Evaluating the Yukon's regional land use planning framework as a tool for managing cumulative effects in the Kluane region

By

Brandon A. Pike

Bachelor of Arts, University of Alberta, 2011

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Abstract

The evolving nature of land use planning in the Yukon with the onset of First Nations land claim agreements has meant that the process has become more inclusive and comprehensive, but in doing so the amount of consultation required has increased the amount of time necessary to produce land use plans. Under the Umbrella Final Agreement, proposed development is compared against existing land uses, the desired future state of the region, and broader sustainability planning objectives that are present in land use plans in order to determine conformity. However, only one of eight regions has an approved land use plan. With development rapidly increasing and the differing scale in which planning and assessment operate, the intent of the relationship between these two processes has become underutilized. While development forges onward, the concern over cumulative effects has become a focal point in territorial environmental management discourse.

It is widely recognized that typical environmental assessment processes are incapable of effectively accounting for cumulative effects, although such considerations are often a legislative requirement. This is due to the poorly understood nature of cumulative effects, its ambiguous definition/application, and the narrow project-level scope of assessment, among other reasons. As a result, failure to account for such potentially significant landscape change presents a substantial liability of the federal and territorial governments to uphold the intent of the Umbrella Final Agreement. The aim of this research is to illuminate any insights into how the land use planning process can be improved and harmonized to improve strategic guidance to environmental assessment in order to more effectively manage potential cumulative effects. The results of this research support the need for a more collaborative decision-making model and a more equitable distribution of the concentration of decision-making authority of land use plans.

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List of Acronyms

AARC	Alsek Renewable Resources Council
AANDC	Aboriginal Affairs and Northern Development Canada
BMP	Best management practice
BREA	Beaufort Regional Environmental Assessment
BSIOMP	Beaufort Sea Integrated Ocean Management Plan
BSP	Beaufort Sea Partnership
CAFN	Champagne & Aishihik First Nation
CATT	Champagne & Aishihik Traditional Territory
CCME	Canadian Council of Ministers of the Environment
CEA	Cumulative effects assessment
CEAA	Canadian Environmental Assessment Agency
CEAM	Cumulative effects assessment & management
CYFN	Council of Yukon First Nations
CYI	Council of Yukon Indians
DRLUP	Dawson Regional Land Use Plan
DRPC	Dawson Regional Planning Commission
DIAND	(Federal) Department of Indian Affairs and Northern Development
EARP	Environmental assessment and review process
ECO	(Yukon) Executive Council Office
EMR	Energy, Mines, and Resources (Yukon Dept. of)
GKRLUP	Greater Kluane Regional Land Use Plan
GC	Government of Canada
IFA	Inuvialuit Final Agreement
IRC	Inuvialuit Regional Corporation
ISR	Inuvialuit Settlement Region
IRM	Integrated resource management
KFN	Kluane First Nation
KNPR	Kluane National Park & Reserve
KNPRMB	Kluane National Park & Reserve Management Board
MVEIRB	Mackenzie Valley Environmental Impact Review Board
MVPI	Mackenzie Valley Pipeline Inquiry
MVRMA	Mackenzie Valley Resource Management Act
NLCA	Nunavut Land Claims Agreement
NIRM	Nunavut Impact Review Board
NPC	Nunavut Planning Commission
NWT	Northwest Territories
NYLUP	North Yukon Land Use Plan
NYPC	North Yukon Planning Commission
PPP	Program, plan, or policy
PWLUP	Peel Watershed Land Use Plan
PWPC	Peel Watershed Planning Commission
RCPM	Rational comprehensive planning model
RGS	Regional growth strategy
RSA	Regional strategic assessment

SEA	Strategic environmental assessment
TT	Traditional territory
UFA	Umbrella Final Agreement
WRFN	White River First Nation
YDAB	Yukon Development Assessment Board
YEAA	Yukon Environmental Assessment Act
YESAA	Yukon Environmental and Socio-Economic Assessment Act
YESAB	Yukon Environmental and Socio-Economic Assessment Board
YG	Government of Yukon
YLUPC	Yukon Land Use Planning Council
YTG	Yukon Territorial Government

1.0 Introduction

Recent research into the social process of decision making suggests it is becoming more commonplace for decision-makers to factor concerns of increasing complexity and uncertainty into their deliberations. In the realm of resource and environmental management, few regulatory practices are more universally employed than land use planning and environmental assessment (Hegmann & Yarranton 2011). Although initially developed in separate management silos, utilizing different approaches to achieve desired outcomes, these practices have evolved to incorporate more holistic approaches in response to increasing complexity and uncertainty. They are employed nearly ubiquitously throughout various jurisdictions in Canada in order to regulate and mitigate potential adverse environmental and/or socio-economic impacts from land uses (and in some cases even enhance positive effects).

As land use planning and environmental assessment evolve over time in response to uncertainty, it has been recognized that they can complement each other to achieve a similar desired outcome. Both are often viewed as policy avenues to inform and reconcile classic environment-versus-development narratives. In Canada's northern territories, efforts to undertake these initiatives have sometimes proven difficult due at least in part to the complex character of First Nations land claim agreements and their implications in land and environmental management regimes (Notzke 1994). This increases the layers of complexity that present challenges to the evolution of land use planning and environmental assessment processes to address future uncertainty. Given the unique socio-political climate of management regimes in the Yukon (Slocombe *et al* 2009), particularly the recognition of land use planning programs in land claim agreements, this complexity also presents opportunities for governments to establish integrated resource management (IRM) regimes in place of existing sector-based regimes.

Since the Umbrella Final Agreement (UFA) in 1993, which laid the foundation for individual First Nations land claim settlements throughout the Yukon, land use planning and environmental assessment have become a central focus of political and public discussions regarding land-based issues. Under Chapter 12 of the UFA, when a proposal for development triggers an environmental assessment, the environmental assessment body that conducts the assessment will forward the proposal to the respective land use planning body. The planning body then determines the compatibility of proposed activity with surrounding uses, as well as the broader goals and objectives of the plan and the desired future state of the region in accordance with the land use plan for that area (Government of Canada *et al* 1993). Brachya (1993) concurs that incorporating environmental assessment and land use planning (and more specifically to this research, cumulative effects assessment) is the most effective means for illuminating environmental policy objectives.

Theobald *et al* (1997, 25) also emphasize the role of land use planning as a means of guiding "day-to-day development review and decision-making". Thus a holistic regional land use planning process that restricts incompatible land uses while retaining opportunities for positive development is crucial for achieving sustainable development. Unfortunately, implementation of territory-wide regional land use planning in the Yukon has been limited due to questions regarding how to best implement each plan, as well as who is responsible for implementing certain parts in a context of limited financial resources and capacity. While development has been rapidly increasing, the development of land use plans has not kept pace. To date, only three regional land use plans in the Yukon have been proposed and only one has been approved. Five more proposed planning regions are still without a land use plan (Yukon Land Use Planning Council 2011).

According to the UFA, once a regional land use plan is produced for a given region by its respective planning body, it is decided by the territorial government to accept, reject, or modify the "recommended plan". Because both the territorial and federal governments are signatories to the UFA, it is in their best interest to heed to recommendations of each land use plan in order to not potentially violate the spirit and intent of the land claim agreements. Such a failure to uphold the UFA could lead to significant legal action if any First Nations government feels that agreement was violated by not approving the recommended plan. Even though land use plans do not have regulatory authority of land uses, the intricacies and complexities of Aboriginal interests in the process via the UFA de facto provide the necessary motivation for approving the plans (Natcher 2001).

With devolution of land use planning authority from the federal to the territorial government in 2003, it was hoped that this new arrangement would foster more culturally appropriate land use planning in light of emerging land claims (Booth & Muir 2012) and First Nations interests in IRM (Morton *et al* 2011), thus reducing the need for federal intervention (Bradshaw 2003). First Nations' approval is often considered a crucial step in the land use planning process (Duerden *et al* 1996), although this claim is currently being contested in one high-profile case in the Yukon (i.e. regional land use planning in the Peel River watershed) – the outcome of which is expected to have far reaching impacts on how regional land use planning in conducted in the territory and the political implications of the approval process.

Natcher (2006) notes that while devolution has increased the influence of First Nations in territorial environmental management regimes, aspects of colonialism are still deeply entrenched in those regimes (Duerden *et al* 1996; Porter 2011), reflecting the tumultuous history of Aboriginal-state relations in the Yukon (Hessing *et al* 2005). Lastly, the absence of land use

planning may reflect the regional (Slocombe *et al* 2009) and political (Hodge & Robinson 2001) priorities of government. While some of the lag between land use planning and environmental assessment can be attributed to the lengthy consultation process, the unwillingness of government to fast track land use planning in the face of uncertainty conveys a pro-development mentality – a stance that many First Nations' governments and conservationists generally oppose.

It is widely thought that at present, regional land use planning can be the most practical means of mitigating cumulative effects in the Yukon (Slocombe *et al* 2009), if not the most effective. Ergo, it is imperative that the regional land use planning framework be utilized to its maximum potential. At present, a number of issues, including those discussed above, have prevented this framework from timely implementation. A recent boom in development, especially from extractive industries, has placed substantial expectations on land use planning as a method for ensuring sustainable development in the territory (and to that extent, minimizing the potential for harmful cumulative effects). However, with the majority of the territory lacking an approved land use plan, there is no strategic policy to guide development in a manner that limits the potential adverse cumulative effects on social and ecological systems at a regional scale while providing opportunities for potential positive change from resource development.

1.1 Goals and Objectives

Ultimately, the goal of this research is to explore the actual or potential role of regional land use planning as a tool for managing cumulative effects as part of a territory-wide assessment and management regime in Yukon. As such, the objectives of this research are:

i. Investigation of the current and potential methods, feasibility, and effectiveness of regional land use planning as a tool for managing cumulative effects through a literature review in the Yukon context and elsewhere,

ii. Development of a framework for assessing land use planning and environmental assessment policy and implementation options in light of general principles and broad experience presented in the literature, and the specific additional considerations necessary to recognize the current and anticipated need for integrated management of land use planning and cumulative effects assessment and management in the Yukon,

iii. Application of the framework to a specific case of land use planning and environmental assessment in Yukon (including special attention to issues of First Nations participation and capacity in the planning process), and

iv. Recommendation of policy and implementation actions and identification of general lessons for greater integration of the land use planning and environmental assessment processes as an avenue for managing cumulative effects Kluane, Yukon, and elsewhere.

In the past few decades, there has been a significant surge not only in the prominence of cumulative effects as a scientific concept, but also in the broader IRM literature with respect to socio-political contexts (Kennett 2000). As a result, much of the literature on cumulative effects in IRM is very relevant and easily translatable to the Yukon context due to the relatively newly established management regimes in the territory compared to jurisdictions in Canada farther south. There is also increased attention in academic scholarship to northern regions due to the fact that arctic and sub-arctic environments are most susceptible to environmental change and there is an urgency to study local and regional biophysical processes to better understand how

ecological systems are reacting to change (Bone 2012). Equally critical is understanding how such change impacts the quality of life for northern residents, particularly in communities where residents rely on the biophysical realm to support their livelihoods, whether it be subsistence hunting, ecotourism, or resource extraction (Howlett & Brownsey 2008).

Coupled with the researcher's close experience with the environmental management regimes in question, the review of the literature is intended to inform the development of an assessment framework to determine the effectiveness of the regional land use planning framework as a tool for managing cumulative effects according to practitioners. Only one regional land use plan has been approved in the Yukon (in the region least at risk from cumulative effects) and it is unlikely to be completed territory-wide for at least a decade. There remain substantial opportunities to undertake regional initiatives that mimic regional land use planning's approach to managing cumulative effects until proper planning can be conducted and implemented.

Ultimately, in order to examine the potential for regional land use planning to manage cumulative effects, the conceptual framework will be applied to a regional case study in the Yukon – the Kluane region. The rationale for choosing the Kluane region as the case study will be detailed in the following chapters, but it is important to recognize that success of regional land use planning hinges on the UFA and the settling of all land claims within a single region, which has yet to occur in the Kluane region. The results of the case study will determine the nature of the recommendations that will be generated. These recommendations will provide a number of avenues by which policy and decision makers may possible utilize in the event that it is determined that interim actions must be taken to mitigate potential cumulative effects while regional land use planning takes time to gain momentum in some regions.

The intent of this research is not solely to address the technical aspects of land use planning as it relates to cumulative effects assessment and management, but rather to focus on the governance framework that does or should link land use planning and environmental assessment processes within broader First Nations-Yukon-Canada organizational and institutional capacities. There exists little understanding of how adjacent regions, land uses, and geopolitical jurisdictions interact with each other, such as between federally protected areas and territorially administered Crown land (Danby & Slocombe 2005), which may also warrant further investigation through an IRM lens. If IRM is to be successful in the Kluane region, land management practices between stakeholders must interplay with one another as opposed to proceed as isolated activities.

1.2 Conceptual Approach

For this research, an integrated resource management (IRM) approach will be utilized to approach the question of whether or not the various resource and environmental management regimes in the Yukon, explicitly including land use planning and environmental assessment as well as those that feed into or out of these regimes is appropriately integrated to address the potential for cumulative effects. The rationale for employing an IRM approach is due to the nature of regional land use planning in the Yukon in addition to the amount of literature that suggests integrated resource management is the most appropriate management framework for addressing cumulative effects given the disconnect between advisory and regulatory regimes in Yukon.

First, regional land use planning in the Yukon does not lead to legally enforceable land use plans. Rather, it provides strategic guidance to the regulation of other land uses, including

mining, oil and gas, forestry, agricultural, and land dispositions. Therefore, it is imperative that regional land use planning informs decisions being made by the regulators of those land uses and that the goals and objectives of regional land use planning make their way into the terms and conditions of the various land use permits. In theory, this is achieved by referring to approved land use plans during environmental assessment and regulatory decision-making. It should be noted that the ability of land use plans to carry out this role is dependent on how reflective a plan is of stakeholder interests as well as its ability to regulate land uses (the latter of which is not the case in Yukon, as discussed in following chapters).

However, the end result (i.e. recommendations) from environmental assessments in the Yukon are also not explicitly legally enforceable (similarly to land use plans) but rather advisory. Regulators and decision-makers issuing permits for activities that have been assessed are under no obligation to include any or all of the recommendations in the terms and conditions of a permit – as long as substantive evidence provided grounds that action on a particular recommendation is unnecessary. As such, it is crucial to strengthen the guidance provided by regional land use plans to reduce the amount of discretion present in environmental assessment and regulatory decision-making.

IRM implies integration not only throughout policy cycles and decision-making models, but also across all environmental management regimes, and in this case, between environmental assessment, land use planning, and land use regulation. Regional-scale planning is not the sole level of land use planning being conducted in the Yukon; other planning levels including local area planning, forestry planning, and parks and protected areas planning. Regional land use planning is merely a planning tool for all lands not encompassed by those more specialized planning tools mentioned above. Rather, regional land use planning bridges the gap between

planning sectors in an attempt establish a harmonized planning framework across the landscape. Planning conducted improperly can encourage fragmentation along (often) arbitrary political or administrational units on the landscapes, such as municipal or park boundaries. Reducing such fragmentation across all land use planning levels by encouraging complementary planning is imperative to reducing or mitigating potentially adverse cumulative effects at the regional level.

Given the current state of the relationship between land use planning, environmental assessment, and land use regulation in the Yukon, the need for the integration between strategic and operational scales is clear given that in this context, the potential for unmitigated cumulative effects is best addressed from an IRM perspective.

1.3 Methodology and Methods

Conducting this research in an attempt to fulfill its objectives requires a number of different methods be employed; thus this research utilized a mixed methods or multi-method approach to social research. First, an extensive literature review was conducted to document the recent evolution of land use planning and its utility as a tool for managing cumulative effects. Though this preliminary research focused on literature from academia, it was equally worthwhile to examine contributions from the non-academic and grey literature, especially government documents. While many sources are widely available online or in university libraries, some case study specific sources are only found in local collections. Thus, a portion of time spent at the field sites included archival research. This review identifies potential areas or issues of IRM to focus on when conducting expert interviews, in addition to increasing general knowledge of both land use planning and environmental assessment regimes, and aided in the formulation of an evaluation framework that was applied to the case study region.

For this research, the Kluane region in the southwest Yukon was chosen as the case study area. However, it should be noted that the issues and challenges discussed in the case study were utilized to explore broader issues and challenges in the Yukon as a whole. Focusing on the Kluane region as the case study is ideal for a number of reasons. The Kluane region is arguably the most historically studied and planned region in the territory, having been subject to a number of land use planning initiatives, though ultimately they all failed. According to scholars such as William Rees (1987), and members of the First Nations' community like the Council of Yukon First Nations (1982), these failures have been attributed to lack of public consultation and support, poorly designed decision-making models, and the process of settling of land claims.

The Kluane region is atypical of most planning regions in the Yukon in that it is one of only two regions with unsettled land claims. Moreover, the presence of the national park and the relatively long history land use planning initiatives means that the region is one of the most actively managed and researched regions in the territory. Given that the UFA and individual land claims form the foundation of the regional land use planning process, challenges remain as how to best proceed with either settling those outstanding claims or conducting land use planning under some other binding relationship between government and unsettled First Nations. The historical settlement and development of the region post-20th century also means that cumulative effects, particularly those accruing from past activities, may be difficult to predict, mitigate, or manage.

For the purposes of this case study, the 'Kluane region' will be defined as the same region as that defined by the YLUPC. Because the boundaries of the Kluane planning region are largely based on First Nations traditional territories, the region has become more a reflection of the socio-political climate on the landscape than a naturally bound region. One issue for the

research will be whether, for effective IRM, the current status quo should be adjusted so that boundaries reflect natural landscape features. The presence of sensitive glacial and alpine environments means that human activities, such as tourism development, have a greater impact on the landscape.

It has been nearly ten years since devolution and nearly twenty years since land claims were first established, yet land use planning under the UFA has not been initiated in Kluane. The potential institutional capacity exists, but the complex nature of land claims and devolution has caused substantial fragmentation and overlap between the legal, regulatory, and policy instruments and mandates designed to manage lands, natural resources, and the environment efficiently. For example, this results in two or more stakeholders conducting similar work but potential leading to conflicting findings or stakeholders unwillingly to take on that responsibility if its felt it does not fall within their mandate. If undesirable regional landscape changes as a result of potential cumulative effects are to be mitigated, environmental assessment and regional land use planning ought to be more streamlined into regulatory regimes to ensure positive feedback into the monitoring and review cycle.

1.4 Thesis Outline

The written result of this research is organized into several chapters. Chapter 1 briefly outlined the rationale, the overall goal, and the individual objectives of the research, as well as introducing the relevant literature, and methodology.

