, then the body conducting the assessment/review could feasibly establish monitoring guidelines that are tied to the outcomes of that review. There is nothing to prevent regional planning commissions from doing the same. As the Minto Mine example demonstrated, section 110 monitoring can be used as a mechanism for multi-party, collaborative, long-term baseline data collection, as well as cumulative effects monitoring. Yukon First Nations are also developing monitoring programs, furthering the potential for improving the coordination of monitoring and monitoring data.

However, to realize these opportunities, capacity and resource issues must be addressed. New structures for monitoring and data management, as well as collaborative means of funding long-term monitoring work and short-term studies may be a response (Cronmiller & Noble, 2018). For example, the Minto Mine case demonstrated the potential for proponents and governments alike to jointly benefit from and pay for coordinated monitoring efforts. However, smaller-scale projects may be less capable of doing so. Consequently, exploring opportunities for regionally-based monitoring trusts, to which proponents, governments, and other parties may contribute may be worthwhile.



### 8.3.5 Concluding thoughts

The barriers to more effective approaches to addressing CE that were identified by participants in the case context align with similar barriers previously identified in the Yukon and across other jurisdictions. Reliance on project-level assessment, absence of targets or thresholds, inherent challenges tied to targets and thresholds, poor quality or non-existent data, and an absence of political will are all familiar stories, many of which are outlined in Chapter 3. However, some aspects of these barriers are specific to the case context, such as challenges related to the limited space that has been created for understanding Indigenous governance outside of those identified within the *UFA* and related agreements and legislation.

The analysis presented here also highlighted the mutually reinforcing nature of these barriers. For example, it is not just that thresholds do not exist, but that barriers to establishing thresholds are multiple, including poor implementation of necessary strategic-level processes, limits to data, and limited political will to make decisions that are inherently uncertain. These barriers also reinforced the understanding that CE are not solely technical in nature, which puts pressure on the governance processes through which credible decisions must be made and on the political will of the actors required to make these decisions. Such pressure is compounded further by the need to create space for multiple governance systems within those processes.

Opportunities for a more effective approach to addressing CE in the Yukon are characterized in two ways. First, there are opportunities to build upon and strengthen existing approaches (e.g., existing landscape-level and interim processes, existing assessment processes, existing monitoring processes) to build mutually reinforcing contributions to key criteria. There are also opportunities to draw on existing principles outlined in the *UFA* (e.g., sustainability, way of life) to advance their application. Second, there are opportunities to innovate outside of existing approaches. These opportunities include processes that can support and fill gaps within the *UFA* governance system, new approaches to co-governance arrangements, advancing understandings of Indigenous governance that exist outside of final and self-government agreements, and new collaborative approaches to funding arrangements, for example.

## Chapter 9: Conclusion

### **9.1 Introduction**

The primary research question driving this dissertation is as follows: How can decision-making structures and processes best be designed and used to address the overall cumulative effects of past, existing, and anticipated activities in the context of concern for sustainability and shared authorities involving Indigenous and non-Indigenous decision-makers? To explore this question, I focussed on the Yukon, looking specifically at mining in Tr'ondëk Hwëch'in traditional territory and the CE issues dominant within this area as a case study. This case study centred on exploring the approaches and associated governance structures intended to address CE and associated impacts, a context that has been shaped in part by modern treaties (including the *Tr'ondëk Hwëch'in Final Agreement*, *Tr'ondëk Hwëch'in Self-Government Agreement*, and, by extension the *Umbrella Final Agreement* and related legislation).

I have explored the above research question, as well as four related research objectives, over the course of eight chapters. My first research objective was to explore the nexus of three bodies of literature – sustainability assessment, co-governance involving Indigenous and non-Indigenous authorities, and CE assessment and management – to identify a suite of overlapping generic criteria that will form the basis of a sustainability-based CE framework that meets expectations for co-governance. I addressed this objective in Chapter 3, where I identified key criteria and lessons learned within the three bodies of literature. The resulting consolidated framework included three main categories of criteria (including normative, substantive, and governance criteria), as well as nineteen specific, inter-related criteria. Together, these criteria form a framework that supports the evaluation of how approaches to CE and associated governance structures are designed and implemented.

My second research objective was to clarify how the current co-governance context related to natural resource management in the Yukon and TH traditional territory has been constructed and identify existing issues and processes related to CE within that context. Chapter 4 addressed the first component of this objective by drawing on the metaphor of a tree to characterize broadly the shifting governance landscape leading up to the signing of the *UFA*, as well as the interconnected systems and interactions (including lifeworlds, constitutional orders, governance bodies and

processes, outcomes, and supporting systems of ideas and values) that shaped this landscape. This provided a useful starting point for describing the current co-governance regime, its relationship to pre-*UFA* governance, and the implications of this relationship for the implementation of a co-governance regime in which cumulative effects are addressed. I also outlined the general components of the current approach to co-governance in the region. This general approach was clarified further in Chapter 5, where I described the role of specific processes and structures – within and outside the *UFA* - in addressing CE. I also identified key cumulative effects and impacts that practitioners and decision-makers are grappling with in the case study area.

My third research objective was to specify the generic framework to the case context and analyze the ways in which current decision-making structures and processes relevant to addressing CE in the Yukon and TH traditional territory meet and/or fail to meet the specified criteria. The specification of the generic framework was addressed in Chapter 6, where I described how the various criteria fit within the context of the case study area, resulting in the emphasis, elaboration, and combination of various criteria to reflect interview and document analysis data, as well as characteristics of the case context. I then applied this specified framework to the specific processes and structures – within and outside the *UFA* – relevant to addressing CE in the case study context, highlighting the extent to which various criteria have been met.