Chapter 2 provides a review of the literature. Beginning with the origins of land use planning in Canada and its application in the Canadian North, the literature review will illustrate the evolution of land use planning from a development-oriented tool to a sustainability-oriented

approach designed to reinforce environmental and socio-economic benefits. The literature review will also document the emergence of the concept of cumulative effects and subsequently cumulative effects assessment and management (CEAM), as well as some of the most important approaches to CEAM, including strategic environmental assessment (SEA) and regional strategic assessment (RSA). Subsections of the literature review will outline the relevance of an IRM approach in a land use planning-CEAM regime and describe its strengths, weaknesses, and barriers to implementation. The chapter concludes with an overview of other territorial initiatives fusing land use planning and CEAM initiatives in northern Canada, including Nunavut's integrated land use planning and environmental assessment regime, the regimes and practices established under the Northwest Territories' *Mackenzie Valley Resource Management Act,* and the Beaufort Sea Integrated Management Plan process.

Chapter 3 will describe the methodology and methods used to carry out this research, including further details regarding conducting the literature review, expert interviews, and the case study, along with their respective limitations. In this chapter the conceptual framework that has been generated from a review of the relevant literature will be presented as well as the rationale for its formulation and application. Chapter 4 is an overview of the biophysical, social, economical, cultural, and political values present within the Kluane region based on the regional boundaries as defined by the YLUPC. This chapter will also go into depth regarding the institutional foundations – most prominently the UFA and subsequent individual land claim agreements - as well as a history of planning and management initiatives in the region.

Chapter 5 contains the results of the research. The views and opinions of the participants expressed in this chapter will be placed within the broader IRM discourse by determining to what extent the ideal principles of a truly integrative regional land use planning framework are

present in the Yukon context and which classic elements of successful IRM these principles fall into to determine where the current framework lacks integration. A brief discussion of the most common themes will also be presented and their meaning within the larger land use planning context in the Yukon. Additionally, the results from the participant interviews will be discussed as they relate to the conceptual framework development in Chapter 3 in order to ground the results within the IRM literature as well as contribute to the prominent discourse on the matter.

Chapter 6 provides a short summary of the thesis followed by the recommendations that are intended to provide potential solutions to improve the regional land use planning framework in the Yukon. These recommendations were generated by framing the lessons learned from the literature and the interviews through the broader theoretical foundation of integrated resource management provided by the analytical framework. This analysis was then applied to the case study of the Kluane region to produce the final recommendations.

Chapter 7 discusses contributions of this research within the broader IRM discourse as well as opportunities for future research in the fields of regional land use planning and cumulative effects in the Yukon and abroad. Closing remarks will conclude this chapter and thesis by briefly summarizing the researcher's experience in conducting this research and the potential practical application of the recommendations in the case study region, the broader Yukon context, other northern Canadian jurisdiction, and even abroad.

2.0 Literature Review

In this chapter, an overview of the literature relevant to both land use planning and environmental assessment will be presented, considering the two as individual concepts, and their roles within the integrated resource management discourse. The chapter will first define the theory and concept of land use planning and trace its origins from town and country planning in the United Kingdom to its current application in Canada – and in particular, northern Canada – as well as some of the defining characteristics of the land use planning process as a social process. The chapter will then chronicle the definition and application of environmental assessment as it relates to the emergence of the concept of cumulative effects and the various methods utilized to assess and management them. The chapter will then provide an overview of the concept of integrated resource management and some of its more prominent methods that blend the characteristics of land use planning and environmental assessment to address the issue of cumulative effects. Lastly, the chapter will detail notable initiatives in northern Canada to integrate cumulative effects assessment and management into land use planning.

2.1 Land Use Planning

In theory, the term "planning" can implicitly refer to any practice of developing policy that is designed to address a specific issue of concern, follows a normative process for producing a final product, and a system for measuring the success of the final product. In the context of this study, "planning" is most often characterized as a sweeping term used to describe nearly all approaches to designating certain tracts of land for specified uses. In practice, planning has evolved from its theoretical foundations and has spawned many sub-disciplines, each focusing on a particular manner of land use.

Planning is of course most synonymous with the practice of urban or city planning, but other prominent sub-disciplines include transportation, community, economic, social, regional, developmental, rural, resource, environmental, and land use planning (Randolph 2004). Although technically all sub-disciplines of planning explicitly or implicitly deal with land uses, land use planning is typically referred to as separate entity from those listed above, all the while it may still "borrow" concepts and practices from its counterparts to advance its own agenda. This is the difficulty in defining a sub-discipline in that each type of planning occupies a certain range along a spectrum often overlapping with other sub-disciplines. Ultimately, the goals of each planning approach determine its range along the that spectrum – from planning concerned with purely social issues in a decaying downtown core to planning for vast tracts of uninhabited wilderness far removed from urban centres (Lien 2003).

2.1.1 Definitions and applications

In the context of this research, land use planning refers to the process of developing a regional, sub-regional, or district land use policy designed to provide strategic guidance for development activities within its defined spatial boundaries, as well as a method touted to achieve sustainability and to reduce and mediate land use conflicts (Jones *et al* 2011). The practice is nearly ubiquitously undertaken at various levels across provincial and territorial jurisdictions in Canada as demonstrated in succeeding subsections of this literature review. The practice is rapidly evolving as it attempts to tackle emerging and urgent land use-related issues – including cumulative effects.

Although land use planning is commonly practiced in various jurisdictions and levels of government in Canada, the definition of what exactly constitutes "land use planning" in practice

varies across space. A technical definition of land use planning is offered by Jones *et al* (2011, 4) as a means to:

> *Secure consistency and continuity in the framing and execution of policy with respect to the use and development of land... to ensure that the wide variety of interests at stake are taken into account when decisions are made, and that the development and use of land is in the general 'public interest.*

Randolph (2004, 27), however, defines environmental planning – a sub-discipline of planning of which land use planning is often considered a branch (though it could just as easily be argued that environmental planning is a branch of land use planning) – in a more colloquial manner as:

> *A matter of figuring out what needs to be done and how to do it... It requires determining ends-and-means relationships. Simply stated, planning involves setting objectives, gathering and analyzing information, and formulating and evaluating alternative policies, projects, and designs to me the objectives. Its future orientation sometimes requires a crystal ball, but good analysis and effective collaboration can help clarify the vision.*

Hodge and Robinson (2001, 10-11) further add that regional planning is "large scale", "interrelating", "normative", "requires balance", and "has implementation potential". In reality, the definitions provided above can easily be used to describe other forms of social processes and decision-making frameworks – swapping out a few planning specific terms for others. So what makes planning any different from other social decision-making processes? The very nature of the land base, its administration in the public service, and its evolution as a result of numerous social, cultural, economic, and political factors that makes planning in Canada rather unique.

Barry Sadler (2011, 45) outlines three aspect of the physical and socio-political landscape that have influenced the nature of land use planning in Canada. They are:

- *The nature of the physical landscape and the distribution of resources is the main determinant in the patterns of land use and the types of plans and assessments undertaken;*

- *The jurisdictional administration of land, resources, and the environment is divided among numerous agencies within the three levels of government (in the territories, Aboriginal governments are often considered the fourth level of government); and*
- *Each corresponding level of government employs its own system of regulating land use, each with varying aims, instruments, scale of applications, and relationships to environmental assessment*

Sadler (2011) further explains that the relatively low population density coupled with the expansive landmass and diversity of landscapes and eco-regions, particularly in northern Canada where large tracts of land remain undeveloped and natural biophysical processes are the main drivers of landscape change, largely defines the type and extent of land use planning that is utilized. Sadler adds that while human settlements are scattered throughout, the majority of the population and productive lands lie in the extreme south near the border with the United States, with approximately 90% of Canadians living within 160km from the continental border. Thus, vast tracts of land lie to the north where population densities are well below 0.01 people per square kilometre. Sadler (2011, 45-56) describes this dualism of Canadian lands as:

- *Resource and Wildlands: the tundra, taiga, and boreal zones of Canada with harsh climates, sparse yet predominately Aboriginal population, impact sensitive ecosystems, and a time-limited opportunity to preserve significant tracts of forest whose biodiversity is of global significance; and*
- *The Canadian Ecumene: the areas of urban and rural settlement paralleling the contiguous American border which contains nearly all of the country's largest metropolitan urban areas comprising more than three-quarters of the total population*

Given this prevalent dichotomy in planner perspectives in Canada, two opposite ends of the land use planning spectrum have emerged. In the south, planning focuses on the urban-rural realm where development activities are plentiful and the landscape has been molded by hundreds of years of intense settlement practices with more emphasis on the social and economic aspects of land use planning. In the North, land use planning is almost exclusively geared towards resource development and environmental stewardship (Fenge 1987, Berger *et al* 2010). Any substantive

concern for the social implications of planning is rooted in the traditional knowledge paradigm in the North that believes that humans in the north belong seamlessly integrated with the natural environment opposed to viewing themselves as separate (Armitage 2005, Menzies 2006).

Land use planning in Canada must be culturally appropriate, as remote Aboriginal populations are highly susceptible to socio-economic changes brought about by rise and fall of market-driven, resource development (Booth & Muir 2012). This marriage of ecological and socio-economic concerns in land use planning is described by Weber *et al* (2011) as a 'wicked problem' that necessitates a sustainability approach. Although land use planning was initially utilized as a means of guiding future growth as well as reducing land use conflict, more recently it has sometime been employed as a means of sustaining sensitive ecosystems congruent with the philosophy of sustainability and sustainable land use. Thus, land use planning is now often at the centre of classic environment versus development debates and has become highly politicized in the process (Randolph 2004). This has implications in that land use planning can be utilized to advance political objectives that may or may not be conducive to public or Aboriginal interests.

Pertaining to land use planning in the northern reaches of Canada, Terry Fenge (1987, 25) elaborates:

> *Regional land-use planning deals with the allocation of land and resources, usually among competing uses and users, and outlines the conditions or rules under which the environment may be used. The terms and conditions that are appended to land-use and water-use permits should reflect planning goals. Planning functions in the often ethereal world of values, norms, and goals, but is of use only when it helps to solve every day and week-by-week problems.*

2.1.2 Origins, evolution, and approaches

The field of land use planning has its origins in the tradition of town and country planning in the United Kingdom, which emerged during the Industrial Revolution as a means of

systematically maximizing and managing urban population densities and associated infrastructure in light of the conditions that are ideal for the spread of infectious disease in urban environments (Hodge and Robinson 2001, Cullingworth & Nadin 2006). This tradition of organizing human settlements in order to improve the quality of life within them very much exists to this day, though many forms of land use planning, such as those briefly mentioned in section 2.1, have evolved since the dawn of the 20th century. Modern land use, environmental, regional, and resource planning is more rooted in the ethos of the second environmental movement spawned in the late 1960s and early 1970s, and emerged again in the late 1980s and early 1990s by the emergence of the concept of sustainability (Randolph 2012).

Spurred no doubt in part by the 1972 Stockholm United Nations Conference on the Human Environment, the modern environmental movement directly challenged key assumption about land and land use as chiefly economic concepts. The movement brought to light the intrinsic value of land and many people lobbied for the outright protection of natural landscapes through strict limitations on human activities in addition to public pressure on a number of related fronts, including pollution, waste, technology, and resource depletion. Land use planning responded to the movement by incorporating principles of conservation and preservation into its mandate, allowing for a greater array of land use including protected areas. However well intentioned this agenda within the environmental movement was, it still perpetuated the classic dualism that humans are separate from nature, and hence undeveloped land was still largely valued as a commodity for human use. Incrementalism was the predominant approach to land use planning at this time, meaning that solutions to land-related problems were mostly reactionary, handled on a case-by-case basis, and lacked any future-orientation or strategic outlook.

Towards the end of the 1980s, the World Commission on Environment and Development released their seminal report entitled *Our Common Future* (World Commission on Environment and Development 1987) that for the first time championed the concepts of 'sustainability' and 'sustainable development' in the public discourse (Gibson *et al* 2005). The report, known colloquially as the Brundtland Report, marks a shift from the dualist environmentalist movement, which sought to exclude people from natural environments, to the philosophy of sustainability, which seeks the integration of people in nature as an avenue for active maintenance and stewardship of the land (Robbins 2011). Given sustainability's leaning towards the interconnectedness of the social, economic, and environmental aspects of modern society in the long-term, incrementalism became less favoured due to its lack of strategic perspective. In the wake of the shortcomings of incrementalism in light of the goals of sustainability, the rational comprehensive planning model (RCPM) became increasingly adopted to ensure attention to long-term strategic priorities in land use planning (Hodge and Robinson 2001, Randolph 2012).

Whereas incrementalism was a broad, sweeping approach that was often applied with little attention to standard planning guidelines and procedures, the RCPM provided land use planning with a defined normative process, one of the key characteristic of planning as defined by Hodge and Robinson (2001). The RCPM has also evolved among and over the years from its simple process to one that recognizes the complex relationships between environmental, social, and economic issues. Friedmann (1987) defines the stages of the RCPM as:

1. *Identifying goals and objectives*
2. *Identifying alternatives for meeting goals and objectives*
3. *Predicting consequences of and impacts that could be reasonably expected for flow from each alternative*
4. *Evaluating and considering the consequences and impacts with respects to the goals and objectives*
5. *Making the decision*

6. *Implementing the decision*
7. *Monitoring the impacts and consequences of the decision and responding to them*

Land use planning has become particularly useful in advancing sustainability as it already has deep roots in advancing social, economic, and environmental agendas, though not always simultaneously (Jones *et al* 2011). While the RCPM has become standard practice in many fields, including environmental assessment (Hanna 2009) (which will be discussed at length in subsequent sections) it is not without its drawbacks. Though it could be argued RCPM is 'big picture' oriented, the potential for it to gloss over site specifics that incrementalism excelled at and thus some issues that may not be apparent to the public or the planner may fall under the radar.

The RCPM also internalizes several assumptions about development, such as that the problem is well-defined, alternatives are plenty, adequate baseline data are readily available, the consequences of impacts are well known, the values and interests of all parties are known, there is enough time, capacity, resource, and information to make a well-informed decision, and that a linear process is adequate in addressing complexity and uncertainty (Hanna 2009). Regardless of its shortcomings, many foundational aspects that the RCPM pioneered in resource and environmental management fields - such as problem identification, identifying alternatives, stakeholder consultation, implementation, and monitoring and feedback – remain today.

Even so, the prominence of RCPM is beginning to fade in favour of a new planning paradigm: integrative, collaborative planning. While many core aspects of the RCPM persist today, its key assumption that all decisions are based on rationality is often flawed. Decisions are not as easily or as often based on 'black and white' planning scenarios as the RCPM suggests. In reality, actors make decisions based on a variety of rationales and influences. Classically, actors make decisions based on simple cost-benefit analyses. However, reality is much more muddled

and complex. Decisions may be based on intangible concepts that offer very little in terms of concrete, short-term benefits, such as sustainability. In response, modern planning processes have expanded to acknowledge the validity of such rationale and the benefits recognizing the needs of future generation.

Integrative, collaborative planning suggests that solutions to land-related issues ought to be developed through culturally-sensitive (Booth and Muir 2012) consensus building (Margerum 2012) by those actors most likely to be impacted from a broad array of sectors and management levels at the scale most appropriate for tackling the issue at hand. An additional aspect of the collaborative management approach is the inclusion of the principle of adaptive management. Adaptive management is a popular concept that is being integrated into many policies that deal heavily with uncertainty (Lein 2003). Not all information about an issue may be known at the time of the decision, and thus provisions allow a policy to adopt a precautionary approach to allow revisions as necessary in light of new information. In a sense, adaptive management occupies the middle ground between the technical scrutiny of incrementalism and the strategic orientation of the RCPM (Halbert 1993).

In order to understand the state of land use planning in northern Canada today, one must understand the evolution of Aboriginal rights and title to land and natural resources (Fenge & Rees 1987, Coates 1992, Notzke 1994). Land use planning, particularly in northern Canada, is after all a socio-political exercise in distributing rights and power to involved parties. Historically speaking, Aboriginal peoples have had little if any ability to exercise rights based on their long-standing use of land in their traditional territories. Thanks to a number of high-profile cases between governments and Aboriginal peoples over the right to certain land uses and

harvesting activities, Aboriginal peoples' rights have evolved from non-participation and tokenism to more balanced citizen power arrangements.

In 1973, the Supreme Court of Canada ruled proven use of land by Aboriginal peoples prior to European contact was enough to demonstrate their inherent right to use and occupy those spaces and "implicitly recognized the nature and extent of Aboriginal governance" (Hessing, Howlett, and Summerville 2005). This decision, known more commonly as the *Calder* case, undoubtedly had significant influence on the outcome of the Mackenzie Valley Pipeline Inquiry, which was undertaken from 1974-77. The inquiry, headed by Thomas Berger, was undertaken in response to Aboriginal concerns that their treaty rights were being infringed upon by the federal government for optioning plans to construct a natural gas pipeline the length of the Mackenzie River from its mouth on the Beaufort Sea to fossil fuel refineries in Alberta (Berger 1988).

Berger's conclusion reflected the *Calder* decision, stating that the federal government as the main regulator of land and land use in northern Canada (prior to land claims and devolution) has a duty to consult Aboriginal peoples regarding development activities within their traditional territories (Hessing *et al* 2005). Eventually, Aboriginal peoples' rights became officially enshrined in Canadian law with the inclusion of Section 35 of the 1982 *Constitution Act*, which explicitly states, "the existing Aboriginal and treaty rights of Aboriginals of Canada are hereby recognized and affirmed" (Government of Canada 2013). However, the definition of 'existing rights' had been left flexible to allow the protection of those rights as they evolve over time, which was demonstrated by another landmark court case in 1990 known as the *Sparrow* case that upheld the rights of Aboriginal peoples as per section 35 to harvest fish within a First Nation's traditional territory greater than the restrictions outlined by the federal *Fisheries Act* (Hessing, *et al* 2005).

2.1.3 Land use planning in Northern Canada

Because of the aforementioned legal events, the nature of the land use planning process in northern Canada has changed profoundly. Following the *Calder* decision and the Mackenzie Valley Pipeline Inquiry, but prior to the 1982 *Constitution Act* and the *Sparrow* decision, the Government of Canada's Department of Indian Affairs and Northern Development (DIAND) began ramping up a new northern land use planning programme for the Yukon and Northwest Territories (Rees 1987). Historically, the federal government had had little interest in being an active manager of land and natural resources in the North.

In the latter half of the 20th century, extensive exploration and inventory unveiled vast quantities of potential mineral and fossil fuel wealth that warranted more active development and, ergo management, of the land. In response to this, in 1980 DIAND began to formulate its official position of land use planning in the territories (Bone 2012). Two years and numerous discussion papers, policy workshops, and consultants' reports later, DIAND officially released its formal approach to land use planning in the northern territories to the public; it was aptly titled *Land Use Planning in Northern Canada* (Government of Canada 1982, Staples 1987).

However, the public, Aboriginal groups, and both territorial governments panned the proposed programme, arguing that the policy was too exclusive and stakeholders were not given the proper avenues to provide feedback during the development phase (Council of Yukon Indian 1982, Staples 1987). According to a discussion paper by the Council of Yukon Indians (1982) released shortly afterwards, the proposed programme was a policy developed in-house by the federal government that paid little attention to the actual needs and interests of northern residents. Neither a meaningful level of participation nor a defined normative rational planning model was utilized during the development of the programme.

Because land use planning is informally an exercise in public interest in politics, it was imperative that land-based rights be explicitly defined and land tenure firmly established before any formal land use planning process could begin (Notzke 1994, Booth and Muir 2012). Therefore, it was equally imperative that Aboriginal rights be explicitly defined if regional-scale land use planning in their traditional territories was to be undertaken. From the DIAND initiative, it quickly became apparent that settling land claims with Aboriginal peoples was a necessary step in order to conduct land use planning in the North. The desire for governments to conduct land use planning in order to provide more orderly, strategic guidance to resource development industries meant that settling land claims became the utmost priority.

At the time of DIAND's Northern Land Use Programme, there were a number of land use planning initiatives being undertaken in the Yukon prior to the UFA in 1993. Most notable was the Greater Kluane Land Use Plan which was developed independently of DIAND by the pre-devolution Yukon Department of Renewable Resources (which will be discussed at length in Chapter 4). The plan was finalized in 1991 but for a variety of reasons, including impending land claim negotiations, it was never formally adopted. The initially stages for planning also began in the Teslin region of south-central Yukon as well as the North Slope region. Planning was also already underway in the Beaufort Sea/Mackenzie Delta region in the Northwest Territories prior to the UFA.

Some aboriginal groups took advantage of the federal government's new found desire to conduct land use planning to expedite their own land claim agreements (Morton *et al* 2012). However, others have expressed little interest in a land claim agreement. The rationale is that without a land claim agreement, those Aboriginal groups have unextinguished rights in their traditional territories as guaranteed by Section 35 of the *Constitution Act,* and upheld by the

Sparrow decision (Hessing *et al* 2005, Natcher & Davis 2007). Therefore, Aboriginal peoples with unsettled land claims argue this allows them greater control over access to individual resources, but less influence in the formulation of strategic policy and participation in collaborative-management regimes. Though such a decision is understandable, the implications for land use planning are great.

Because land use planning is an institution of European origin, rights to lands and natural resources must be explicitly defined in the conventional Western sense (especially with emphasis on property) in order to function properly – an assumption that settling land claims as modern Aboriginal treaties is intended to resolve by essentially trading implicit harvesting rights over a large area for explicit property rights over a determined proportion of the land (Porter 2006). The concept of outright ownership is often cited as foreign to the traditional values of Aboriginal communities. To some extent this is true but the idea that "owning" a piece of land grants its proprietor outright power over the spatial area of the property is indeed foreign in many Aboriginal communities – which view property in more of a collective sense, adhering to strict communal socio-cultural and ecological values (Menzies & Butler 2006). This position concerning collective vs. private ownership of lands and natural resources is often regarded as counter-intuitive to traditional Aboriginal values and a source of significant tension between governments and Aboriginal groups Notzke 1994, Hessing *et al* 2005).

2.2 Environmental Assessment

Environmental assessment has become a nearly ubiquitous extension of regulatory efforts to minimize adverse impacts on the natural and social environments as a result of human activities on the landscape (Hanna 2009, Glasson *et al* 2012). In many instances, environmental

assessment has become an informal planning tool used in lieu of formal land use planning where such initiatives lack the human and financial resources, legislative capacity, or political priorities. Additionally, it is becoming increasingly commonplace for environmental assessment and land use planning to be utilized in tandem. Environmental assessment processes often contain core elements of the RCPM (Hanna 2009) that was pioneered by planning circles, and has become increasingly sustainability-oriented in recent years. By employing different methods to achieve the same desired outcome, environmental assessment and land use planning can compensate for each other's shortcomings, such as the emerging issue of how to manage cumulative effects.

2.2.1 Definitions and applications

There is no single universal definition for what constitutes an "environmental assessment" (Glasson *et al* 2012). There are also no explicit criteria as to what development-oriented activities are assessable, what kinds of potential impacts (environmental, socio-economic, or both) an assessment is required to evaluate, what spatial and temporal scales are most appropriate, and whether the final product of an environmental assessment is legally binding or advisory in nature (Gibson *et al* 2005). Definitions may be very broad, in order to encompass a large range of activities or impacts, or very focused, to provide more strategic guidance to address a specific type of activity. Justice La Forest (1992, 71), during the *Friends of the Oldman River Society v. Canada* legal battle, defined environmental assessment as:

> *...a planning tool that is not generally regarded as an integrated component of sound decision-making. As a planning tool it has both an information gathering and decision-making component, which provides the decision maker with an objective basis for granting or denying approval for a proposed development.*

The Canadian Environmental Assessment Agency (CEAA) (Government of Canada 2012), the agency responsible for administering federal-level environmental assessment in Canada as per the *Canadian Environmental Assessment Act (1995),* simply defines 'environmental assessment' as a process that:

1. *Identifies possible environmental effects,*
2. *Proposes measures to mitigate adverse effects, and*
3. *Predicts whether there will be significant adverse environmental effects, even after mitigation is implemented.*

Noble (2009) further adds to the CEAA definition, more explicitly defining 'environmental assessment' as a process that:

1. *Identifies, analyses, evaluates environmental effects of proposed projects,*
2. *Integrates environmental considerations and public concern into decision-making, and*
3. *Helps decision-makers achieve sustainable development.*

In many ways, the above definition is offered as a simplified version of the RCPM as discussed in previous sections. While land use planning today emphasises process over product (Jones *et al* 2011, Randolph 2012), environmental assessment is still very much product oriented. Regardless, both processes are still heavily normative. But unlike land use planning, whose terms of references, interest and issues, and timelines are often dependent on stakeholder input (Hodge & Robinson 2001, Margerum 2012), the scope of environmental assessment is typically rooted in legislation and follows a very specific, predetermined process designed for efficiency (Lein 2003, Gregory *et al* 2012). Environmental assessment is designed to assess and evaluate the impacts of proposed development for the intended length of time the activity is proposed to be carry out. There is no universal list of guiding principles in environmental assessment, as pointed out by Hanna (2009), referring to the five principles of environmental assessment as defined by

Sadler (1996). Gibson (1993) provides a comprehensive overview of common environment assessment principles, presented in Table 2.1.

In Canada, all ten provincial and three territorial jurisdictions have implemented their own environmental assessment regimes. Recently, it is becoming increasingly commonplace for provincial and territorial assessment agencies to increase their scope to evaluate proposed development within their boundaries as the federal government scales back its scope, albeit with a few exceptions, such as development activities involving transboundary waters or oil and gas pipelines of a transboundary nature (CEAA 2012).

2.2.2 Origins, evolution, and theory

Environmental assessment first emerged as a direct response to the concerns and issues raised by the modern environmental movement (Noble 2009). Environmental assessment as a practice first emerged in 1969 in the United States with the passing of the National Environmental Policy Act (NEPA), which established a formal environmental assessment process in the country and founded the Environmental Protection Agency (Glasson *et al* 2012). Canada was quick to follow suit, but instead chose to develop a non-legislated environmental assessment policy.

The Environmental Assessment and Review Process (EARP) was created in 1973, with the Department of Environment given nominal authority for implementing EARP in 1979 (though most responsibility for conducting assessments remained with the original initiating or approval body). A ‘guidelines order’ detailing the roles and responsibilities of parties implementing or participating in EARP was issued in 1984 (Gibson 2005). However, unlike its American counterpart, environmental assessment at the federal level did not become

Table 2.1: Core principles of environmental assessment

(Gibson 1993)

Principle	Description
(1) The approach to environmental assessment should be integrated	Impacts from activities must be considered at local, national, and global scales, and should be examined in the short, medium, and long term. This is best done by relating environmental assessment to regional land use planning.
(2) All decision-making should be environmentally responsible	Environmental assessment should be applied as broadly as possible, inc. public and private sector initiatives, proponents must know what their assessment obligations are, and government PPPs be subject to assessment as well.
(3) Environmental assessment should focus on identifying best options rather than acceptable options	All alternatives be critically examined based on their purpose and merits, and should focus on the rationale for a preferred set of actions to achieve objectives.
(4) Environmental assessment should be based on law, and should be specific, mandatory, and enforceable	Environmental assessment is intended to lead to change in place and decision-making. Expectations must be clearly understood, key tenets based in law, and compliance legally enforceable.
(5) Assessment processes and related decision-making must be open, participatory, and fair	Environmental assessment must reflect the concepts of equity, empowerment, and justice embodied in sustainable development and the participatory approach.
(6) Terms and conditions must be enforceable, capacity exists to monitor effects and enforce compliance	Approvals and permits will have little effect if capacity lacks to track, monitor and ensure compliance of terms and conditions of approval.
(7) Efficient implementation should occur	Inefficient implementation of environmental assessment may breed resentment between the assessment agency and proponent, as environmental assessment is intended change the behaviour of proponents to automatically act with regard to social and environmental consequences.
(8) Provisions must be made to connect environmental assessment to higher-level decision-making	The results of environmental assessment ought to feed back into more general policy and programme deliberations (e.g. land use planning), and be used to help develop criteria for judging environmental significance.

legislatively-based until 1995 under CEAA, which introduced clear legislative obligations for agencies within the federal government, and proponents of proposed developments covered by the law, to consider environmental impacts (Herring 2009).

While the legislated obligation for federal environmental assessment in Canada would not be settled until 1995, over the years the provinces took it upon themselves to establish their own environmental assessment processes that included activities and issues of provincial importance not covered under EARP and CEAA. Not until 1995 did the Government of Canada formally establish a federal assessment agency with a legislated mandate (Duinker & Grieg 2006); prior the Federal Environmental Assessment Review Office operated entirely under EARP guidelines. The Canadian Environmental Assessment Act detailed the creation of the Canadian Environmental Assessment Agency to establish formal review processes for major development projects that are subject to federal law, such as projects concerning navigable waters, oceans, national highways, nuclear energy, fossil fuel pipelines, or projects straddling two or more provincial/territorial jurisdictions (CEAA 1995).

While this new federal environmental assessment law did not expand the mandate of CEAA, it did require the consideration of cumulative effects for the first time in Canadian environmental assessment law. The act marked the beginnings of a shift away from solely evaluating site-specific, short-term scoping of proposed development to encompassing impacts at ever expanding temporal and spatial scales as the complex nature of the development-impact relationship on natural and socio-economic systems becomes better understood (Dowlatabadi *et al* 2004).

This shift is particularly important as it has brought to light the often narrow scope of typical environmental assessment processes and their inability to mitigate additive, adverse

impacts as a result of development that does not follow a direct, causal relationship from activity to impact, such as cumulative effects (Shoemaker 1994, Kennett 2000). This criticism provides the key opportunity to pair environmental assessment with land use planning with its leanings towards recognizing the uncertainty and complexity of future development.

2.2.3 Cumulative effects as an emerging concept in environmental assessment

In the last 20 years, the emergence of the issue of cumulative effects in environmental assessment has raised critical questions about what the scope and intent of environmental assessment ought to be (Therivel & Ross 2007). Environmental assessment often internalizes a significant critical assumption that impacts as a result of human activities are temporally linear and the physical extent of impacts is limited to a definable spatial footprint of the activity. In simple terms, environmental assessment assumes that development (cause) leads to a set of impacts (effect) that is proportionate to the temporal and spatial extent of the development (Shoemaker 1994, Tollefson & Wipond 1998). However, as the complex biophysical systems that determine the spatial and temporal scale of impacts resulting from human activity on the landscape are better understood, it is apparent that environmental assessment is becoming increasingly unable to mitigate impacts that do not adhere to a typical cause-effect relationship between development and impact (Dowlatabadi *et al* 2004). These types of impacts are more commonly known as 'cumulative effects'.

One of the long-standing criticisms of standard environmental assessment is the neglect of possible cumulative effects (Shoemaker 1994, Harriman & Noble 2008). According to Tollefson & Wipond (1998, 371), cumulative effects are those resulting from "human activities that are repeated and dispersed over time and space... [that] can lead to substantial and sometime

irreversible environmental changes". Shoemaker (1994, 8) further reports concerning the complexity of cumulative effects stating, "most researchers recognize that site-specific, linear cause-and-effect analysis is not sufficient". For example, the environmental and socio-economic impacts of current and reasonably foreseeable future development might be exacerbated by various types of disturbances in the past, particularly those activities which were historically poorly regulated and located within close proximity to one another, like placer mining. Furthermore, broader environmental processes like climate change, which originates well beyond the extent of the region, can certainly influence impacts from localized activity, which in turn can be added to the overall impact of climate change on the region.

Such complex processes, when occurring simultaneously and within close geographic proximity, are significant sources of potential and negative landscape change. Dickert & Tuttle (1985, 39) elaborate, stating that an "important characteristic [of cumulative effects] is the nonlinear rate of response to a linear increase in stress". Though cumulative effects are generally seen as negative, cumulative effects can be positive, and attempts should be made to accommodate potential positive changes. Additionally, cumulative effects are not restricted to impacts on biophysical or ecological systems; socio-economic impacts resulting from cumulative effects are just as likely, especially given the often poorly understood nature of social systems and their tendency to evolve quite rapidly. A characteristic of cumulative effects that is unique compared to more typical environmental impacts are their ability to materialize as a result of multiple activities or development within geographic proximity to one another that have occurred in the past, are occurring currently, and reasonably likely to occur in the future.

From a logistical standpoint, assessing and mitigating cumulative effects have proven difficult. Cumulative effects occupy a grey area in terms of authority and responsibility in

environmental management with government and industry often claiming it is the other's responsibility. Undertaking cumulative effects initiatives by governments often requires a significant amount of public funding, which given the current state of cumulative effects assessment (discussed in the following subsection), may lead to undesirable, divisive, or even potentially embarrassing results that may have implications for conducting future assessments (Therivel & Ross 2007).

Because cumulative effects are typically not assessed adequately or even at all, the necessary baseline data required to predict adverse impacts are not collected. Thus the system diverts attention to site-specific impacts that can be more accurately predicted because information is plentiful and similar impacts are well-documented (Creasey & Ross 2009, Noble 2009). This narrative of strategically prioritizing site-specific impacts that do not consider their synergistic interactions with other project impacts inevitably perpetuates itself. While a prominent issue in environmental assessment circles for the last two decades, cumulative effects still largely remains an abstract concept. Although it is generally understood that cumulative effects do not adhere to a linear and proportionate path from activity to impact, the intricacies by which those impacts materialize is poorly understood, if at all (Canter & Ross 2010). Cumulative effects are so difficult to understand and predict because they operate on multiple scales, and are inherently complex as a result.

As so eloquently stated by Hillier (2007, 43), "complexity is complex!" She elaborates that complexity is context dependent, stating that output is a function of the input which requires multidisciplinary thinking to unravel the full extent of the interconnectedness between seemingly isolated ecological, social, cultural, and economical spatial characteristics. Thus, devising solutions to complex issues concerns itself with relationships and processes whose components

constantly interact with each other or even outside components creating multiple routes, and often providing feedback routes.

James Kay (2008, 80) corroborates Hillier's (2007) treatise on complexity, claiming "ongoing collaborative learning demanded by this new understanding will require new institutional arrangement and broad public participation" in the face of complexity and uncertainly, such as change resulting from cumulative effects. This notion of new institutional arrangements to address complexity can be extended to justify the rationale for integrating natural resource management regimes, such as land use planning and environmental assessment. He adds that "we can no longer manage nature nor can we manage people because we ourselves are all part of this fundamental complexity," alluding to the suggestion that complexity is inherently a human function of natural systems, though seemingly complex, operates on comparatively predictable planes.

"The best we can do is to anticipate what might happen and nurture adaptive interactions with the systems in which we are imbedded". This passage most certainly can be interpreted as suggesting there is no solution to complex problems like cumulative effects, rather the only defence is to minimize our vulnerability to them by integrating flexibility and adaptiveness into our management regimes. However, it is important to note that although adaptive management and flexibility are crucial, they should not eclipse the importance of making significant changes towards sustainability.

2.2.4 Cumulative effects assessment and management

In order to address issues of cumulative effects, various arrangements and regimes have been proposed, but few if any have been firmly established. The main method by which

cumulative effects may be predicted and mitigated is through a cumulative effects assessment, or CEA. A cumulative effects assessment is a type of environmental assessment that looks specifically at the impacts as a result of development that do not the follow a typical linear, additive, cause-effect relationship (Kennett 2000, Duinker & Greig 2006). Numerous environmental assessment agencies within government across Canada have attempted to require CEAs, but have yet to materialize the theory surrounding the concept into a standard and accepted approach to practice (Canter & Ross 2010, Hegmann & Yarranton 2011).

This is partially due to the poorly understood nature of cumulative effects (Harriman & Noble 2008), but also because typical environmental assessment processes are limited in their scope to consider only site-specific impacts (Hanna 2009), though recent changes to federal legislation has broadened the definition of this scope. Other times environmental assessment lacks capacity, financial resources, and/or political foresight to do so effectively without significant public criticism (Canter & Ross 2010). The rationale behind the narrow focus of environmental assessment is to provide assessment agencies and government regulators with site-specific activities that can be more easily assessed and impacts more easily monitored (Hodge & Robinson 2001). Given the nature of cumulative effects, it is nearly impossible to regulate the impacts of development when it is unclear by what mechanism those impacts materialized. Steps to mitigate cumulative effects at the regional scale in northern Canada are difficult to enforce when there is a lack of consensus about the nature of cumulative effects and who is ultimately responsible (Hegmann & Yarranton 2011).

Debate swirls around the appropriateness of assessing cumulative effects through the standard environmental assessment model (Dixon 1993), and to what extent that is the most appropriate scale given what is currently known about how to do cumulative effects assessment.

Therivel & Ross (2007) claim that an appropriate scale is the most important factor when devising an approach to address cumulative effects. In typical assessment processes in Canada, agencies must consider the cumulative effects of development at the project-scale (Dowlatabadi *et al* 2004), yet it is widely held that a regional-scale approach to mitigating cumulative effects is the most appropriate, if not the only, viable approach given the tendency for cumulative effects to transcend restricted temporal and spatial scales (Duinker & Greig 2006). Consequently, the progress of CEA has been slow as new information attempting to conceptualize cumulative effects is presented (Harriman & Noble 2008).