My fourth research objective was to evaluate options to respond to identified deficiencies and clarify changes required where expectations are not being met. I addressed this objective in Chapter 8, where I identified six barriers and four opportunities for advancing more effective approaches to CE in the case context. My final research objective is to identify implications for theory, practice, and the case context, which is the focus of this chapter. In this chapter, I review key findings, identify limitations to these findings, identify key implications, and outline areas for future research.

## **9.2 Summary of key findings**

The key findings from this research are considered here according to the four sub-questions identified in Chapter 1.

1) *What understandings can be drawn from literatures on co-governance and sustainability that expand, clarify, or otherwise influence options for responding to limitations within cumulative effects literature and practice?*

Key limitations within CE literature and practice imply that core criteria and lessons learned within related bodies of work that pay explicit attention to specific areas of interest may be instructive. For example, current practice within CE assessment and management has largely failed to reflect purposes and criteria for sustainability. As well, CE literature has largely ignored the specific requirements associated with shared governance arrangements, especially within the context of modern treaty implementation.

The integration of literature that was required to establish the consolidated framework laid out in Chapter 3 proved to realize the significance of sustainability and co-governance literatures for key gaps within CE literature and practice. The sustainability literature provides critical elaboration of what it means to establish a sustainability purpose and provides a useful orientation towards emphasizing positive contributions to lasting wellbeing (R. Gibson et al., 2020). Given the multiple ways in which a sustainability agenda can be co-opted towards less ambitious approaches, this emphasis is central to CE assessment and management. Sustainability literature also clarifies requirements for what a sustainability purpose looks like in practice, including concrete substantive elements, such as trade-off rules (R. Gibson et al., 2015; Morrison-Saunders & Pope, 2013). This direction provides a critical bridge between processes that commit to sustainability in theory and what it looks like on the ground, which is essential for regional and strategic level processes for addressing CE that have often struggled with the implementation of sustainability purposes and criteria (Atlin & Gibson, 2017; Noble, 2009).

Lessons from experiences with various models of co-governance were similarly significant to informing gaps within CE literature a practice. Models of co-governance (e.g., two-eyed seeing, the Two Roads approach, the Two Row Wampum approach, braiding law, braiding brick and thread sensibilities) offer opportunities for shifting dominant approaches within natural resource management that have often struggled to overcome their persistent exclusion of Indigenous authorities and communities (Bartlett et al., 2012; Fitzgerald & Schwartz, 2017; Jimmy et al., 2019; Simmons et al., 2012; T'hohahoken Michael Doxtater, 2011). Yet, challenges persist, and experiences have highlighted the consistent centering of Western governance frameworks and

maintenance of meaningful authority in the hands of the Crown (Diver et al., 2019; Dodson, 2014; Te Aho, 2010). Centering and learning from these challenges are critical to advancing approaches to CE that involve Indigenous and non-Indigenous authorities. Experience has also identified the overarching need to ensure Indigenous rights, responsibilities, and governance are not undermined (Grey & Kuokkanen, 2019), which provides an important litmus test to guide CE literature and practice.

*2) How can these understandings be integrated into a generic framework of criteria for the development and application of sustainability-based approaches to CE in a co-governance context?*

The above insights from sustainability and co-governance literatures had meaningful implications when translated to a consolidated framework of criteria for sustainability-based approaches to CE co-governance. The process of integrating the three bodies of literature identified areas of overlap, which illuminated the multi-dimensional nature of these cross-cutting criteria. This was illustrated, for example, by the different approaches to learning that were identified across the literatures.

The consolidated framework also identified areas of divergence, and the addition of new criteria had implications for how other criteria were in turn understood and elaborated. This elaboration of criteria occurred within all elements of the consolidated framework, including normative, substantive, and governance criteria. Co-governance literature highlights important blind spots and underlying assumptions, especially within the understanding and implementation of various normative criteria. Attention to these blind spots and assumptions is instructive in navigating persistent challenges identified across all three bodies of literature; namely, the struggle to address entrenched power dynamics and authorities and centering of dominant worldviews and governance frameworks. New responsibilities are also identified within specific normative criteria, especially on the part of non-Indigenous authorities (e.g., responsibilities for learning that challenges ways of knowing and being that are rooted in oppression), and the meaning of key criteria are clarified (e.g., what it means to adopt a sustainability agenda).

The substantive elements of the consolidated framework are sufficiently broad as to be generally applicable, although both co-governance and sustainability literatures provide direction for how they can be elaborated and implemented, including for application in particular cases. The

governance criteria identified by sustainability and CE literatures generally align, though experience with approaches to co-governance highlight the need for potentially new governance capacities, especially on the part of non-Indigenous authorities (e.g., the capacity to create philosophical and political space to collaborate with Indigenous nations as self-determining).

Given the above findings, the process of integrating key criteria and lessons learned from CE, governance, and sustainability literatures resulted in a novel framework for developing and applying sustainability-based approaches to CE in a co-governance context. Without the integration of these literatures, persistent challenges, needs, uncertainties, and blind spots within these approaches and their associated governance structures would likely go unaddressed. While the criteria within the consolidated framework are complex and numerous, all three literatures emphasize the need to respect the context of particular applications. Specifying the framework to a particular context may result in potentially unique combinations of criteria, which reflects their interacting and overlapping nature.