Canter & Ross (2010) are quick to point out the tendency for CEA processes to strikingly resemble those of their project-specific counterparts as a possible source for their lack of success. Perhaps this may be an inherent result of CEAs being an assessment process rather than a planning exercise. Although the objectives of CEAs are slowly beginning to resemble more collaborative planning processes, in that stakeholders may be significantly involved in determining the terms of reference, interests and issues, timelines, goals and objectives, and desired future outcomes, CEAs are still limited by their process design akin to typical environmental assessment processes – which are held to be inadequate at both predicting and mitigating cumulative effects. Nevertheless, CEAs represent a clear attempt to combine the product, end result orientation of environmental assessment and with the collaborative, strategic outlook of land use planning.

However, project-focused CEAs fail to address the fundamental weaknesses prevalent in both planning models, such as the narrow spatial and temporal scale of assessment (Duinker & Greig 2006), and the lengthy process and often 'lofty' goals and objectives of planning. The contrast between the weaknesses of these two models justifies a cumulative effects regime that

integrates more assessment into planning, rather than planning into assessment that is often found in current CEAs (Canter & Ross 2010, Hegmann & Yarranton 2011). This approach to cumulative effects is easier to implement given the prevalence of land use planning activities at nearly every jurisdictional level across Canada as opposed to the few and isolated CEAs.

CEAs can be undertaken under two predominant approaches. First, the assessment of cumulative effects can be conducted during a typical environmental assessment in which the potential for cumulative effects are determined by evaluating the impacts of a specific development in relation to past, present, and reasonable foreseeable future developments within proximity. Typical environmental assessments internalize a number of planning concepts, including problem identification and the evaluation of alternatives, but despite these strategic planning components in environmental assessment, the narrow scope, limited timelines, and results oriented process prevent cumulative effects from being better known.

Second, CEAs can be conducted as separate processes from environmental assessment – typically focusing on a specific region, sector, and/or industry. Standalone CEAs are more likely to function like a planning process with a more strategic mandate that is likely to garner more support and engagement from stakeholders. In both approaches, CEAs focus on cumulative effects from multiple activities or development on the landscape within spatial proximity to one another that may accrue from past, present, or reasonable foreseeable activity. This can be done by assessing a particular activity in relation to those around it and how it might interact with them over space and time, or by assessing multiple projects simultaneously and the synergistic impact the combined effects of development may have.

In response to skepticism about CEA, a new concept in cumulative effects regimes has emerged. Cumulative effects assessment and management (CEAM) has become popularized to

describe the inclusion of feedback loops into CEA processes as part of integrated management systems whenever new information becomes known, unforeseen changes as a result of cumulative effects occur, or shifts in socially-determined valued-ecosystem components requires a re-evaluations of the goals and objectives of a cumulative effects approach (Canter & Ross 2010). This new cumulative effects paradigm acts more like a cyclical land use planning exercise than a single, linear environmental assessment process. Because concerns regarding cumulative effects and the lack of adequate baseline data to determine them are widespread, it is imperative that any cumulative effects management regime be flexible in order to accommodate any change (Dowlatabadi *et al* 2004, Harriman & Noble 2008).

Canter & Ross (2010), in a review of the CEAM literature, detail a total of 26 lessons to be learned from CEAM thus far in an article appropriately titled, *State of practice of cumulative effects assessment and management: the good, the bad, and the ugly.* The authors identify twelve good lessons (potential best practices in CEAM), eight bad lessons (needs for improving the practice of CEAM), and six 'ugly' lessons (minimal attention if any to CEAM). A summary of these lessons can be found in Table 2.2 below; those lessons relevant to the context of this study have been bolded to show emphasis. CEAM in land use planning can be effectively utilized to address at least in part some of those shortcomings identified by Canter & Ross, particularly those involving decision-making processes and institutional governance. An integrated resource management approach to the integration of CEAM into land use planning activities will be justified in the following subsection.

A prime example of an integrated CEAM framework is the Environmental Stewardship Framework in the Northwest Territories, formerly known as the Cumulative Effects Assessment and Management Framework. The framework outlines five components: vision and objectives,

planning and environmental programs, assessment and regulation, administration, and audit and reporting. The framework was introduced in 2000 to support responsible economic development within the context of sound environmental stewardship. It is intended to help organizations understand where they fit into the broader resource management context in the territory and how they can aid in the implementation of the framework in terms of both day-to-day activities as well as long-term planning. See Figure 2.1 for a breakdown of the component of the NWT Environmental Stewardship Framework.

2.3 Integrated Resource Management

Given the strengths and weakness of both land use planning and CEA as described in previous sections, there is an abundance of rationale for the integration of the two tools. This sentiment is supported by two prominent researchers in the fields of land use planning and cumulative effects management. Gibson (1993) states that, "an integrated approach would also consider cumulative effects [in addition to typical environmental impacts], which is best done by relating impact assessment to regional land-use planning". Slocombe *et al* (2009, 251) echo this sentiment, stating that, "regional land use planning might be one of the best tools for managing cumulative effects". If the views of these academics are credible, there is some consensus that pursuing an integrated land use planning-CEAM regime is a worthwhile endeavour. Yet the specifics of how this might be accomplished are still under discussion, though it is generally acknowledged, by Gibson (1993), Kennett (2000), Duinker & Greig (2006), Slocombe *et al* (2009) and many others that the integrated resource management approach is most appropriate (in addition to its incorporation into strategic initiatives that are not region-based).

Table 2.2: Lessons learned from the current state of CEAM

(Canter & Ross 2010)

Good Lessons	Bad Lessons	Ugly Lessons
• A VEC-based perspective is used in planning and conducting CEAM studies • Both proponent and agency context scoping, and public scoping is used in CEAM • Generic CEAM frameworks are applied to specific VECs, and their application and findings are carefully documented and explained • Scenarios are used as a effective tool when reasonably foreseeable future actions are uncertain • Careful delineations of an outline and topics to be addressed relative to a CEAM study is employed for an effective presentation of info • Cumulative effects on specific VECs or their indicators are used as integrators of project and/or action effects at local, regional, and strategic spatial areas • Environmental sustainability is used for describing the significance of cumulative effects efforts • Positive lessons learned from the professional practice of CEAM are disseminated, thus contributing to raising the quality of CEAM • CEAM relies on modified principles, methods, and tools from EIA practice • Internet data and info are used to aid in the planning and conducting of CEAM studies • A proactive approach is used when incremental effects mitigation and local and regional cumulative effects management measures are identified, implemented, and evaluated • The proposed project or action subject to CEAM is not viewed as isolated, either in space of time	**• The topical attention in most CEAM studies is related to air quality, water quality and quantity, ecological components, and natural resources with limited attention given to developing processes, methods and tools for addressing cumulative social and economic impacts** **• CEAM studies can become complex from scientific and institutional perspective, requiring early consensus regarding the selections of VECs** • Terms of reference in CEAM documentation have been vague **• CEAM study reports have not been recognized as having continuing usability and value for future project, and ought to be periodically updated to enhance their usability for regional or strategic cumulative effects assessments** • Inadequate guidance is provided for determining relevant VECs and their appropriate level of analysis • There is a lack of CEAM expertise in government, where guidance for specific agencies would be useful for more effective and focused facilitation of CEAM studies **• Inadequate direction is provided to large-scale CEAM studies, characterized by numerous scientific, policy, and institutional uncertainties** **• Dealing with new topical cumulative effects issues has been a challenge as generic CEAM frameworks have not been responsive to such issues**	**• EIA documents include minimal attention to CEAM, with the included information being very brief and 'reflective of assertions without analysis'** **• Current information on CEAM does not demonstrate that any efforts were made to follow systematic CEAM processes** **• Key decision makers within the private sector or government agencies may not be committed to 'good practices'; thus CEAM is not adequately emphasized or funded** **• CEAM may be given minimal attention because of concerns about potential cumulative effects and who will be responsible for funding mitigation and management efforts** • Even though CEAM indicates that there are multiple contributors to significant adverse on specific VECs, there is no indication that multi-stakeholder collaboration was utilized in the conduct of the study and the planning of management measures • On occasion, an attitude that CEAM cannot be done may be espoused, particularly in situations where the uncertainties related to cumulative effects are large

2.3.1 Definitions and approaches

While there is substantial rationale for integration of land use planning and CEAM regimes in order to address future uncertainty, the most appropriate approach for doing so is still largely shrouded in ambiguity (Mitchell 2005). Most advocates of integration in this context would point to integrated resource management as the standard approach. Moreover, though indeed there is a great deal of merit to IRM, it is often weighed down by its own breadth. There is no universal definition of integrated resource management, as it is designed to be flexible in its definition to allow broader application in a multitude of contexts.

Nevertheless, as Slocombe & Hanna (2007) illustrate, a clear definition is vital if the true extent of a problem is to be recognized, realistic goals are to be set, viable implementation strategies developed, and successful monitoring programs established. They provide a comprehensive overview of definitions from other scholars, which are summarized on Table 2.3. Given this, IRM typically requires increased communication and coordination of values between multiple sectors, agencies, and the public towards a collaborative decision-making process and strategic problem solving in natural resources management. Mitchell (1990) defines IRM as the melding of four components: multiple purposes, means, and participant strategies; blending of various resource sectors; using resource development as a mechanism for social and economic changes; and striving for accommodation and compromise.

Regardless of the exact definitions, it is clear from Slocombe & Hanna (2007) that IRM links two fundamental concepts: comprehensiveness and strategy. Integrated resource management, like many modern integrated planning tools, reflects the pervasiveness and influence of the RCPM and the idea that success, both actual and perceived, is highly context dependent and requires the willingness of actors to coordinate a “collective strategy”, whose

objectives are reflective of shared, place-based common values (Margerum 2008, Margerum 2011). Such a "collective strategy" is congruent with the notion that any successful IRM programme requires substantive institutional collaboration and thus presents itself as an ideal opportunity for exploring a land use planning-CEA IRM regime.

However, comprehensiveness is not always realistic from an operational standpoint. Given that IRM lacks a universal definition, too much comprehensiveness may result in a timeline that is not conducive to solving complex problems – a very common barrier to successful IRM (Margerum 2012). A clear definition ought to explicitly describe the scale (both temporal and spatial), the sectors, the actors, and the knowledge of the desired IRM regime before a problem can be identified (Slocombe & Hanna 2007). Clear problem identification as a result of a clear definition is paramount to narrowing the scope and focus of IRM in order to provide deliverable results in a timely manner.

Identifying strategic priorities in a comprehensive resource management program can help limit the scope of the program and more effectively allocate resources in order to produce more deliverable results (Gregory *et al* 2012). But strategic decision-making often involves high-level deliberations which due to the nature of whatever issue at hand may lack an adequate amount of public engagement. More engagement and consultation is certainly a good thing, but decisions must also be made in a timely manner. The key is to strike a balance between a comprehensive IRM regime that envelops as many scales, actors, sectors, and processes as is feasible and enough strategic direction to prevent unclear problem definition and unrealistic objectives.

Both land use planning and CEA contain elements of comprehensiveness and strategic decision-making that are ideal for integration. In the context of this study, regional land use plans

Figure 2.1: Components of the NWT Environmental Stewardship Framework
(Aboriginal Affairs and Northern Development Canada 2009)

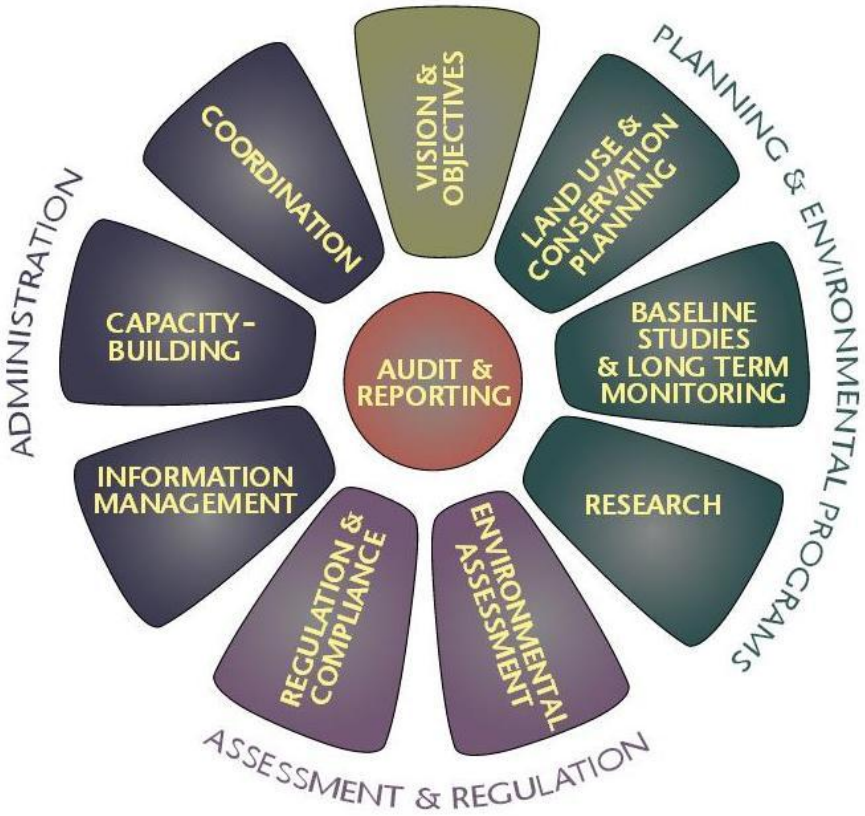


Table 2.3: Overview of IRM definitions in the literature
(Slocombe & Hanna 2007, 10-11)

Source	Description
Mitchell 1986	"Although the choice of specific descriptors will vary, the usual idea associated with integrated resource management is the sharing and coordination of the values and inputs of a broad range of agencies, public, and other interests when conceiving, designing, and implementing policies, programs, or projects."
Walther 1987	"Integration is a process of increasing organization and order in a system. Most IRM projects approach integration by improving communication and applying the concept of cooperative decision-making among experts of sectoral interests groups".
Child & Amour 1995	"...multiple means and multiple purposes, multi-sectoral blending, the incorporation of multiple professions and perspectives into planning, public participation, and the achievement of accommodation and compromise. Integration implies cooperative decision-making and cooperative planning."
Lang 1986	"...planning processes developed strategic, interactive, and multiple perspectives on resource management and environmental problems in order to achieve results that not only reflect as integrated approach, but also move towards addressing the needs and values of different stakeholders."

in the Yukon are not legally binding, but rather provide guidance for incorporating sustainability into the permitting process. It is at this point that the activities associated with a proposed development are evaluated based on the land use plan. Alternatives are evaluated and recommendations are then made to regulators to include in subsequent permits and licences in order to mitigate adverse effects. Land use planning in this scenario is not intended to regulate land uses, but to provide environmental assessment with a comprehensive outline of the desired future state encouraged by the land use plan and to be achieved through proper selection, design, approval, and implementation of individual projects.

However, there are other benefits to integrating land use planning and CEAM under a single IRM regime. Land use planning is generally more proactive and adaptive than assessment as it focuses on a continuous cycle of planning, implementation, monitoring, and feedback that is more capable of responding to change (Kennett 1999), especially given recent ecosystem (Tollefson & Wipond 1998) and bioregional (Shoemaker 1994) trends in IRM. Most planning processes have been better able to incorporate sustainability concerns (whereas environmental assessment often struggles with grasping socio-economic effects in a process focused largely on environmental effects) and include provisions for regular review and opportunities for adjustments. Land use planning is also more flexible in that plans themselves, alternative scenarios, or other forms of strategic assessment can consider the implications of cumulative effects (Dixon 1993).

Because many jurisdictions in the North already engage in land use planning to some extent, it is more cost-effective to incorporate CEAM principles into pre-existing land use planning regimes than to implement an entirely separate CEAM regime. Duinker & Greig (2006)

affirm that there are currently too few successful CEAM programmes in Canada, and that the opportunities presented by land use planning and the socio-political will in northern Canada to incorporate CEAM via an IRM approach are certainly worth investigating. An IRM setup may be useful in northern Canada where capacity is limited, regulatory oversight is inconsistent, resource development is expanding, Aboriginal consultation is mandatory (Hessing *et al* 2005) and geospatial boundaries more often parallel natural boundaries than perhaps they do further south (Sadler 2011).

The issue of scale is of constant concern when implementing IRM, as scale can be the ultimate determining factor establishing stakeholder interests and concerns, goals, objectives, and timelines, among other details (Therivel & Ross 2007). Establishing the appropriate scale is also determined by the context of the problem IRM is intended to resolve (Slocombe & Hanna 2007). In response to this need, a number of sector-specific approaches have been applied and reached popularity among IRM practitioners because they more accurately reflect the interactions between social and ecological systems predicated upon more self-identifying natural regions. These approaches include ecosystem-based management, integrated watershed management, and integrated landscape management. Each of the aforementioned approaches recognizes the inherent value of land use planning as a means of regional management in the landscape context each is intended to operate within (Cortner *et al* 1998, Mitchell 2005, Kennett 2006). Hodge & Robinson (2001) reiterate the emphasis on the naturally defined region as the proper delimitation for land use planning, and hence justify an IRM perspective.

Fragmentation of natural systems is arguably the greatest threat to implementing any successful IRM application at the landscape level. Fragmentation can also occur between stakeholders (Christensen *et al* 2008), in which case, if consensus between stakeholders is vital

to IRM, it is then of the utmost importance that all interest and concerns, albeit environmental, social, or economic, be addressed and given weight in decision-making (Margerum 1999). The importance of social, economic, and environmental values is the essence of the 'triple-bottom line' that is so prevalent in the concept of sustainability; it is a philosophy that explicitly recognizes and actively reconciles often-conflicting perspectives by simultaneously promoting positive opportunities and enhancing current activities without compromising the integrity of intertwined social, economic, and environmental systems (Robbins 2004). In their treatise on *Sustainability Assessment*, Gibson *et al* (2005) claim that land use planning and environmental assessments are both ideal 'candidates' for integrating sustainability into decision-making processes – and that consequently includes the strategies to reduce cumulative effects at the strategic and project levels.

Hacking & Guthrie (2008) illustrate where in the assessment spectrum such an approach might lie in relation to other better established assessment tools (Figure 2.2). Because integrating CEAM into land use planning would ultimately mimic elements of both assessment and planning exercises, arguably an IRM framework would contain many of the same elements as an 'integrated assessment' (or perhaps a 'regional strategic assessment', though not shown in the diagram). Given the difficulty of predicting cumulative effects, particularly socio-economic effects, it would be premature to claim an integrated land use planning-CEAM initiative would add any more positive contributions to sustainability.

In order to reduce the scope of any cumulative effects-oriented IRM regime simply for the sake of feasibility, approaching cumulative effects from a biophysical lens is likely to yield the best results (though an entirely sustainability approach is more ideal, but perhaps unrealistic in some contexts). Predicting adverse socio-economic impacts as a result of development

through the standard environmental assessment process has proven increasingly difficult as social systems tend to be more complex given the increasing spatial nature of humans and the fact that social systems can evolve much more rapidly and unpredictably than ecological systems. Ecological systems function according to a plethora of natural laws that social systems tend to circumvent (due to more self-aware individuals within the system).

The limitations of our current understanding of cumulative effects and the application of CEAM do not necessarily lend themselves to a wholly sustainability-oriented approach, such as sustainability assessment. Despite this, the tendency of CEAs and CEAM regime to focus on the biophysical, given the intimate relationship between ecological and social system as a source of economic livelihood in northern Canada, it is not entirely unreasonable to assume a typical CEA of biophysical impacts would contain considerable cross-over into implicit impacts on socio-economic systems and how they may affect quality of life. Though socio-economic, cultural, and political systems are indeed a concern of CEAs, the sheer expanse of biophysical systems in northern regions and their influence on daily life often results in biophysical concerns often given priority over other concerns.

This is perhaps an argument for the applicability of CEAs in the North as opposed to parts of the country where the divide between natural and social systems might be greater. That being said, it is important to approach CEAM from a case-by-case perspective in order to properly identify interests, issues, and values, regardless of their social, economic, or environmental underpinnings. This notion gives credibility to the position that CEAs are best conducted as separate processes that allow for a greater array of values to be identified than those predominantly found in typical environmental assessment (environmental assessment in the Yukon does take socio-economic concerns into account in addition to biophysical, a review of

the process determined that the ability of the process to account for socio-economic changes during assessment is unfortunately lacking).

Frame *et al* (2004) illustrate the significance of consensus in their study of collaboration in land and resource planning in British Columbia that has reduced conflict and increased consensus where conventional techniques such as public consultation had failed. This narrative parallels the need for integration as illustrated by the 'z' axis in Hacking & Guthrie's (2008) framework. These findings have particular implications when conducting land use planning in Aboriginal traditional territories where consultation is the standard practice.

As Frame *et al* (2004) point out, if collaboration rather than consultation is more conducive to achieving mutually beneficial outcomes, then in cumulative effects management governments must engage Aboriginal people in collaborative planning. Anything less would be deemed in contempt of land claim agreements or Aboriginal right and title (Tollefson & Wipond 1998) by lack of oversight in environmental regulation. Because it attempts to reconcile contentious development narratives, an IRM approach to land use planning will inherently include cumulative effects in planning for long-term ecosystem viability.

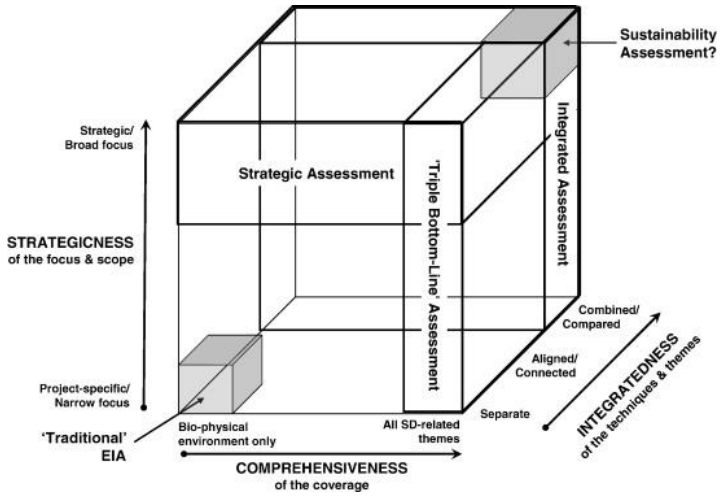
If Kennett (1999) is correct in his assertion that IRM is the only viable framework for addressing gaps in current CEAM regimes, then logic would rationalize the inclusion of CEA in such a framework. However, as a general rule of thumb, translating theory that has been firmly established in the literature into practice at the operational level often proves one of the greatest barriers to IRM. This dynamic between theory and practice in IRM can be characterized by a number of concepts in the integration literature (Jordan & Lenschow 2010). Most commonly, integration efforts are characterized by either horizontal integration (i.e. integration of actors at the same level in different parts of a single organization, institution, or level of government) or

vertical integration (i.e. integration between different levels of government (Geerlings & Stead 2003).

In the context of this study, it may be more useful to envision horizontal integration as the consistency of strategic initiatives across varying levels of planning that are being carried out across government agencies, advisory agencies, and sectors (Shoemaker 1994), from local area planning, forestry planning, parks planning, and to eventually regional land use planning. While some planning levels are more conducive to influencing development at the operational level, those planning levels that have been identified and increasingly utilized for strategic purposes have difficulty meaningfully influencing operational impacts. Geerlings & Stead (2003) describe this dynamic as "intra-territorial integration", or integration between authorities with shared interests in managing and regulating land and land uses. They further elaborate, describing policy integration as "dialogue and information, transparency, and avoidance of policy conflicts (as in policy coordination, policy coherence, and policy consistency) but also includes joint workings, attempts to create synergies between policies, and the use of same goals to formulate policy".

Figure 2.2: Spectrum of Assessment Processes

(Hacking & Guthrie 2008, 75)



In this sense, there is then a need for vertical integration between strategic policy initiatives, such as regional land use planning, and ground level operations, such as development permits (Shoemaker 1994). The most appropriate way to ensure regional land use plans influence the permitting process is through environmental assessment (if the activity requiring a permit is assessable). Under this model, land use plans become the overarching determinant of the desired future state of a given area. The desired future state may be best determined by lengthy stakeholder consultation and collaborative processes with the people and organizations mostly likely to be affected by any adverse change in that area. Once a future vision for that area is finalized, any proposal for development that falls within the spatial boundaries of the land use plan must first be scrutinised in order to determine if the effects proposed activity might possible contribute to progress towards the desired future state.

If it is, then a formal assessment can begin, with recommendations for mitigation and enhancement being issued in order to ensure that the desired future state will not be adversely affected by the activity (Hanna 2009). Those recommendations are then intended to be included in the issuing of permits required to legally carry out the development, as well as providing a baseline for government inspectors to ensure the terms and conditions of permits are being met by developers. Any non-conformity with the plan or any non-compliance with the permit as per government regulations can typically lead to rejection of the development outright or severe financial punishment and even revoking of permits and licences, depending on the stage of the development (Hanna 2009).

Additionally, this model can also influence the voluntary application of best management practices on the ground by developers and land users as a method of meeting terms and conditions but also fostering positive relationships with other land uses, government, and

inhabitants of the region. In essence, the environmental assessment process acts as a medium between regional land use planning and permitting processes to ensure integration from the onset of planning consultation to the inspection of land use activities. However, Nilsson & Perrson (2003) note that without a strong political willingness to reform or even overhaul existing fragmentation between government agency mandates, processes, and policies, the de facto policies already in place will continue to be applied and may adversely impact the ability of government agencies to ensure effective program delivery.

However, it is apparent that, while this arrangement is logical, implementation faces a host of challenges. Therefore, it can be argued that if there were similar environmental management tools available to address the drawbacks of those most prominently utilized in this model, then perhaps more progress could be made than otherwise. The urgency to address issues like cumulative effects through this model has certainly brought to light its inability to mobilize regulatory terms and conditions and non-regulatory best management practices at the operational scale. Regardless, there is little literature on the positive outcomes of IRM due to the relative immaturity of the evaluation of such management regimes (Leeferty & Hovden 2003, Jordan & Lenschow 2010) and therefore it is difficult to determine effectiveness at times.

2.3.2 Integrated planning and assessment tools

In light of the shortcomings and difficulties associated with implementing any CEAM-oriented approach, whether it be land use planning, CEA, or an mixture of the two, specific tools have been designed and implemented to at least in the interim provide some sort of assurance that cumulative effects are actively being addressed. These tools are not unlike typical environmental assessments in that they have internalized a defined process, but they differ in that

they focus on high-level strategic priorities rather than site-specific development details. A prime example of such a tool is 'strategic environmental assessment', or SEA.

Simply defined, an SEA is an assessment of the environmental and socio-economic effects of implementing (typically) government policies, plans, and programmes (PPPs) (Gunn & Noble 2009). Noble (2000, 215) defines SEA as, "the proactive assessment of alternatives to proposed or existing PPPs, in the context of a broader set of goals, or objectives to assess the likely outcomes of various means to select the best alternative(s) to reach desired ends". Land use regulations are often reflective of PPPs, as they are what ultimately determine what uses are permitted and thus dictate the type and extent of environmental impacts at the ground-level (Dowlatabadi *et al* 2004). Unlike a typical environmental assessment, an SEA proactively seeks to understand environmental and socio-economic effects and impacts of PPPs at the source and utilizes that understanding to refine and improve the effectiveness of achieving its goals and objectives, rather than simply reactively suggesting mitigation measures. Thus, SEAs are believed to more adequately serve sustainability objectives in PPPs than otherwise (Sadler 2011).

Subjecting land use plans to an SEA has been proven quite effective and popular in Europe, Australia, New Zealand, and South Africa, but has yet to gain significant momentum in North America (Jones *et al* 2011). The reason for this is speculative at best. Many land use planning policies and legislation contain provisions for periodic review, perhaps perceptually eliminating the need for a separate assessment, which may be seen by the public as inefficient or redundant. In the Canadian territories, conducting SEAs requires a formal request from a federal cabinet minister in Ottawa to the appropriate assessment agency (Government of Canada 2010a). With increasing authority being transferred from the federal to territorial governments in recent

years, the federal government has little interest in intervening in the regulatory affairs of territories (Stevenson & Natcher 2010).

Like many strategic, comprehensive, and/or integrated tools before it, SEA too suffers from a lack of cohesive definition (Noble 2000). While arguably similar to standard environmental assessment in terms of process, the differing context in which SEA operates means that while the guiding principles for the processes are essentially the same, SEA asks different questions hopefully resulting in different answers. According to Noble (2000), more advanced SEAs are strategically focused, futures-oriented, emphasize alternatives, objectives-led, proactive, integrated, broadly focused, and tiered. Indeed, the principles of an SEA are similar to those conceptualized by the IRM approach, but with a normative process for determining outcomes. SEAs primarily seek to understand the relationship and integration between different pillars of knowledge and information to frame and analyse problems (Hacking & Guthrie 2008)

Regional land use plans are often intended to be the highest and most strategic policy in the land use policy hierarchy for its scale, as they are to provide comprehensive direction for including socially acceptable and sustainable land use practices into ground-level land use regulations (Jones *et al* 2011). An SEA to determine if this dialogue between administrational and ground-level policy is actually effective explicitly requires that a land use plan actually exist (Johnson *et al* 2011). In many cases, it is an unfortunate reality that land use plans for areas do not exist, or are effectively obsolete. Conducting a proper, formal land use planning exercise can be lengthy. If there is deemed already a sufficient level of land use regulation at the landscape level in an area where a proper land use plan is lacking (or is ineffective), conducting a regional strategic assessment may be considered as a viable option in lieu of an SEA of a land use plan.

A regional strategic assessment (RSA) differs from an SEA in one important aspect. The Canadian Council of Ministers of the Environment (2009, 6) defines RSA as, "a process designed to systematically assess the potential environmental effects, including cumulative effects, of alternative strategic initiatives, policies, plans, or programs for a particular region". Where an SEA looks into the impacts of implementing a single particular PPP, an RSA looks into all of the PPPs related to a specific activity within a specific region to determine the root cause of significant adverse effects or to anticipate and address future issues and opportunities. One of the main objectives of an RSA is to "improve the management of cumulative environmental effects" in order to "inform the preparation of a preferred development strategy and environmental management framework(s) for a region" (CCME 2009, 7). Thus, an RSA exemplifies many principles of regional land use planning. The results of an RSA exercise can have dramatic implications for implementation of operational sustainable land use practices at the landscape level.

Unlike SEAs, RSAs are not currently mandated under federal, provincial, or territorial environmental assessment legislation, though it is recognized that RSA is worthy of consideration at the project-scale (Government of Canada 2010a) and its potential scope is broadened further due to recent amendments to CEAA (Government of Canada 2012). This gives RSAs substantial flexibility in their application, as long as the political will exists to implement such a strategic undertaking. However, any form of strategic assessment should be approached with caution; although they may mimic many elements of land use planning, strategic assessments do not necessarily internalize provisions of transparency or collaboration with stakeholders (Susskind *et al* 2007, Glasson *et al* 2012). Ergo, once again, RSAs like standard

SEAs should be utilized in conjunction with land use planning, where effective land use planning is currently lacking, or where land use planning does not yet exist (Gibson *et al* 2005).

2.4 Land Use Planning and Cumulative Effects in Northern Canada

In order to effectively evaluate the relationship between land use planning and environmental assessment in the Yukon context, it is worth deriving lessons from similar frameworks in northern Canada that are predicated upon the establishment of comprehensive land claim agreements. Each of the three Canadian territories to one degree or another has some level of final agreements signed and/or is in the process of negotiating agreements. Outside of the Yukon, there exist integrated frameworks for the entirety of Nunavut, the settled interior of the Mackenzie River Valley in the Northwest Territories (NWT), and the Inuvialuit Settlement Region (which spans the Yukon's North Slope and NWT's Mackenzie River Delta). In addition, each of the land use planning frameworks in the geographic areas above are relatively recent institutions and it remains to be seen if these new frameworks established under the purview of Aboriginal land claims are effective process, decision-making, and implementation models in northern Canada. As a result, academic literature in some cases in limited and unfortunately reliance on a select few sources might not prove to be an accurate portrayal.

2.4.1 Nunavut

The environmental assessment and land use planning regime in Nunavut shares a striking resemblance to that of the Yukon's. In 1993, the Nunavut Land Claims Agreement was signed between the Inuit of the Nunavut Settlement Area and the Government of Canada, which as a result formally allowed for a referendum and the eventual secession of the Nunavut Settlement

Area from the Northwest Territories to form Canada's third territory, Nunavut, in 1999. Because the Nunavut Land Claims Agreement (NLCA) - Nunavut's counterpart to the Yukon's UFA - effectively deals with only one Aboriginal group, the Inuit, the agreement serves as a single land claim for the entire territory, eliminating the need to establish individual land claims for each self-identified Aboriginal group, as is the case in the Yukon. As a result, land use planning processes in Nunavut are not reliant on the presence of such individual land claim agreements before any planning initiatives can begin as the entire territory is covered under the NLCA.

However, even having all of the territory under a single land claim agreement has not precluded Nunavut's land use planning process from its own set of challenges. Under the NLCA, environmental assessments are conducted by the Nunavut Impact Review Board and land use planning by the Nunavut Planning Commission (NPC) (Rusk *et al* 2009). The NPC both manages the process and produces the plans, as opposed to only managing the process and empowering an independent commission to produce the plan; unlike the specifics of the land use planning framework in the Yukon, which will be discussed in detail in Chapter 4.

Proposals for development that trigger an assessment under the Nunavut Land Claims Agreement Act are first referred to the NPC to determine if the proposed activity is in conformity with the land use plan which applies to the proposed project (Rusk *et al* 2009). If the proposed activity conforms, it is then referred to and reviewed by the NIRB before any recommendations are made. Once the final report is released, the responsibility for accepting or rejecting the NIRB's evaluation ultimately is determined by the federal Minister of Indian and North Affairs in Ottawa (it is expected that with devolution in Nunavut, this concentration of approval authority in the federal government will be transferred to the Nunavut government).

A unique feature of Nunavut's regime is that a development proposal does not have to trigger an environmental assessment to be subject to a conformity review, but only if the development requires a permit from a regulatory agency. Simply put, all development requires a permit but not all permits require an environmental assessment. To date, only two regional land use plans have been established in Nunavut – the Keewatin Regional Land Use Plan and the North Baffin Land Use Plan. The remainder of the territory has not yet been firmly divided into separate regions as the NPC is currently in the process of generating a territorial land use plan intended to replace existing regional land use plans as well as providing a plan for currently unplanned regions (NPC 2012).

Given the striking similarities between the Yukon's and Nunavut's integrated land use planning-environmental assessment regimes, as well as the current level of land use planning, lessons can be learned from the Nunavut example that may provide insights into solving some of the barriers in the Yukon process. Rusk *et al* (2009) firmly identify the lack of approved land use plans as a "major gap in the management of the environment in Nunavut". Rusk *et al* (2009) further comment that without regional land use plans in Nunavut, important land use issues such as regional monitoring of cumulative effects, harmonization with existing municipal or protected-area management plans, or even general goals, objectives, and desired future state of the region are not explicitly addressed in the environmental assessment process.

In short, without land use plans to provide context to the assessment process, the NIRB has difficult placing site-specific projects within the greater spatial and temporal context, and overall significance to the region. Such detail of the regional context requires up-to-date baseline information and recently identified valued ecosystem components to ensure the land use plan is of the greatest relevance to the region (Montgomery 2011). Furthermore, Rusk *et al* (2009)

comment that although two regional land use plans have been established, they are largely based on outdated information and are therefore of little current relevance. Issues regarding technical, financial, and institutional capacity are also highlighted.

Rusk *et al* (2009) conclude that "when land-use plans are not kept current, or when land-use planning does not occur at all, the EA [environmental assessment] process inevitably struggles with larger regional issues in screenings or reviews at the level of the individual project" (Rusk *et al* 2009, 273) – a situation similar currently being face in the Yukon. This sentiment is shared with the regional land use planning process in the Yukon as planners, assessors, and government managers involved in either process would be wise to keep a keen eye on the future results of Nunavut's regimes.

While such a massive territory-wide planning exercise in Nunavut may solve some of the issues already apparent in the process, doing so very well might bring about the emergence of an entirely new range of issues, though it remains to be seen what approach the NPC will take. Very little literature exists about the intersection between environmental assessment and land use planning in Nunavut, and Rusk *et al*'s work to date represents the only comprehensive overview of the regime and speaks volumes to the lack of academic interest in such arrangements in Canada's far north.

2.4.2 Mackenzie River Valley

Given the history of, and political tension surrounding resource development and the need for comprehensive land claim agreements as a result of the Mackenzie Valley Pipeline Inquiry (MVPI) (and reaffirmed by the recent federal approval of the pipeline – more than 30 years later!), it is no surprise resource management is a high priority in the Yukon's neighbour to

the East. In the Northwest Territories (NWT), the relationship between environmental assessment and land use planning follows a similar arrangement to that of both Nunavut and the Yukon. It is increasingly common practice in northern Canada for land use plans to be an initial screening mechanism for proposals for development in the environmental assessment process. This is indeed the case in the Northwest Territories as well.