*3) What are the implications of applying the above framework to approaches aimed at addressing CE in the context of modern treaties and non-renewable resource extraction in the Yukon, and TH traditional territory specifically?*

The implications of applying the above framework to the case context are best understood in three stages: implications for understanding the case context, implications for how the framework should be specified to the case context, and implications for how approaches aimed at addressing CE and their associated governance structures in the case context have been designed and implemented. First, the application of the framework to the case context has implications for how that context is understood. Key understandings from the co-governance literature that informed the consolidated framework emphasize the need to ensure Indigenous rights, responsibilities, and governance are not undermined. For that to occur, Indigenous governance must exist within its entirety, in its own philosophical context, with the goal of understanding and finding equity within distinctiveness (Bartlett et al., 2012; Bowie, 2013; Castleden et al., 2017; Harmsworth et al., 2016; Hatcher et al., 2009; Hill & Coleman, 2019; Jimmy et al., 2019; Lyons, 1986; Simmons et al., 2012; Williams, 2004)

I operationalized this direction by drawing on and adapting concepts put forward by Tr'ondëk Hwëch'in, Aaron Mills', and other legal scholars to inform how the governance landscape within

the case context could be understood, using the metaphor of a tree. This metaphor fit well with the goal of understanding and respecting distinctiveness, as it comes with the understanding that “no two trees are the same even if they’re both white birch, the same age, and growing right next to one another” (Mills, 2016, p. 863). The application of this metaphor highlighted how the changing governance landscape within TH traditional territory – including long-established TH systems of governance, the imposition of a settler governance system, and the relationship between these systems leading up to the *UFA* – are outcomes inherently tied to interconnected systems of ideas and ways of being and knowing. Understanding these connections were especially important because they often go unseen and unchallenged, further contributing to the continue centering of Western governance frameworks as the norm.

A key implication of this understanding is that the system of governance represented within the Tr'ondëk Hwëch'in final and self-government agreements is only one component of TH governance. This finding proved to be critical to how the consolidated framework would be specified and applied (see below). Another key implication was the inherent tensions between governance systems reflected in the *UFA* and associated agreements. For example, this tension is witnessed in the relatively limited delegated authority to governance bodies (and related centralization of authority by the Crown) alongside principles such as recognizing and protecting First Nation relationships with the land, which invoke the Yukon First Nation governance regimes in which those principles are clarified and embedded. Highlighting this tension at the outset, as a component of the case context, proved to be a valuable lens for analysis, and subsequently highlighted an important barrier to the design and implementation of approaches to CE and their associated governance structures (see below).

Another aspect of understanding the case context was exploring the types of cumulative effects and impacts associated with mining in the case study region. Given the nature and type of CE that were described, the analysis identified the need for approaches that pay attention to future-oriented and landscape-level thinking, the pace and scale of development, and legacies. The analysis also identified that the cumulative impacts associated with CE in the region were wide-ranging in the types of values potentially impacted and demonstrated interactions across values. In addition, some impacts that were described aligned with values explicitly laid out within TH's Final Agreement (e.g., impacts to TH's Aboriginal and treaty rights), while others aligned with TH

governance more broadly (e.g., impacts to TH's ability to carry out responsibilities to the land according to TH law). These findings further reinforced the need for CE approaches and associated governance structures that pay particular attention to sustainability-oriented and co-governance criteria, as represented within the consolidated framework.

Second, the application of the framework to the case context has implications for how criteria are understood within that context. While models of co-governance and sustainability criteria can be broadly understood, both bodies of literature emphasize that context-specific specification is critical to avoid assumptions of homogeneity and ensure core sustainability-related issues are reflected (R. Gibson, 2011; R. Gibson et al., 2005; Hill & Coleman, 2019). The specification of the consolidated framework to the case context, in particular the context of non-renewable resource extraction and modern treaties, meant specific emphasis was placed on some criteria, and others were clarified and elaborated. The modern treaty context provided additional emphasis on certain criteria, often explicitly within the principles and rights identified throughout the *UFA* and related agreements (e.g., public participation, sustainable development, harvesting rights, peaceful use and enjoyment of Settlement land). Other aspects of the modern treaty (e.g., components related to TH self-government, principles such as way of life for First Nations) provided elaboration to better understand how key criteria – in particular meaningful engagement with Indigenous nations and self-determination – were operationalized and understood within the case context. However, it was also emphasized that these criteria should be understood in the broader context of TH governance and are not solely represented by those components currently written within TH final and self-government agreements.

Third, the application of the framework to the case context has implications for understanding how approaches aimed at addressing CE and their associated governance structures in the case context have been designed and implemented. The analysis found that the *UFA* governance regime establishes the scaffolding or broad design through which substantive criteria might be met by laying out a tiered planning and assessment regime and avenues for project and (possibly) strategic level assessments, CE studies, and monitoring. The fact that this structure has been established is in itself a strength of the existing approach that can be capitalized on, as will be explored below in the context of the final research question.



To varying degrees, the *UFA* governance regime lays out some capacity for meeting normative and governance criteria as well. It builds opportunities for meaningful engagement with affected Indigenous nations as decision-makers, self-determination, and sustainability through the recognition of rights (e.g., harvesting rights), authorities (e.g., nomination of members to governance bodies, decision-making on Settlement versus non-Settlement land), and key principles (e.g., way of life, sustainable development). It also identifies opportunities for collaboration and mechanisms for tiered application.

However, the analysis also highlighted the inherent limits in how the *UFA* governance regime has been designed as an approach to addressing CE. In some cases, factors that limited the ability of these approaches and associated governance structures to meet certain criteria - including meaningful engagement, self-determination, integrated and tiered application, credibility, accountability, and means of ensuring compliance – have been explicitly written into the *UFA* and related legislation.

The implementation of these approaches and key criteria has also been limited, and in some cases non-existent. In other words, even where attention to specific criteria – including normative criteria (e.g., sustainability purpose) and substantive criteria (e.g., strategic level direction) – has been committed to within the *UFA*, this has not translated to implementation. Possible explanations tied to poor implementation are addressed further below, under the next research question. It is worth noting that where implementation has occurred, examples of innovative approaches have been apparent, contributing to their ability to meet expectations for meaningful engagement, self-determination, future-oriented processes, and a sustainability purpose. These approaches are especially significant given the nature of CE and their associated impacts tied to non-renewable resource extraction in the case study area, which underscore the importance of these criteria specifically.