In the NWT (aside from the Inuvialuit region), environmental assessment and land use planning are set out and governed by a single piece of legislation known as the *Mackenzie Valley Resource Management Act* (MVRMA), which was signed in 1998 (Armitage 2009). The MVRMA was established in the NWT in response to the settling of Gwich'in, Sahtu Dene, and Métis comprehensive land claim agreements. Unlike its Canadian territorial counterparts, the MVRMA mandates the creation of separate land use planning, and land and water boards for each First Nation settlement region that has a finalized agreement (Fitzpatrick *et al* 2008).

Under the MVRMA, proposals for development that trigger an environmental assessment under the act are first screened by the appropriate land and water board in which the proposed activity lies (Armitage 2005). If the proposed activity falls within an area without a finalized land claim agreement, preliminary screening is undertaken by the overall Mackenzie Valley Land and Water Board. If the proposal is deemed adequate by the relevant land and water board, after a conformity check performed by the relevant land use planning board, it is then referred to the Mackenzie Valley Environmental Impact Review Board to conduct a full screening (Christensen & Grant 2007). In regions without a land use planning board (regions where a land claim agreement has not yet been signed), both preliminary screenings and conformity checks are conducted by the MVEIRB (Armitage 2009).

According to Armitage (2009, 222-223), the following issues, opportunities, and constraints have been identified thus far with the integrated environmental planning and management regimes under the MVRMA:

1. *The administrative complexity of the new framework and the associated politics of institutional and organizational change in the region;*
2. *Issues of coordination and communication among a diverse set of institutional and public interests;*
3. *Challenges associated with the development of common technical approaches to assessment, particularly with respect to cumulative effects assessment;*
4. *Barriers to participation and the challenge of integrating traditional and scientific knowledge in assessment practice; and*
5. *The capacity of diverse stakeholder groups to participate fully in the environmental assessment process.*

The above themes are by no means exclusive to the MVRMA, but are also prevalent throughout integrated regimes across northern Canada, including the Yukon. While many jurisdictions in southern Canada have been operating under their respective environmental assessment and land use planning regimes for many years, even decades, the formal regime in the NWT is still in its infancy (although strictly speaking the MVPI was in many respects an environmental assessment process not that dissimilar from modern panel reviews under CEAA). Given the complex interactions between the various environmental assessment, land and water, and planning boards, as well as government departments, industries and communities, roles, responsibilities, and relationships between these stakeholders have yet to be clarified to a sufficient extent (Armitage 2009). The lack of decision-making authority held by the various regional boards questions the co-management intent of the collaborative framework.

Armitage (2005) also identifies the need for a common technical approach to CEA. However, he notes that simply legislating such a regime does not necessarily translate into greater integration, but still praises the establishment of regional land use planning boards as a

fundamental contributor of the broader vision to corresponding goals and objectives of ecosystem-based management frameworks. The gap between project scale and impacts in the environmental assessment process in also present in the NWT (Fitzpatrick *et al* 2008), which according to Armitage (2009, 229), "runs counter to the integrated management philosophy of the MVRMA". While assessment boards are limited in their mandated scoping and screenings to consider cumulative effects similar to that of a standard environmental assessment, the land & water and land use planning boards are freer to explore to greater relationship between development and impacts on a grander scale (Armitage 2009). As in Nunavut, limited capacity and resources are significant barriers to effectively and efficiently determining potential cumulative effects.

The reliance on baseline data from government and industry poses serious questions about the various boards' ability to carry out their mandates independently from the final regulatory approval process (Christensen & Grant 2007). The issue of baseline data is also a central theme in the Yukon context. Without sufficient baseline data, decision-makers who are empowered to authorize development may not be able to make an informed decision in a time frame that is conducive to the consideration of broader regional issues (Hodge & Robinson 2001), such as cumulative effects. The MVRMA, which establishes a framework not too far removed from its northern Canadian counterparts, has certainly not been without its own set of challenges – some of which are directly transferable to the Yukon framework, such as the complex institutional underpinnings, stakeholder coordination and collaboration, and limited capacity and financial resources.

2.4.3 Beaufort Sea

Ocean planning and management has been a prominent concern for Aboriginal peoples in the Western Arctic since the MVPI in the 1970s, and the debate surrounding responsible resource development of fossil fuels in the Mackenzie Delta and the Beaufort Sea continues to this day. The Beaufort Sea Integrated Ocean Management Plan (BSIOMP), finalized by the Beaufort Sea Partnership (BSP) in 2009, represents and builds upon the cumulative body of knowledge identified by previous planning initiatives in the Beaufort Sea region, including the Beaufort Sea Strategic Regional Plan of Action and the Beaufort Sea Integrated Management Planning Initiative, among others (BSP 2009). Most importantly, the plethora of planning initiatives that led up to the BSIOMP in 2009 were all predicated upon obligations outlined under the Inuvialuit Final Agreement (IFA) in 1984. The IFA was the first modern land claim agreement signed between any Aboriginal group and the Government of Canada in any of the three Canadian territories, and laid the foundations for other Aboriginal land claims in northern Canada, including the Yukon's Umbrella Final Agreement.

The IFA is unique in that the spatial extent of the land claim is not exclusive to lands in only one territory. The Inuvialuit Settlement Region (ISR) as defined by the IFA extends over the Mackenzie River Delta, the Yukon North Slope, and the western portion of the Arctic Archipelago (Berkes *et al* 2001). Although the Inuvialuit peoples are currently based mostly in Inuvik and other Mackenzie Delta communities, historically they occupied much of the Yukon North Slope, including Herschel Island, and thus were able to justify their claim to the area. As a result, even though the North Slope is within the boundaries of the Yukon, from a practical perspective any resource management regimes predicated upon the IFA take precedence in the North Slope. There are agreements and provisions between the two territorial governments that

have established a co-management regime over development in the Yukon North Slope within the ISR (Francis & Hamm 2011).

The events leading up to the final BSIOMP in 2009 started with royal assent of the federal *Oceans Act* in 1997. As per the *Oceans Act,* a countrywide 'Ocean Strategy' was developed that established a national vision for Canada's estuarine, marine, and coastal ecosystems. Funding for the implementation of this strategic oceans program was made available in 2006, with the Beaufort Sea one of five large ocean management areas selected to receive funding for integrated management planning – to be spearheaded by the federal Department of Fisheries and Oceans. Given the pre-existing arrangement of federal, territorial, and Aboriginal institutions involved in co-management of natural resources under the IFA, selecting the Beaufort Sea for integrated ocean planning within the ISR was a logical choice of action with respect to the national vision of oceans management (BSP 2009, Fidler & Noble 2013).

According to the IFA (Government of Canada & Committee of Original Peoples' Entitlement 1984, 5), the basic purpose of the agreement is:

- *The preservation of Inuvialuit cultural identity and values within a changing northern society;*
- *Ensuring the Inuvialuit are equal and meaningful participants in the Northern and national economy and society; and*
- *Protecting and preserving the Arctic wildlife, environment, and biological productivity.*

In response, the Inuvialuit Regional Corporation (IRC) was established to carry out the principles of the IFA in order to maintain and improve the well-being of the Inuvialuit through implementation of the agreement, including social, economic, and cultural aspects of well-being (BSP 2009). Given the Inuvialuit's strong cultural and social systems predicated upon interaction and integration with ecological systems, carrying out the mandate of the IFA inherently includes maintenance of overall ecosystem health as well (Berkes *et al* 2007). This is particularly true as

exploration for petroleum reserves beneath the floor of the Beaufort Sea has been increasing in recent years and is a topic of hot debate (Elvin & Fraser 2012).

A crucial aspect of BSIOMP is the consideration of cumulative effects, which describes the concept accordingly to the predominant literature on the issue. According to the plan (BSP 2009, 4-5),

> *...to ensure all negative impacts are properly managed and minimized where possible, collecting baseline information on the present state of the environment is the first step in addressing cumulative effects. The next step is understanding the potential impacts of these activities on the environment, with special attention paid to highly valued portions of the ecosystem.*

The plan further notes that the focus on cumulative effects in the Beaufort Sea region is limited to those that can be realistically managed by the IRC. The tools currently being developed to assess the potential for cumulative effects may be utilized when conducting a regional strategic assessment of future development scenarios.

Since the MVPI, there has been no shortage of planning and information gathering initiatives in the Mackenzie Delta and the Beaufort Sea, including, the Beaufort Sea Regional Strategic Plan of Action, the Beaufort Sea Integrated Management Planning Initiatives, and the Beaufort Sea Beluga Management Plan, as well as pre-Nunavut land use planning exercises. Given BSIOMP's reliance of baseline data to address cumulative effects, and the presence of pre-existing co-management institutions under the IFA, there is not only the scientific expertise but also the political willingness to undertake large-scale, regional assessment of the Beaufort Sea's current state. The purpose of such an undertaking would be the collection of essential baseline data to be able to predict the possible implications and cumulative effects of offshore exploration and extraction of fossil fuels in this sensitive marine environment.

In 2010, the Government of Canada agreed to fund the Beaufort Regional Environmental Assessment (BREA) – no doubt as a response to the objectives surrounding addressing cumulative effects found in the BSIOMP. According to Aboriginal Affairs and Northern Development Canada (AANDC) (2012, 1), BREA is,

> *...a multi-stakeholder initiative that provides opportunities for Inuvialuit communities, industry, federal and territorial governments, academic and regulators to prepare for oil and gas activity in the Beaufort Sea by building a regional socio-economic and scientific knowledge base that will: fill regional information and data gaps related to offshore oil and gas activities; and support efficient and effective regulator decision-making.*

There are six working groups within BREA, each headed by a different stakeholder, charged with carrying out studies and generating crucial baseline data (AANDC 2012). One of these working groups is directly responsible for developing a cumulative effects management framework and is led by AANDC. To date the cumulative effects working group has not produced a draft of a proposed management framework, as limited resources prevented consultation until recently (i.e. April 2013); (AADNC 2012)

As Fidler & Noble (2013) point out, the lack of regional strategic assessments (RSA) thus far in the Western Arctic, including the Beaufort Sea and Mackenzie Delta, raises serious concerns about Canada's ability and preparedness to response to offshore energy development. While Fidlar & Noble pay respects to the plethora of planning, baseline, and science-based marine initiatives in the Beaufort Region, including many of those previously mentioned above, they argue that the literature focuses too much on the benefits of RSAs, rather than its implementation. They argue that, "there is no integrative planning and impact assessment framework to support PPP development and decisions about marine resource use, particularly with regard to deep offshore energy" (Fidler & Noble 2013, 8).

Similarly, Elvin & Fraser (2012) advocate developing a national strategic environmental assessment framework as a means of addressing cumulative effects in Canada's oceans as a result of offshore oil and gas activity. They claim that such a national program would allow, "comprehensive perspectives to develop with respect to consideration of the marine environment" and the "consideration of cumulative effects to the marine environment irrespective of restrictive administrative boundaries", as well as "permit a country-level exercise on land use planning in offshore region" (Elvin & Fraser 2012, 14). This is particularly relevant in the Yukon as the current land use planning regime seems to struggle with the concept of complementary planning within its own administrative borders and adjacent jurisdictions.

The integrated ocean management and regional environmental assessment processes carried out thus far in the Beaufort Sea are generally too new to extract any substantive or conclusive findings about the effectiveness of this model. With the BSIOMP released in 2009 and BREA scheduled to continue operating until 2015, it remains to be seen what the next logical step for ensuring the proper management of marine resources is in the ISR. While oceans management is well beyond the jurisdiction and the ability of the Yukon to undertake, the sector-specific, multi-stakeholder approach to the management of cumulative effects may be of use in the Yukon if mineral development continues to expand and concentrate if market prices for minerals make mining operations in remote wilderness more economically viable.

2.5 Synthesis of the Conceptual Framework

From this review of the literature, numerous principles of what might constitute an integrated land use planning-CEA framework have been presented. For this research, the guiding principles of regional strategic assessment as presented by the CCME and utilized by Johnson *et*

al (2009) as part of Alberta's integrated regional assessment and land use planning regimes formed the foundation for the conceptual framework. Other principles were taken from Hodge & Robinson (2001) in addition to the others that were made apparent during the interview phase of this research. These identified principles will be utilized to determine the comprehensiveness of the current regional land use planning framework in the Yukon.

In order to do this, each principle was grouped into one of four overarching elements of successful integrated resource management as provided by Bellamy *et al* (1999). Based on the interview and literature, policy and implementation options will be evaluated by this framework and recommendations will be made in light of that evaluation. See Table 2.4 for the complete conceptual framework. Details regarding the use of the conceptual framework within the broader methodology of this research will be discussed in the following chapter.

The rationale for developing this framework stems from the current state of modern, collaborative land use planning in Canada. Many of the characteristics outlined in the framework are often considered ideal, if not crucial components of successful land use planning initiatives within the broader IRM context. While the Common Land Use Planning Process developed by the Yukon Land Use Planning Council certainly addresses some IRM concerns, some aspect are absent, such as a multi-tiered orientation that is more conducive for ensuring strategic guidance from land use plans translates into enforceable mitigation measures once development is actually approved. While perhaps simple, the framework is intended to exemplify the ideal array of characteristics present with any IRM regime with respect to socio-political institutions.

2.5 Chapter Summary

There is no shortage of well-established environmental management tools available to governments across northern Canada. Land use planning and environmental assessment are just two of the more common and popular tools, but they are by no means the only viable choices or without shortcomings. Recent threats to the viability of natural and socio-economic systems in sensitive environments by the emergence of cumulative effects in the last 20 years have raised critical questions about how human activities on the landscape are conducted and managed.

The complex nature of how cumulative effects impact the landscape requires that land use planning and environmental assessment be combined into a new institutional paradigm of IRM that better reflects the ethos of sustainability. There is debate as to how such an IRM regime might be established in light of the current lack of land use plans across the north and the limited scope and vision of rigid environmental assessment processes. In recent years, SEAs and RSAs have emerged as short-term compromises that have the ability to influence operational-level land use regulations until a proper IRM regime may be installed.

The issues and constraints identified from studies of other integrated land use planning-environmental assessment frameworks predicated upon comprehensive Aboriginal land claims provide key insights into the challenges that are already known but also those that may arise in the future. The dialogue is two-way, allowing practitioners involved in those other frameworks to benefit from any substantive findings generated from this research. Each of the examples of cumulative effects-oriented management initiatives provided above, although based on Aboriginal land claims, offers up different models and approaches to management of cumulative effects, and the lessons from these other frameworks can be of great insight for those involved in the Yukon framework.

Table 2.4: Generic characteristics of an integrated land use planning-CEA framework

(Adapted from Bellamy *et al* 1999, Johnson *et al* 2011, and others)

Element	Characteristic	Description
Issue characterization	Purpose-driven	Allows for the effective mitigation of potential adverse effects, yet retains opportunities for positive development
	Broad scope	Focuses on sustainability as a whole rather than addressing issues fragmented within environment, economics, society, and culture components
	Landscape impacts	Identification of cumulative effects as greatest concern of impacts resulting from development operating at the local, sub-regional, regional scales
Context	Effective decision-making	Decision-making authority is distributed equitably among stakeholders yet enough concentration of power exists for plans to be implemented effectively
	Meaningful timelines	Consistency between the commencement, implementation, monitoring, and review of regional-level assessment strategies and LUP processes
	Legislatively-based	Legislation exists to mandate the responsibility of conducting assessment and planning to respective agencies as well as regulate and control land uses and other land-based activities
	Multi-scalar	Integrates processes occurring at multiple scales, including both socio-political and biophysical processes at local and regional scales in the short and long term
Institutional structure	Adequate capacity	Decision-making agencies have the necessary physical, legal, and financial capacity in order to effective undertake a broad integrated resource management scheme, as well as the necessary networks to coordinate policies
	Multi-tiered	Environmental assessment informs and informed by broader land use planning initiatives and other federal/ territorial/First Nations environmental management tools
	Multi-sectoral	Encompasses the activities, policies, and plans of multiple sectors that exist in a region and may influence regional processes and decision-making, as well as those sectors that may become prominent in the future as development expands
Process analysis	Participatory	Ensures consideration and consultation of a range of public preferences and priorities in assessment, monitoring, and management
	Opportunistic	Provides opportunity to examine regional management through broader policy debate, and identifies the need to create or modify institutional arrangements for improved management
	Adaptive	Treats policies, plans, or programs as 'experiments', expecting to modify and adapt them as new knowledge is gained through implementation, monitoring, and review
	Strategic	Identifies strategic regional initiatives for managing cumulative effects, evaluates alternatives, and formulates a strategy for expediting land use planning to achieve those initiatives
	Proactive	Land use planning is undertaken at the earliest possible stages of decision-making, to inform development of strategic initiatives, and PPPs
	Transparent	Process is openly-disclosed to the public, and all timelines, deadlines, and statuses of various processes within are public knowledge to ensure greater understanding of and public confidence in the process
	Normative	Process follows a commonly agreed upon set of standards and procedures to ensure input is meaningful and the final product is reflective of the collaborative paradigm

3.0 Methodology and Methods

This chapter describes the methodology and methods that were employed in order to conduct the research outlined by the goals and objectives in Chapter 1. The first section describes the case study approach and the rationale for choosing this method. Here, the justification for the choice of Kluane as the case study region is also presented. Under this approach, an extensive review of the relevant literature (general review of land use planning, cumulative effects, and integrated resource management literature, in addition to case-study, region-specific data), coupled with semi-structured expert interviews are intended to inform the case-study analysis. Additionally, the approvals required to undertake this research will also be outlined. The last subsection of this chapter will detail the evaluative framework that was developed for this research, and how it will be utilized to inform the case-study analysis as well as achieving the goals and objectives of this research.

3.1 Methodology

This research employed a variety of qualitative methods, including literature review, expert interviews, and a case-study analysis, to explain the prevalence of underexplored social phenomenon in an applied research environment. Thus, the approach to this research is characterized as mixed methods research. Mixed methods approaches to qualitative research are becoming increasingly common compared to traditional research methods (Berman 2011). The benefit of employing a mixed methods approach is the ability to interpolate and combine results from each individual method to generate more comprehensive final research results. The use of mixed methods in this research is also congruent with the modern research paradigm that advocates increasingly more stringent requirements to be able to corroborate research results

with the literature. Thus the most appropriate avenue to ensure research results are of the utmost relevance is to employ mixed methods in research design.

The use of mixed methods research and design in social research has garnered significant popularity in recent decades – oftentimes cited as the third dominant paradigm in academic research after purely qualitative and quantitative approaches respectively (Johnson *et al* 2007). The definition of mixed methods research varies from discipline to discipline and from researcher to researcher. Many have argued that mixed methods research is the utilization of both qualitative and quantitative collection and analysis methods within a single research project. Others have begun to recognize the validity of multiple qualitative or multiple quantitative methods, or multi-method in social research. According to Jennifer Greene (2006), mixed methods research can be defined as:

> *An approach to investigating the social world that ideally involves more than one methodological tradition and thus more than one way of knowing, along with more than one kind of technique for gathering, analyzing, and representing human phenomena, all for the purpose of better understanding.*

Although the debate as to what exactly constitutes mixed methods research remains far from solved, it can be at least argued that using multiple qualitative methods or multi-method in social research can fall under the broad categorization of mixed methods research.

Bergman (2011) outlines how to justify a mixed methods approach, the benefits of a mixed methods research project, and cautions researchers should take heed when applying the approach. First, it is often argued that mixed methods research provides supplementary perspectives regarding the same research topic. But it should be noted that doing so may also result in an additional perspective unaware to the researchers at the onset of the project. There is a sense in the academic community that the multiple perspectives generated lead to more objective results. Bergman (2011, 274) counters this claim by stating that mixed methods

research, despite its accolades, "will never answer a research question in all its complexity". Another common justification is that mixed methods reveal the limitations of each individual method, but again, Bergman claims that good mixed methods research recognizes these limits in order to improve them, and not just for the sake of comprehensiveness.

Therefore, the use of a literature review, expert interviews, and case study analysis underneath a systematic multi-method or mixed method approach is not only used in light of some of the limitations of each individual method and to produce complementary, supplementary, or additional perspectives; but also to more holistically guide the interpretation and analysis of concepts discussed in the literature and interviews (Bergman 2010). The case study analysis is then the more practical application of the interpretation of the data to a real world example. By doing so, this research project will satisfy the stringent requirement of embedding the significance of this research within the broader theoretical discourse via the conceptual framework while simultaneously providing tangible implementation and policy options to the greater Kluane regional community.

3.2 Case Study Approach

Case studies are a popular research method, particularly in the social, administrative, and evaluation sciences, that Gerring (2004, 341) defines as "an intensive study of a single unit for the purpose of understanding a larger class of (similar) units". Case studies are a means of translating theory into practice by corroborating existing concepts and in some cases even expanding upon current fields of knowledge (Margerum 1999), but the usefulness of case studies is determined by the social phenomena that is being explored. More specifically defined, case studies are "concerned with how and why things happen, allowing for investigation of contextual

realities and the differences between what was planned and what actually happened" in order to "understand the complex real-life activities in which multiple sources are used" (Noor 2008, 1602). Accordingly, case studies are particularly useful in order to seek understanding of social phenomena in great detail within their contexts, not independent of (Gibbert *et al* 2008).

Using lessons from the literature, connections will be made between established theory and the practical lessons identified from the interview process. Under this approach, a conceptual framework will be developed in order to provide contextual structure to this research. However, Baxter (2010) warns that using theory to explain underexplored phenomena (and therefore under theorized) may be fruitless and raises serious questions about how case studies influence and are influenced by theory. Moreover, case studies have been criticized for generalizing social phenomena. But, as argued by Noor (2008), case studies provide researchers with a holistic view of the 'bigger picture' since so many sources are typically used, as well as critically examining the ebb and flow of organizational activity, particular as it occurs at a rapid pace. This is most certainly true in the case of regional land use planning in the Yukon.

Regardless, it is the opinion of the researcher that there is still enough substantial literature to provide the case study with a solid theoretical foundation. Nevertheless, there is still opportunity for new and original research to fill in any gaps and expand on the existing literature in a meaningful manner. It is for this reason why a single case study analysis had been chosen as opposed to several, less in-depth case studies (Yin 1992). Gerring (2004) argues that single-unit case studies are more likely to be comparable to other case studies of similar units. The results of this research could therefore yield insights into other regional land use planning exercises in the Yukon and elsewhere across northern Canada as summarized in Chapter 2 of this research.

But single unit studies also lack representativeness of the degree to which causal relationships in one unit are also true across several, often unstudied units. It could certainly be argued that critically examining Yukon regional land use planning in one particular region is a study of a singular unit as well as a study of multiple units (i.e. other planning regions in the Yukon), as already stated by Gibbert *et al* (2008) that cases rarely exist independently of their contexts. However, a single case study approach is still justified in that there are significant socio-political and ecological differences and similarities across all regions, meaning connections across planning regions from the study of one would require analysis.

3.2.1 Case study region rationale

The Kluane region was selected as a case study region for a number of reasons. Primarily, the Kluane region has been an area of study of Dr. Scott Slocombe, his students, and others for many years and as the advisor to this research represents a wealth of knowledge well beyond my own understanding of region, despite having lived and worked many years in Whitehorse just a short distance away from the region. By combining professional and academic connections of the primary researcher and the advisor, a greater number of participants could be interviewed than otherwise. Additionally, this allowed for a greater array of perspectives to come out of the interview process.

Second, the Kluane region has been one of the most actively managed and studied landscapes in the Yukon, from national parks to transportation infrastructure to hydroelectric generation, and the potential for cumulative effects may be more pressing than in most other regions of the Yukon (Alsek Renewable Resources Council 2004). The Kluane region is one of the longest historically settled areas of the Yukon (Theberge 1980). Because of aggressive

government campaigns, more people are coming to the Kluane region that ever before. The increase in eco-tourism, mineral exploration, infrastructure development, and omnipresent climate impacts is putting significant pressure on protected and wilderness areas alike.

Third, the Kluane region includes a full gamut of socio-political, economic, environmental, and cultural institutions that may be absent from other regions. The Kluane region was the first region of the Yukon to be subject to a regional land use planning exercise under DIAND's land use planning programme as well as the first region to finalize a land claim agreement with one of its First Nations groups (ARRC 2004). Therefore, Kluane presents an ideal opportunity for evaluating the potential of an IRM framework of land use planning and CEA in light of the historical and contemporary complexities associated with establishing such a regime throughout the entirely of the Yukon. The goals and objectives and the recommendations are generally intended to be applied to the whole Yukon unless otherwise stated. An in-depth overview of the characteristics of the Kluane region will be presented in Chapter 4.

The Kluane region is both representative and unrepresentative of other Yukon planning region. The settling of land claims has formed the foundation for the co-management of resource and environmental management regimes in the region, including land use planning and environmental assessment among others. However, the presence of unsettled land claims within the regional boundary is unique to only the Kluane and Kaska regions and conducting land use planning in the absence of contiguous land claim may provide insight into how to proceed in the latter with respect to meaningful consultation and Aboriginal right and title. In this sense, the Kluane region was chosen as a case study for exploring some of the more substantive issue and challenges regarding regional land use planning within the territory as whole. The presence of a national park is also fairly unique to Kluane (only the North Yukon planning region also abuts

national parks) and its protected status, a haven for wildlife, and presence of sprawling glaciers, ice caps, and mountain ranges certainly influence the regional climate and are thus impacted by climate change.

In other ways, the Kluane region is very typical of the Yukon. Population density is very low, land claims have been established for more than a decade, tourism is the main economic driver, subsistence activities are still carried out, and development for the most part has been minimal since the 1940s. Moreover, planning in more unique regions like the Peel or Dawson regions has exhibited a number of challenges that may or may not lead to lessons applicable to other regions, notable the near absolute absence of development and more than a century of intense mining activity, respectively. From this perspective, Kluane is more akin to regions like North Yukon, Northern Tutchone, and Teslin, and socio-cultural lessons from Kluane could certainly have value to these other regions.

3.3 Methods

3.3.1 Literature review

In order to provide a thorough basis of relevant literature for this study, a wide range of documents were examined, including peer-reviewed journal articles, textbooks, government reports, land use and management plans, conference proceedings, and workshop and forum papers. Many materials were retrieved from academic libraries, such as the TriUniversity Group of Libraries (University of Guelph, University of Waterloo, and Wilfrid Laurier University) in Ontario, or Yukon College in Whitehorse. Other sources were retrieved from the Government of Yukon's Department of Energy Mines and Resources library in Whitehorse. Some sources, such as land use plans, were made freely available on government and non-government websites.

Though much research was done prior to traveling to the Yukon, a good amount of case study-specific literature was only available in Whitehorse, and thus locating and researching these materials constituted a substantial, but not the majority, of time spent in the Yukon conducting this research.

3.3.2 Expert interviews

In total, thirteen semi-structured expert interviews were conducted over the course of this research. Interviews ranged in length from approximately 30 to 90 minutes. Participants came from a variety of professional backgrounds and included experts in their respective fields. A summary of those who participated can be found in Table 3.1 below. Each participant has been categorized and given a code referring to their broad institutional affiliation. For example, YG1 refers to the first participant interviewed from government, YG2 the second, and so forth. Other codes were used for arm's length agencies (AL) First Nations (FN), non-government

Table 3.1: Participant affiliations and corresponding analysis codes

Agency		**Code**
Kluane region First Nation		FN1
Government of Yukon	Energy, Mines, and Resources	YG1, YG5, YG6, YG7, YG8
	Environment	YG2, YG3
	Executive Council Office	YG4
Tourism association		NG2
Environmental NGO		NG1
Environmental assessment agency		AL1
Planning council		AL2

organizations (NG). All interviews were conducted in person with the exception of the participant from a Kluane region First Nation – which was conducted over the phone. Those who were contacted but did not participate in the interviewing process were busy, uninterested, or did not respond at all.

Potential participants were chosen based on 1) their professional and career experience with land use planning and environmental assessment in the Yukon, and/or 2) to represent a range of interests concerned with land use planning and environmental assessment in the Yukon. These two characteristics are described by Neuman (2007, 299) as individuals currently involved in their field, and individuals who are familiar with the culture and in a position to witness significant events. Interviews were recorded on a digital device and the interview audio was analysed using a simple latent coding technique upon return to Wilfrid Laurier University. Participants were each asked questions relating to the research topic.

Eight of the 13 participants were from agencies within the territorial Government of Yukon. While initially on the surface this is perhaps cause for concern that the views and opinions expressed by civil servants might lead to biases in the results, the high number of territorial civil servants interviewed is simply a function of the territorial government as the regulator of public lands as well as the final authority on the approval of land use plans. In addition, care was taken in strategically contacting middle management participants as opposed to senior management in order to reduce the influence of political agendas in responses.

While the relative lack of participants from First Nations agencies is a concern given the foundation of Yukon regional land use planning and environmental assessment regimes under the UFA, the challenges faced by First Nations are not unique to them in that many other agencies struggle with similar challenges, such as capacity, funding, and expertise. Moreover,

many of those who were interviewed have substantial experience working under the land claims paradigm in the Yukon and with/for First Nations governments – both pre and post-UFA. Effort was taken to secure more interviews with First Nations participants, including from the Council of Yukon First Nations.

Interview questions were divided into three sections. The first section asked participants broad questions regarding their own role and their organization's involvement in land use planning and environmental assessment in the Yukon. The second section asked participants specific questions about the emergence and prominence of cumulative effects and whether the Yukon has the capacity to successfully mitigate them under the current land use planning framework. The third and last section asked questions about participants' opinions regarding the nature of future cumulative effects initiatives, with particular attention given to their relationship to the Umbrella Final Agreement and the issue of unsettled land claims as it relates to the current land use planning framework. The full, final approved interview protocol can be found in Appendix A.

The development of interview questions was driven largely by prominent themes identified in the literature as well as the author's interpretation of current challenges based on the public/political discourse and government initiatives in the Yukon. Initial drafts were developed with input from an academic advisor. No attempts were made to include potential participants in the development of interview questions (though in hindsight this perhaps may have been a better course of action given some participant confusion surrounding some of the language of a few questions). Regardless, the questions were approved by an advisor and therefore the author feels that despite potential flaws the questions were appropriate and were adequate in answering the initial

The initial field season lasted from June 20th, 2012 to September 8th, 2012. Following the initial field season, more interviews were pursued upon return to Whitehorse for winter break the following December and January. Professionals in key areas of expertise not covered in the initial round of interviewing were contacted (or re-contacted). Those fields of discipline included wildlife management, parks and protected areas, and forestry management and planning. However, despite all attempts, no further interviews were obtained. Interviews were transcribed using simple latent coding to identify common themes as well as trends between participants, their respective professional affiliations, and responses to particular questions. Neuman (2007) refers to this method of interviewing and analysis as "key informant" or "expert" interviews.

According to Neuman (2007, 296), expert interviews conducted in the field (in this case, Whitehorse and the Kluane region) are "unstructured", "nondirective", and "in-depth". Neuman describes these types of interviews as a joint production between the researcher and the participant(s) whose insights, feelings, and cooperation are essential to the discussion process that reveal subjective meanings. He continues that field interviewing "involves a mutual sharing of experiences" where "a researcher might share his or her background to build trust" and "guides a process of mutual discovery" (Neuman 2007, 296). This perspective on the significance of interviews is particularly relevant in the case of this research, and the researcher's familiarity with both some of the participants as well as the research topic itself.

3.3.3 Data analysis

The interview audio was analysed using a combination of manifest and latent coding. Neuman (2007) describes manifest coding as the identification of visible, surface content in

printed text or transcribed interviews. Manifest coding is very reliable because words, phrases, or themes are either present in the text or not. It does not however, take into account multiple meanings for a single word or phrase, or the same meaning for multiple words or phrases. To combat this limitation, latent coding will also be utilized during the analysis to take into account the underlying, implicit meaning of text where deemed appropriate by the researcher. Generally speaking, latent coding is less reliable than manifest coding, but can be more useful if the researcher possesses intimate knowledge of the language and social meaning surrounding the context of the research topic (Neuman 2007).

Though coding of text is most often used in quantitative analysis, it is employed in this study for the identification of common themes and consensus among participants' responses. For some questions that asked simple yes or no, or why or why not questions were easily codified using manifest coding as their responses were very specific and could only fall in a limited number of categories (e.g. yes, no, maybe). For other, more broad and open ended questions, a deeper understanding of the participants' experience was required as well as prioritizing prominent themes within their responses. Responses could cover a variety of themes as it was up to the discretion of the author to determine the most prominent theme in which the response best adhered.

Refer to Table 3.2 and 3.3 for lists of coding terms used for examples of both manifest and latent coding respectively in response analysis and tables 3.4 and 3.5 for the complete analysis for each participant response. As demonstrated in the tables below, the responses that were analyzed using latent coding cover a much wider array of topics, themes, and concepts – many of which are often synonymous or have multiples meanings to different participants. The responses analyzed using manifest coding on the other hand again, can only be categorized on a

limited number of responses based on the nature of the questioned ask (i.e. yes or no). These results were used to inform the generation of policy and implementation recommendations as per the goals and objectives of this research.

Table 3.2: Example of latent coding terms/phrases for responses to question B1
(Refer to Appendix A for full text of the question)

Theme	Terms/Phrases/Concepts	# of Occurrences
Cumulative effects is still largely understood as theory only	"theory"/"theoretical"	2
	"academia"/"academic"	1
	"linking theory to practice" or any variant of	2
	"concept"\"conceptual"	1
The NYLUP is the only example of a current CEAM regime in the Yukon	"the only land use plan" or any variant of	2
	"surface disturbance thresholds" or any variant of	5
	"indicator(s)"	1
	"density"	1
Cumulative effects has increase mandate urgency and mobilized discussion in the discourse	"mandate"	2
	"discourse"	1
	"collaboration"/"cooperation"	1
Cumulative effects are the main determinant of the long-term future of a region	"desired future state"	1
	"long-term"	2
	"scenario(s)"	1
	"vision"/"visioning"	1
	"reasonably foreseeable"	1
Cumulative effects are often handled on a case-by-case basis within separate sectors	"mining"/"minerals"/"mineral development"	1
	"agriculture"/"agricultural"	1
	"tourism"	1
	"day-to-day	1
Cumulative effects can be used to justify baseline studies as well as determining VECs	"baseline"	3
	"VECs"	1
	"monitoring"	2

Table 3.2: Example of manifest coding terms/phrases for responses to question B2
(Refer to Appendix A for full text of the question)

Response	Number of Occurrences
Yes	7
Under ideal conditions	5
No	1

Table 3.4: Example of final latent coding table for responses to question B1

(Refer to Appendix A for full text of the question)

Theme	Participant Code	Rationale/Notes
Theory	YG3	What is known about cumulative effects remains largely theoretical; there are too many agencies and industries involved for a holistic and practical cumulative effects strategy and the link between surface disturbances and CEA remains uncertain
NYLUP	YG8	The NYLUP and requires significant commitment to long-term monitoring; there remains greater opportunity to harmonize efforts across government and this was one of the primary reasons to established a cumulative effects working group
	YG1	Cumulative effects has been identified as an issue at the regional scale, and currently the NYLUP is the only policy that can be referenced specifically for the purposes of CEM
"front and centre"	NG1	The issue of cumulative effects is a powerful motivator for gathering public support or opposition to proposed development, particularly during the environmental assessment processes
	YG4	Cumulative effects is the largest gap in the current land use planning and environmental assessment processes and therefore lacks the vision and guidance to influence day-to-day activities
Desired future state	AL1	The desired future state of the region that stakeholders determine during public consultation in the land use planning processes will ultimately determine the types of development on the landscape and ergo the intensity of cumulative effects
	AL2	The extent of residual effects from development depends on its scope and scale, but also given that the land use planning process is largely value-driven, the extent of cumulative effects depends on the current and future values of a region's residents
	YG8	Land use planning, local area planning in particularly, is always concerned with future development and the evaluation of scenarios and alternatives
	FN1	First Nations have a very board view of cumulative effects that are not always considered during environmental assessment; participation is driven by long-term respect for the land and water and how to incorporate such broad views into project assessment
Sector-specific	NG2	Cumulative effects might determine if investment in the tourism industry continues, particularly eco or wilderness tourism if there is no guarantee land uses cannot be balanced and prominent natural areas cannot be preserved
	YG6	The creation of agricultural parcels are indeterminate and therefore residual effects as a result of agricultural activity may also be indeterminate; land use planning assumes all impacts from development will eventually cease but that may not be realistic
	YG5	Cumulative effects will not "make or break" mining for example, but it does pose a risk to future investment; lacking a territory-wide cumulative effects strategy, land use planning or otherwise, could also be an impediment to future development
Baseline data	YG2	Cumulative effects can help identify valued-ecosystem components as well as providing rationale for baseline studies

Table 3.5: Example of final manifest coding table for responses to question B2

(Refer to Appendix A for full text of the question)

Response/Theme	Participant Code	Rationale/Notes
Yes	YG1	Government is not so good at mitigating cumulative effects, ergo adaptive management under a regional land use planning regime is critical for establishing regional values and baseline indicators
	NG1	Environmental assessment currently does not do an adequate job at considering cumulative effects; regional land use planning is more proactive and incorporates multiple knowledge systems and understanding of the natural environment
	YG4	Strongly agreed and referred to regional land use planning a "natural fit" in addressing cumulative effects
	YG6	There are not other viable options readily at the disposal of government and stakeholders due to its strongly-oriented visioning component
	AL1	Regional land use planning is the only tool that considered cumulative effects at the most relevant scale
	YG7	Projects are best assessment in relations to all other activities around them in an integrated approach; cited secondary access to the village of Carcross as a relevant example
	YG8	This participant agreed with the statement and simply stated the prevention of cumulative effects is critical
Under ideal conditions	YG2	Some planning regions are without land claim agreements and therefore regional land use planning is only useful under that model; environmental assessment is the only mechanism for determining cumulative effects in unplanned regions
	YG3	Regional land use planning is not legally binding and therefore cannot explicitly regulate land uses; link to environmental assessment has limitations in how cumulative effects are defined and what activities on the landscape can be considered
	YG5	Emphasized the fact that timelines associated with regional land use planning are not conducive to effective management of cumulative effects and thus is precluding itself as an optimum tool for addressing the issue
	NG2	Concerns about the current concentration of decision-making have led this participant to believe the process needs to be streamlined to reduce intervention in the process
	FN1	If the strategic objectives of regional land use planning were actually achieved then it would be appropriate approach, but noted it is only as good as the willingness of decision-makers to use the plan, and that not enough focus is given to activities on the landscape that have not be assessed
No	AL2	This participant disagree with the statement, though argued perhaps that perspective was merely arguing semantics; regional land use planning is important in determining contexts within which cumulative and project assessment are conducted, but is not by any means the number one approach available

3.4 Ethics Review and Research Permits

In order to conduct this research in an ethically sound manner, a number of checks and balances had to be passed first before interview collection could begin. First, a research proposal was drafted and approved by Dr. Slocombe and Dr. Bob Gibson from the Department of Environment and Resource Studies at the University of Waterloo. Second, because the methods proposed by the research explicitly involved human participants, the proposal along with the interview protocol, participant letter, informed consent, and request for ethics review forms were submitted to Wilfrid Laurier University's Research Ethics Board to ensure no harm would be borne unfairly by interviewees as a result of participation in this study. The Research Ethics Board at Wilfrid Laurier University operates according to the principles and guidelines as per the Tri-Council Policy Statement on Ethical Conduct for Research Involving Humans.