Perhaps in light of slow/non-existent implementation of key processes within the *UFA* governance regime, interim approaches relevant to addressing CE outside of this framework have emerged. Though analysis of these processes was limited, the application of the framework did demonstrate their potential to address existing gaps within specific criteria. However, further evidence on their ability to meet a broad range of criteria is necessary.

In summary, the application of the criteria to the case context provided key insights where the design of current approaches to addressing CE and associated governance structures have succeeded and struggled, as well as where the implementation of these approaches has succeeded and struggled. The significance of these insights is underscored by the need for greater attention to understanding co-governance arrangements and implementing sustainability purposes within CE literature and practice. They are also underscored by the cumulative effects and associated impacts that continue to be grappled with in the case context.

*4) What in principle and practice are the main opportunities for and barriers to co-governance approaches to cumulative effects and sustainable futures in the Yukon (and perhaps elsewhere)?*

The barriers to more effective approaches to addressing CE that were identified in the case study context were in many ways similar to barriers experienced in other jurisdictions. Reliance on project-level assessments, absence of regional/strategic level processes and thresholds, a lack of data, limited capacity and resources, limited political will, and various regulatory and legislative challenges have consistently been identified within CE literature and practice (Acharibasam & Noble, 2014; Arnold et al., 2019; Duinker et al., 2013; Duinker & Greig, 2006; J. Gunn & Noble, 2009b; Harriman & Noble, 2008; Jones, 2016; Stinchcombe & Gibson, 2001). Many have also been previously identified within specific Yukon contexts (Francis et al., 2013; Francis & Hamm, 2011; SENES Consultants Limited, 2009; Yukon Placer Secretariat, 2017).

One area of departure from the CE literature was the identification of barriers related to the differences between governance systems, differences made significant through the concentration of power and authority by one party (non-Indigenous authorities). In addition, a critical finding was better understanding the mutually reinforcing and cross-cutting nature of these barriers. For example, in addition to the limited capacity and resources for processes such as data collection and monitoring, it is equally as critical that co-governance efforts often require additional specific capacities and resources (e.g., political space, human resources), especially when multiple legal traditions are involved (Bowie, 2013; Diver et al., 2019; Harmsworth et al., 2016; Latta, 2018; Te Aho, 2010).

In some cases, the underlying factors that contributed to these barriers have been well-established within CE literature, such as critiques that have been raised with current approaches

to CE that mask political and ethical choices as purely technical (Jones, 2016). Other factors are more context specific. For example, the failure to make space for multiple governance systems was underscored by the fact that approaches to CE often focussed specifically on engaging with aspects of the TH governance system that are concretely defined within Final Agreement and Self-government Agreement, resulting in a disconnect with the components of TH governance that are either loosely defined within the agreements or exist outside of those agreements entirely. These findings further emphasized the utility of a consolidated framework for evaluation of approaches to CE that draws on multiple areas of understanding.

The opportunities for more effective approaches to CE in the case context also emphasized the utility of the consolidated framework. Several opportunities, such as landscape-level processes, attention to thresholds, roles for project-level assessment, and existing avenues for monitoring, require building on the key strengths of existing approaches identified in the application of the framework.

Conversely, other opportunities are intended to address the relative weaknesses identified in the application of the framework. For example, there are key opportunities to advance current approaches to sustainability, specifically within project-level assessment and within approaches to thresholds identified through landscape-level and interim processes. There are also key opportunities to broaden understandings of co-governance arrangements that more effectively consider the entirety of TH governance. For example, to date, the governance structures of interim processes (e.g., range assessment, land use and access management planning) have either not been co-governed or have mirrored the governance structure dominant within the *UFA*, which largely relies on governance bodies with appointed, independent membership and limited delegated authority, where decision-making by respective Crown and Indigenous governments is largely determined by Settlement versus non-Settlement land designations. There has been relatively little evidence of interest in exploring alternative structures or approaches. In both cases, these opportunities are cross-cutting; they can take multiple forms, can occur across multiple processes, and are intended to address mutually reinforcing criteria.

### 9.3 Limitations to findings

There are several limitations to the above findings. First, it is the result of research conducted with one First Nation. It cannot claim to be fully representative of the broad range of experiences, governance arrangements, and historical, cultural, and political contexts that exist within the Yukon, let alone within Canada or internationally. For example, this work focussed in part on the governance regime established through *Umbrella Final Agreement* and related legislation, therefore excluding the three non-signatory First Nations and the multiple Indigenous authorities whose traditional territories cross provincial/territorial boundaries. Though similarities with other regions undoubtedly exist, findings should not be treated as universal.

The research was also limited in many cases by an absence of publicly available materials, especially in cases where processes are still unfolding or where confidentiality is required. In addition, the breadth of analysis undertaken in this research – cutting across multiple bodies of theory and multiple governance processes and structures – consequently limits the depth of analysis. Finally, current findings in these matters are limited by the pace at which change occurs within the case context and within the processes described here. Even over the course of writing this dissertation, the case context has noticeably shifted. Eventually, a line must be drawn, after which point new developments cannot be reflected within the analysis.

### 9.4 Implications for theory, for practice, and for the case

The findings outlined above have implications for theory, practice, and the case context, though in many ways differences among the three are blurred.

#### 9.4.1 *Implications for theory*

The findings of this research broadly highlight the centrality of evaluating the design and implementation of approaches to CE and associated governance structures through an approach that is informed by co-governance and sustainability literatures. As the consolidated framework applied in this research demonstrated, this combined lens can inform the criteria that guide evaluation, understandings of the contexts in which CE approaches are embedded, and analysis of current approaches to CE. In particular, co-governance literature highlights key blind spots and underlying assumptions that may otherwise go unnoticed, new ways of understanding long-established criteria, and possibilities for navigating persistent challenges within CE literature.

Sustainability criteria similarly highlight shortcomings of dominant approaches to sustainability as typically failing to emphasize mutually reinforcing contributions to lasting wellbeing, which can inform how CE literature understands and operationalizes the concept. This is especially important where CE practice has had a tendency to focus on biophysical impacts alone (Atlin & Gibson, 2017).

More specifically, the findings of this research draw attention to the importance of the governance structures associated with CE approaches. While CE literature has drawn attention to the specific processes associated with CE approaches, such as strategic/regional assessments, planning, and monitoring, questions have also been raised about the extent to which these approaches can also ensure Indigenous rights and governance are not undermined. The findings of this work highlight the need for explicit attention to governance structures involving Indigenous and non-Indigenous authorities, and the need to interrogate the systems and interactions that may be implicitly invoked in their design and implementation. This is especially important because, as the research demonstrated, inherent tensions between governance systems can be an important barrier to the design and implementation of approaches to CE.

The findings of this work also emphasize the importance of specifying criteria for evaluating CE approaches to the case context. Specifying criteria allows for clarification and elaboration in key areas. This specification should be made in light of the governance context (e.g., a modern treaty), as well as in light of key sustainability issues (e.g., the nature and type of CE associated with mining).

#### *9.4.2 Implications for practice*

The implications of this research for theory are mirrored in their implications for practice. In the same way that CE literature is strengthened in learning from co-governance and sustainability literatures, so too is CE practice. This was broadly demonstrated, for example, in chapter 8, where explicit attention to co-governance and sustainability dimensions informed understandings of barriers and opportunities for more effective approaches to addressing CE. There are four more specific areas where the findings from this work can inform CE approaches and associated governance structures.

First, while a sustainability agenda necessitates attention to broad range of cumulative effects, impacts, and values, as well as the interactions between them, this scope can be challenging to feasibly implement through individual approaches to CE, such as regional planning. This is particularly the case where resource and capacity constraints exist. However, as the research demonstrates, well-integrated interim approaches may play a critical role in supporting more comprehensive, time-consuming processes for providing strategic level direction.

Second, in-depth explorations of specific co-governance arrangements and their potential for meeting the criteria laid out in the consolidated framework are still required. The findings summarized here present an initial case for a specific type of governance arrangement (i.e., governance bodies with appointed, independent membership and limited delegated authority, decision-making determined in part by Settlement versus non-Settlement land designations), though they cannot be described as in-depth. The analysis demonstrated potential strengths of these arrangements in their ability to meet expectations for core criteria, namely in their recognition of authorities and rights explicitly laid out within the *UFA* and related legislation or agreements. However, the relationship between these specific governance arrangements – as well as others not included in this research – and their ability to create space for a more fulsome understanding of Indigenous governance that encompasses dimensions within and outside of a modern treaty, and may challenge the dominant constitutional order and lifeworld, was less clear and warrants further attention.

Third, the application of the consolidated framework demonstrated the need for attention to areas where shifts in practice can contribute to meeting mutually reinforcing criteria across multiple approaches to CE. While analysis of approaches to CE have often focussed on a single component of a governance system, such as regional planning or monitoring, attention to multiple processes highlights the ways in which building criteria within one area can contribute to building or undermining effectiveness in other areas. Similarly, barriers and opportunities for more effective approaches should be seen as mutually reinforcing; attention to one area may require understanding others.

Fourth, while the consolidated sustainability-based CE framework that meets expectations for co-governance will have to be specified to cases and places in order to be put into practice, potentially resulting in unique combinations of criteria, this process first requires knowledge

translation. Although the consolidated framework does draw on practice-based experiences and grey literature, the language used is predominantly academic. Application outside of the academy may require a more consolidated approach to criteria, different language, different means of communication, and clearer direction on how and where the framework should be specified and applied.

#### *9.4.3 Implications for the case*

Specific implications of the findings from this research point to areas of success and areas of limitations within the current approaches to addressing cumulative effects and associated governance structures in the Yukon. Key challenges were identified throughout chapter 7, and barriers and opportunities specific to the case context were identified in chapter 8, which can all inform future approaches to CE.

In addition, the actual and potential limitations of the co-governance arrangements established through or tied to the *UFA* and related legislation/agreements have broader implications for the case. This research highlighted inherent tensions within modern treaties in the Yukon, tensions that pre-dated the signing of the *UFA* and are tied to core components of the dominant governance system. These limitations are perhaps unsurprising given critiques of modern treaties in general for narrowly interpreting Indigenous jurisdiction over lands and resources (King & Pasternak, 2018), assuming Crown sovereignty and failing to recognize Indigenous sovereignty or self-determination (Grand Chief Arlen Dumas in Mihychuk, 2018), and continuing to adopt an “infringe and justify” approach to Aboriginal and treaty rights (Christie, 2005).

Whether these critiques are inherent to modern treaties or are matters of how they are interpreted is important, especially given understandings of how historic treaty interpretations should evolve. “Living tree jurisprudence” – in which historic laws and events are interpreted in the context of present-day understandings – is an approach widely adopted regarding the Canadian Constitution (Borrows, 2017). Within this line of reasoning, “historical understandings are thought to be a ‘floor’ for interpretation rather than a ‘ceiling’ for understanding rights. Historical intent provides an entry point for interpreting the law, but it does not represent its end point” (Borrows, 2017, p. 125). This begs the question of what it would look like for a modern treaty to similarly evolve in understanding.

The currently unimplemented potential of modern treaties in the case context may offer the opportunity to test this question. This potential speaks to both questions of co-governance and sustainability, and currently lies primarily within the core principles laid out within the agreement, in particular concepts of sustainable development, wellbeing, and way of life. At present, these concepts are being implemented in only limited ways under specific circumstances. There are significant opportunities for the processes and structures through which CE are addressed to ask what it means to truly realize their potential and, in doing so, more effectively address the types of CE and associated impacts that have been raised as concerns within the case context. For example, TH has undertaken ongoing efforts related to the expression of TH laws and principles and in at least one case – regional planning – has brought forth these laws within processes for addressing cumulative effects. If TH chooses to continue expressing these laws – and indeed, the entirety of the TH “tree” of governance – within processes for addressing CE, there are a wide range of possibilities for implications (e.g., considering approaches to governance structures that reflect TH’s constitutional order and lifeworld; considering what the principles of Tr’ëhudè, such as reciprocity and legacy, mean in the context of the substantive elements of processes for addressing CE, such as setting strategic level direction).

However, it seems unlikely that the potential for modern treaty implementation to be enacted as a living tree in the case context will be realized if practice continues to rely only on outdated conceptualizations of sustainability and those components of Indigenous governance that fit within dominant constitutional orders and lifeworlds. However, if understandings of these concepts are allowed to evolve, if non-Indigenous authorities further undertake work required to develop capacities for co-governance, and more ambitious interpretations and applications of sustainability are pursued, then their connections to broader understandings of sustainability and Indigenous lifeworlds, constitutional orders, laws, and governance systems generally may be established.

Perhaps the simplest implication of this work for the case context is that the nexus of these issues is unlikely to go away in the near future. A broad range of CE and associated impacts were raised in the case context, and while some may be addressed or partially addressed in the near future by ongoing processes, it is unlikely that all will be addressed. At the time of writing, a court decision in British Columbia underscored this point. The judge in the case found that,



In causing and/or permitting the cumulative impacts of industrial development on Blueberry's treaty rights, the Province has breached its obligation to Blueberry under Treaty 8, including its honourable and fiduciary obligations. The Province's mechanisms for assessing and taking into account cumulative effects are lacking and have contributed to the breach of its obligations under Treaty 8 (*Yahey v. British Columbia*, 2021, para. 1894)

For those CE and impacts that are unlikely to be addressed in the case context in the near future, it is clear that innovative approaches informed by sustainability and co-governance criteria will be critical. To this end, it will be critical to understand how interim approaches and supporting processes for addressing CE – including those within the existing governance framework and opportunities for Indigenous-led processes – can be better integrated into the existing governance system to meet core criteria in the case study region and the Yukon. It will also be critical to capitalize on existing avenues through which core and specified criteria might be met, potentially in new and creative ways.

## 9.5 Directions for future research

Three key areas for future research are apparent based on the findings of this work. First, there are clear opportunities to provide a more in-depth analysis of existing governance arrangements associated with approaches to addressing CE in the Yukon and the extent to which their core characteristics lend themselves to meaningful co-governance and sustainability-oriented outcomes. There is substantial nuance within the Yukon alone that offers opportunity for such analysis, including those arrangements clearly laid out within the *UFA*, those established through government-to-government agreements but nonetheless tied to the *UFA*, those involving industry organizations, etc. There are also substantial opportunities for comparative work outside of the territory; for example, exploring differences between independent versus representative governance bodies or varying degrees of delegated authorities.

Second, there are opportunities to explore the strengths and limitations of interim approaches to addressing CE in the absence of authoritative and credible processes for establishing strategic level direction. Of particular interest is their potential for adopting innovative approaches in contexts where limitations are explicitly written into legislation. In the Yukon, the relationship between such interim processes and the established governance regime will also be an important area of learning, especially in light of the overarching need for integration.

Third, the relationship between Indigenous-led processes and co-governance processes within a modern treaty context offers an important area of learning. As previously noted, Indigenous-led planning is underway in the Yukon, but this relationship has yet to be fleshed out. Additional opportunities exist throughout the governance system. For example, understanding Indigenous-led assessment processes or Indigenous-led monitoring programs and their respective relationships to those assessment and monitoring processes established through the *UFA* that involve those same Indigenous authorities may provide valuable insights relevant to the case context and other regions addressing similar issues.

Fourth, the consolidated framework outlined here may be applied to other jurisdictions where attention to sustainability purposes, cumulative effects, and decision-making involving Indigenous and non-Indigenous authorities is required. This application would necessarily require further specification to case and context, which may illuminate additional insights for theory and practice. Moreover, it would further test the applicability of the framework to various governance arrangements and sustainability issues.

## **9.6 Concluding thoughts**

This dissertation began with a quote from a Tr'ondëk Hwëch'in submission to the Yukon Water Board, which linked three key concerns: non-renewable resource development on Indigenous homelands; complex sustainability problems spanning broad geographic and temporal scales, represented by issues of cumulative effects; and co-governed decision-making structures and processes grounded in a modern treaty. As the previous eight chapters have demonstrated, the nexus of these concerns is a central issue for designing and implementing approaches to addressing cumulative effects. The process of establishing a sustainability-based CE framework that meets expectations for co-governance revealed and demonstrated the significance of this combined lens as a contribution to theory. While further efforts are required to translate and specify this framework for many practical applications, the criteria nonetheless remind players in specific cases and places of considerations often found to be important where a similar nexus of cumulative effects, sustainability, and co-governance issues are found.

The specification and application of the framework to the Yukon and Tr'ondëk Hwëch'in traditional territory context provide important direction for future application and research to the parties and

practitioners engaged in addressing cumulative effects. While many of the challenges and opportunities within this case context are familiar to other jurisdictions, there are also unique dimensions that require specific attention, including the governance context of a modern treaty. Returning to the tree metaphor referenced throughout this dissertation, the tree or perhaps the forest that will make up the *UFA* governance regime going forward is still growing. The processes and actors working to address cumulative effects within that regime shape and are shaped by that growth. It will be central to the pursuit of sustainability and co-governance that this growth continues.

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## Appendix A: Terminology

I am writing this dissertation with the understanding that language does not exist in a vacuum. Language is tied to historical and cultural contexts and often communicates more than a definition may initially imply. For that reason, it is important to clarify some of the language I use to ensure readers are equally cognizant of what is being communicated.

*Governance and natural resource management:* Using the same term to describe different contexts is problematic when that term has different connotations. For example, I use the term “governance” to refer to “structures and processes by which people in societies make decisions and share power” (Folke et al., 2005). In the context of Indigenous governance, Ladner defines this as “the way in which a people live best together” (Ladner, 2003, p. 125), which may encompass a broader or different set of considerations. I also use the term “natural resource management”, which is consistent with much of the academic and grey literature related to sustainability and cumulative effects, but has also been widely critiqued by Indigenous and non-Indigenous scholars and peoples, including in the Yukon.

*Indigenous:* The term “Indigenous” is used throughout this paper, except when the name of a specific Indigenous peoples is used (e.g., Tr’ondëk Hwëch’in) or in reference to a policy or legal context in which “Aboriginal” is the dominant terminology (e.g., Aboriginal rights). Because the focus here is on the Canadian context, this definition includes First Nations, Inuit, and Métis peoples. There is a great deal of complexity and diversity within and between Indigenous peoples in Canada, to which the generalizations presented in this dissertation cannot do justice.

*Land:* For those unfamiliar with references to “the land”, it is used here as a shorthand for not just physical land, but everything that it encompasses, including water, biota, and biophysical relations.

*Modern treaties versus land claims versus final agreements:* While modern treaties are also referred to as comprehensive land claims agreements, for the sake of consistency I use the term modern treaties, except in cases where I refer to either the *Umbrella Final Agreement* or specific Final and Self-government agreements.

*Settler:* I draw on Mills’ explanation of this term, who describes it as referring to those

whose creation stories place them beyond Turtle Island but who've settled here...what matters is the necessity to account for one's presence in place. This place is Turtle Island, and it has been home to distinct Indigenous peoples since time immemorial. Thus *settler* isn't a pejorative. It identifies distinct political statuses here, correlative to the need for non-Indigenous peoples to account for their presence in Indigenous peoples' spaces. Belonging is a function of this accountability (Mills, 2018, p. 161).

*State versus Crown:* The "state" in northern Canada is uniquely complex (Abele, 2009). For the sake of this dissertation, I oversimplify this complexity and use the term State or State authorities to refer to territorial and federal governments. In the Yukon, since devolution of lands and resources in in 2003, the State refers primarily to the territorial government, though the federal government has retained authorities in various regards. In the context of legal authorities, I often use the term Crown (e.g., the honour of the Crown), which – in the Yukon – also typically refers to federal and territorial governments.

*Yukon versus the Yukon:* While the official title<sup>109</sup> for the territory is simply "Yukon", out of respect for local parlance "the Yukon" is used here.

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<sup>109</sup> At the time of writing, there is indication that the official title will revert to "the Yukon" in the near future.

## Appendix B: Semi-structured interview guide

Your participation is voluntary, and you can stop the interview for whatever reason at any time.

You also do not have to answer any questions you do not want to answer.

1. Why is it important to address the cumulative effects of mining in the Yukon?
2. How are CE currently addressed in the Yukon:
  - a. What role does environmental assessment play in addressing cumulative effects in the Yukon?
  - b. What role does land use planning play?
  - c. Are there other processes that play an important role in addressing cumulative effects in the Yukon?
3. The Yukon is unique in that it has modern treaties that influence how decisions are made about lands and resources. What influence does the UFA and related final and self-governing agreements have, if any, on how cumulative effects are addressed?
4. What are the major cumulative effects concerns related to the Dawson Range/White Gold District (*show on map*)? Why are they important?
5. How are these concerns currently being addressed, if at all?
  - a. *[If they are being addressed]* What has worked well? What has not worked well?
  - b. *[If they are not being addressed]* Why do you think they are not being addressed?
6. What are your expectations for decision-makers in addressing cumulative effects?
7. How far ahead should we be looking in planning and assessment discussions?
8. What are the major barriers to addressing cumulative effects in the Yukon?
9. Are there opportunities to change how cumulative effects are addressed?

## Appendix C: Research agreement with Tr'ondëk Hwëch'in

**RESEARCH AGREEMENT BETWEEN  
TR'ONDËK HWËCH'IN AND KIRI STAPLES (UNIVERSITY OF WATERLOO)  
FOR THE EXECUTION OF THE PROJECT "ADDRESSING THE CUMULATIVE EFFECTS OF RESOURCE  
DEVELOPMENT IN THE CONTEXT OF CO-GOVERNANCE"**

*October 16, 2018*

### **Background**

The structures and processes for making decisions about natural resources (or their governance) have often struggled to address the cumulative effects of resource development. The assessment and management of cumulative effects are especially important for First Nations people and their communities. This is because, first, cumulative effects combine all past, present, and future impacts that have affected or may affect their way of life and the social, economic, and cultural conditions of their communities. Secondly, these effects occur at a regional scale across their traditional territories, impacting the lands, waters, and resources they depend upon. In the Yukon, the governance of natural resource development requires territorial, federal, and self-governing First Nation authorities to work together in making decisions about resource development, through processes such as land use planning and environmental assessment. However, these processes continue to struggle with effectively addressing cumulative effects.

In this research, I am hoping to explore the governance challenges of addressing cumulative effects, particularly as they impact Yukon First Nations communities. In other words, what are the challenges of assessing, managing, and monitoring cumulative effects in the Yukon that face territorial, federal, and self-governing First Nation authorities? There are four main research questions that will drive this research:

1. What are the characteristics of a sustainability-based cumulative effects framework that meets the expectations for co-governance, with particular concern for non-renewable resource development?
2. What are the characteristics of the current approach to addressing cumulative effects of resource development in the Yukon, with particular attention to the context of modern treaties in the region? What expectations and ideas do the governing authorities in the Yukon have for how decisions should be made about cumulative effects? What expectations do they have for one another?
3. How does the current decision-making structure in the Yukon meet the expectations established in the previous section?
4. What change is required for a governance system that effectively addresses cumulative effects and the concerns raised by governing authorities?

This research will focus on non-renewable resource development in central Yukon, looking at placer mining, quartz mining, and road developments specifically and their associated cumulative effects.

### **Purpose of this Research Agreement**

This Research Agreement (RA) between Tr'ondëk Hwëch'in (TH) and Kiri Staples identifies the plans for the research project, and sets forth the working relationship between, and obligations of, the two parties. Given that the study will include discussions of some sensitive topics, this RA also outlines data protection measures that will be taken to ensure the confidentiality of all responses. The terms of this RA apply to all

parties and anyone contracted to complete any part of the study. The terms of this research agreement can be renegotiated at any point at the request of TH.

### **Proposed Project Design**

The purpose of this project is twofold. First, it aims to identify opportunities for where the existing governance structure can more effectively address cumulative effects. For TH, this will mean clarifying their expectations for making decisions related to cumulative effects and providing concrete recommendations for how the decision-making structures and processes might change to respect these expectations. Second, it will contribute to the PhD dissertation of Kiri Staples.

The researcher will work with TH to identify case studies appropriate for the project. This project will include interviews with TH citizens who have knowledge of or are involved in decision-making related to the case study areas. If possible, there also may be an opportunity to hold a focus group discussion with TH citizens and others related to the case study. This project design is subject to change following direction from TH.

Once the data collection and data analysis has been completed, the researcher will

- Present the findings to relevant TH departments;
- Meet one-on-one, if requested, to discuss the research findings;
- Provide a written summary of the research findings;
- Work with TH to identify further opportunities to share research findings, such as a public event or podcast; and
- Ensure TH receives a copy of the completed dissertation and any related articles or presentations.

### **Data Ownership, Confidentiality and Information Sharing**

1. All primary data collected from TH citizens and leadership in connection with the study will remain the property of TH. It is expected that these data will be used to achieve the objectives outlined above.
2. No participating community members will ever be personally identified, or connected to specific statements made in interview sessions or focus group discussions, unless they explicitly wish to be.
3. During the study, electronic data and summary reports will be stored in protected files, and backed-up in protected drives stored by Kiri Staples. After completion of the study, all data and study outputs will be transferred to TH. Kiri Staples will retain a copy of the data for ten years, after which point it will be permanently deleted, unless otherwise requested by TH. Note that the use of the data is for this project only unless we enter into an additional agreement related to future work.
4. Kiri Staples and Robert Gibson reserve the right to produce scholarship (e.g. theses and articles) that describes the study and insights arising from its execution. The authors will not publish any documents purporting to represent TH perspectives without TH approval. For any articles, authorship can be extended to TH if requested.

### **Obligations of the researcher**

The researchers involved in this project will:

- Respect the authority of TH government;

- Respect the history, ancestry, and culture of TH;
- Work with TH authorities to ensure the research is relevant and applicable to their goals;
- Engage and communicate consistently throughout the entirety of the research project;
- Prioritize relationship-building and transparency in the conduct of the research;
- Support and contribute to capacity-building opportunities with TH citizens where possible; and
- Share findings with TH authorities in a format that is relevant and useful for their purposes.

### **Obligations of TH**

TH commits to support the:

- execution of the study as outlined above;
- guidance of the project through relevant authorities.

### **Signatures**

## Appendix D: “The Way of the Spirit” artist interpretation and bio

**Title:** The Way of Spirit

**Artist:** Darcy Tara McDiarmid

The painting The Way of Spirit represents how all living things, including the land, water, air, people, animals, plants and ancestors are connected with Spirit at the centre of all.

The Sacred Tree is also at the centre. It is believed that a long ago Han medicine man was born beneath the original spruce tree. In the long ago way, trees were considered close relatives and were essentially people that stood in one place, rooted to mother earth. As the tree is rooted deep into the ground it is perhaps most connected to the earth and represents great strength. Our ancestors were wrapped and buried /placed within or on trees during winter, a time of spiritual purity. The tree provided for our people, comfort, a resting place, shade, warmth, medicine, food, shelter, survival items and a place to sleep up against in the long ago way. Therefore, the sacredness of a tree is both pristine and profound.

Da’ole, our spiritual law, associated with reciprocity, kinship, balance and justice was not just a simple set of taboos, but was the very veil or cloak of existence for not only the Denezhu but the universe, which all Han people knew, contained great power.

Our spiritual laws were also guides for our relationships including our spiritual ways. Standing beside the sacred tree, in the painting, is The Original Woman, with a form of gänhäk ceremonial stick. The stick was held by a medicine person to lead ceremony. This stick features a sacred luk cho / king salmon people and The Original Woman appears to be conducting ceremony with the luk cho/king salmon people from a distance while also receiving council and taking care of Crow/Creator.

Crow and Wolf are the original leaders of the clan. In long ago times, before humans, Crow and Wolf were the leaders of animals, who had the care of the earth. Long ago, Crow and Wolf held the First Council, to decide what was best for the humans and how they would live their tr’ëhudè (way of life)



In the painting, The Original Woman, is blending in the with smoke and land while also tending her smoke house (łät zho) and picking cranberries. The cranberries seem to grow and multiply under here care.

Other sacred animals, swans and caribou, in the background represent not only the seasonal round and timing of the seasons, but also abundance.

**Artist Bio:** Darcy Tara McDiarmid is Han Gwechin and Northern Tutchone from the Crow Clan. She is daughter of Joy Isaac, daughter of Angela Isaac, daughter of Eliza Isaac. Her artwork is guided by nature and dreams.