The proposed research was approved following proof of completion of the Tri-Council Policy Statement's Ethical Conduct for Research Involving Humans Course on Research Ethics certificate. Once Wilfrid Laurier University's Research Ethics Board approved the proposed research (copies of the approved contact script and consent form can be found in Appendices B and C, respectively), a permit to conduct scientific research in the Yukon was applied for through the Government of Yukon's Department of Tourism and Culture as per the Yukon's *Scientists and Explorers' Act* and approved shortly thereafter (licence #12-42S&E). Details regarding the territorial permitting of this research can also be retrieved from the Arctic Institute of North America's Arctic Science and Technology Information System database. Additionally, as per funding arrangements, this research also complies with the *Ethical Principles for the Conduct of Research in the North* as determined the Association of Canadian Universities for Northern Studies.

3.5 Application of the Conceptual Framework

As per the objectives of this research, a conceptual framework was developed in order to evaluate the current land use planning-environmental assessment arrangement in the Yukon but also to evaluate alternative policy and implementation options at the disposal of the Territory. Initially, the framework was based on the Canadian Council of Ministers of the Environment regional strategic assessment principles as outlined by Johnson *et al* (2011) and categorizing each principle into four broad categories of natural resource policy evaluation of integrated resource management as defined by Bellamy *et al* (1999).

However, during the process of the literature review, it became apparent that this initial foundation lacked three additional principles. The first two additional principles was a legislatively-based and normative process, which is strongly argued by Hodge & Robinson (2001) through their joint publication: *Planning Canadian Regions.* The third additional principle was determined as a result of the interview process, in which multiple participants stressed the need for transparency in resource and environmental management regimes in the Yukon. While the lack of legislative foundation and transparency in regional strategic assessment may be appropriate for such strategic initiatives (and even to its benefit), it is not appropriate for either planning or assessment that heavily relies on a defined, normative process in the modern collaborative planning paradigm. The rationale for structuring this framework will be discussed below. (Please refer back to Table 2.4 for a summary of the conceptual framework).

The conceptual framework presented by Bellamy *et al* (1999) focuses on four key elements of evaluating integration in natural resource policy: 1) natural resource characterization, 2) program context, 3) institutional structure, and 4) community process. Bellamy *et al*'s

framework provides an initial foundation for the identification of themes through the case study and interview processes. The breadth of the categories described above lends this framework for use in the Yukon context whereby the characterization of the issue of land use planning and CEAM greatly differs from other jurisdictions due to the layers of complexity as a result of First Nations land claims and devolution of decision-making.

Given the similarities in principles between regional strategic assessment and regional land use planning, particularly their orientation towards CEAA, Johnson *et al's* framework utilizes the principles of regional land use planning to inform regional strategic assessment. This dialogue is crucial as although land use planning is more desirable for CEAM in the long-term, the social and political implications of carrying out such an initiative often preclude effective CEA in the short-term. Therefore, it is hoped that the guiding principles of land use planning will inform regional strategic assessment in the short-term, and in turn the information and outcomes will inform land use planning in the long-term.

From this synthesis, recommendations were generated to strategically address short-medium-term shortcomings in the Yukon's regional land use planning regime in each of Bellamy *et al's* elements in order to improve integration of CEA and land use planning. This was done to determine which policy options have the greatest amount of support in the literature and in practice in the Yukon. Regional land use planning and environmental assessment as discussed in both the literature and the interview will serve as baseline policy options, to which other policy options can be evaluated according to the conceptual framework. This was be done to determine to what degree each approach to CEAM best adheres to the principles in the conceptual framework as possible options as part of a larger IRM regime in the territory.

3.6 Limitations

Though the methods employed in this research have been chosen and designed to portray the most accurate depictions of the need for IRM of land use planning and CEA in the Yukon (or similarly CEAM-oriented IRM tools), there are a number of limitations to this research, aside from those concerns already detailed in the overview of the methodology and methods. First, the research explores the need for IRM in the Yukon by interviewing professionals to gain insights about their professional knowledge and opinions. Thus, the findings from this research may lend themselves more to a perceived need than an actual need as a result of personal participant bias or high-level, strategic, or political intervention influencing the mandate of public servants. The lack of quantitative results means that results will be difficult to convey, justify, or prove beyond participant speculation (Sechrest & Sidani 1995).

Second, outcomes of this research are dependent on the availability of sufficient information necessary for an effective evaluation. If the necessary information does not exist or there are significant gaps in the literature, then the theoretical basis for this research may be compromised resulting in a lackluster analysis (Margerum 1999). The lack of integration between the various resource and environmental management regimes in the Yukon means that there exist too few long-term data to support decisions being made by the territorial government. This is simply because the relative infancy of the integrated regime in the Yukon and the limited amount of research into the subject matter have not yet generated enough data and substantive findings to confidently state that the insights of those with professional interests in this area of study truly reflect reality.

According to Neuman (2007, 13-24), there are several limitations to applied, evaluation-based research. “The report of research rarely goes through a peer review process, raw data are

rarely publicly available, and the focus is narrowed to select inputs and outputs more than the full process by which a program affects people's lives". Neuman (2007) further states that findings which are intended to provide practical solutions to real-life situations may be selectively used or even entirely disregarded by decision-makers.

3.7 Chapter Summary

The design for this research has been developed to answer specific questions yet provide broad insights into the need for integration of environmental assessment, regional land use planning, and the permitting and monitoring processes in the Yukon. A mixed methods approach was employed utilizing a literature review and expert interviews to inform a case study analysis. A conceptual framework was developed to provide guidance to the case study analysis as well as ground the interview results and subsequent recommendations from the analysis within the broader IRM literature.

4.0 Case Study: Kluane Region

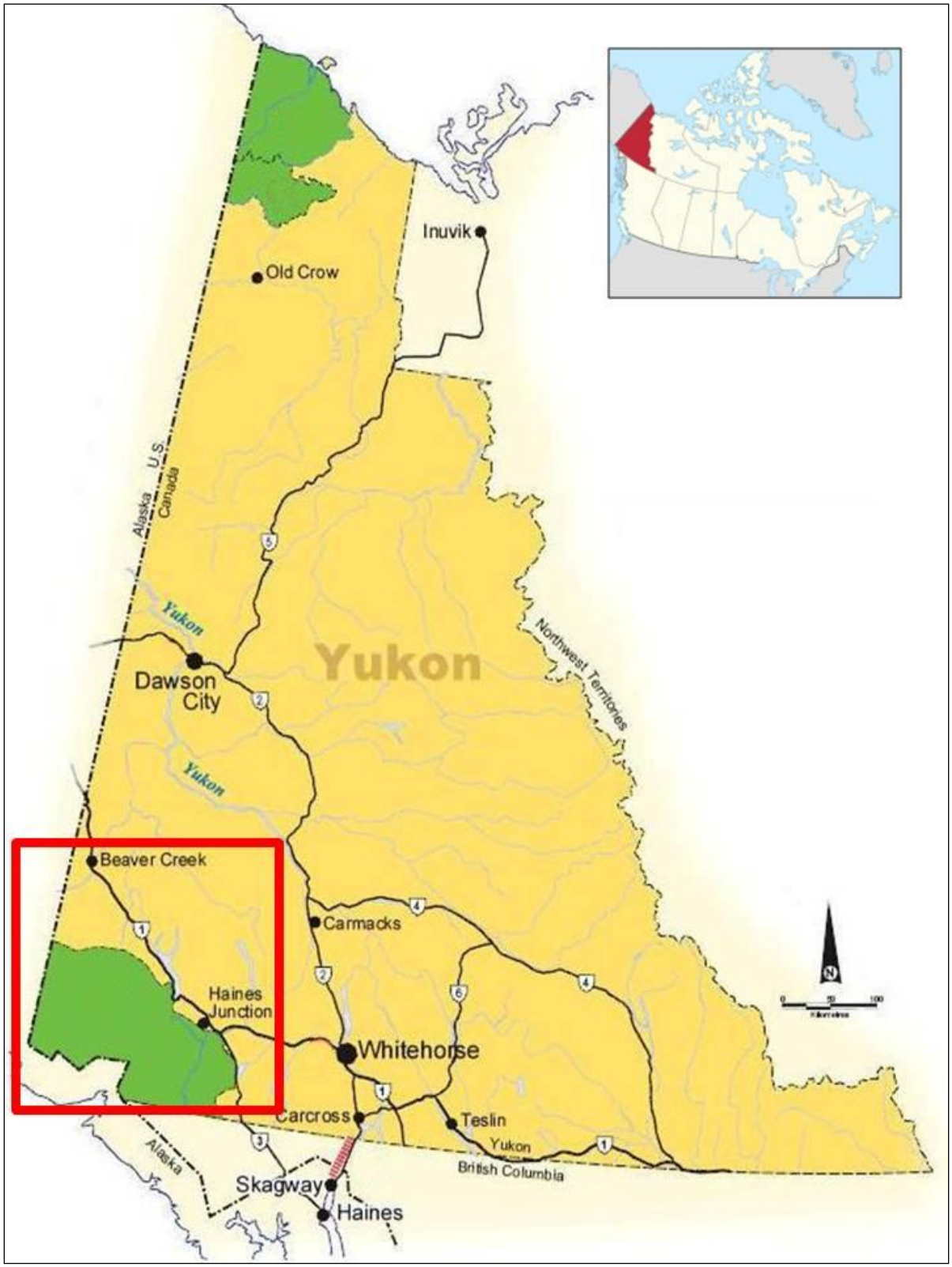
This chapter describes the characteristics of the Kluane region. First, a summary of the biophysical and topographical characteristics will detail the climatic, geographical, ecological conditions of the region. Second, a brief overview of the history of human settlement, outlining major development in the history of the region, from first settlement by First Nations people to contact with Europeans, and into the 20th century with the advent of the Klondike gold rush, construction of the Alaska Highway, and the establishment of Kluane National Park. Next, the trends in economic activity will be discussed, ranging from traditional tourism to forestry to hydroelectricity generation. Lastly, the chapter will conclude with the complex network of institution and socio-political arrangements, including the land use planning and environmental assessment regimes, and land claim negotiations under DIAND to the present stock of co-management institutions. For the purposes of this study, the Kluane region is broadly defined as the tentative Kluane regional land use planning boundaries determined by the Yukon Land Use Planning Council, including the traditional territory of the White River First Nation.

4.1 Biophysical Characteristics

The Kluane region of the Yukon lies in the southwest corner of the territory (see Map 4.1). Adjacent to the west is mainland Alaska and to the south is northwestern British Columbia and the Alaska Panhandle. For the most part, the Kluane region can be classified as continental subarctic, boreal, or taiga climate, according to the Köppen climate classification system (Krebs 2001); however, it can be argued that some areas in extreme altitudes exhibit similar characteristics to an ice cap climate. The region is dominated by the St.

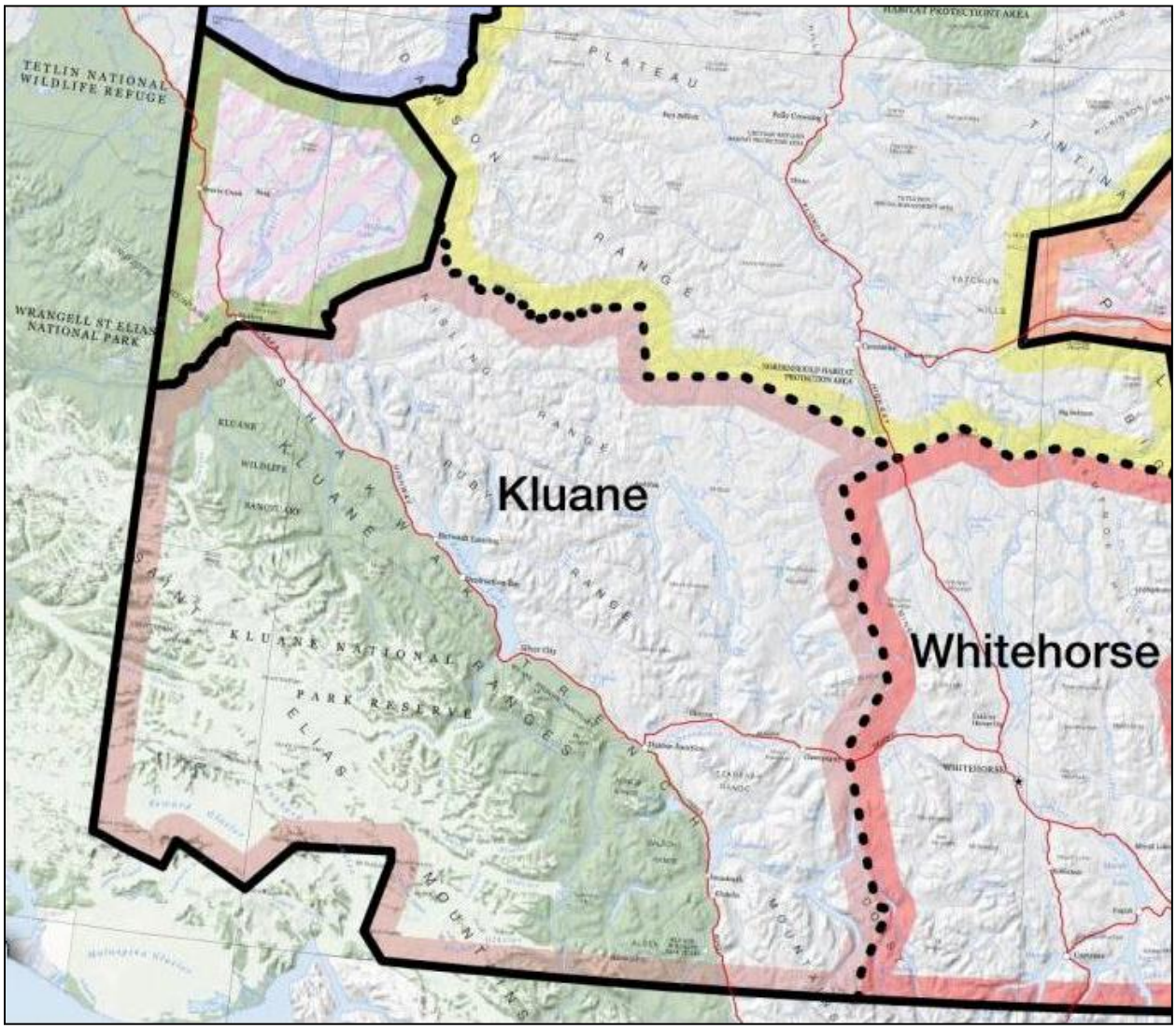
Map 4.1: Location of Kluane region in Yukon

(Government of Canada 2010)



Map 4.2: Kluane planning region (inset from Map 4.1)

(Yukon Land Use Planning Council 2011)



Elias mountain ranges of the Pacific Coast Mountains, which harbour Mount Logan, the highest point in Canada - second highest point in North America after Alaska's Mount McKinley - surrounded by the world's largest non-polar ice cap. This combination of extreme altitude and persistent cold has a far-reaching and prominent influence on the climate of Kluane (Theberge 1980).

Moving eastward and northward away from Mount Logan at the edge of the St. Elias Mountains lies the Shakwak Trench – a large valley that runs the length of the St. Elias Mountains from the Alaska border in the northwest to the British Columbia border in the southeast. Much of the melt water from the ice caps flows into the Shakwak Valley forming rivers, most notably the White, Slims, and Dezadeash Rivers. A number of large bodies of water also occupy the region including Kusawa, Aishihik, Dezadeash, and Kluane Lakes. Kluane Lake is the largest lake in the territory and its presence in the Shakwak Trench has been proven to aid in the regulation of the regional climate (Krebs & Boonstra 2001). The region straddles two prominent watersheds: the Alsek River basin draining into the Gulf of Alaska to the south and the Yukon River basin flowing northwestward into central Alaska and eventually draining into the Bering Strait in the west.

The Kluane region is home to some of the largest and most thriving populations of fauna in all of Canada. Grizzly bears, wolves, coyotes, foxes, lynx, Dall sheep, woodland caribou, elk, moose, bison, mule deer and mountain goats (Danby & Slocombe 2005) and numerous smaller creatures are common in the region and can even often be viewed along highway corridors during the spring and autumn. The Slims River Valley is often unofficially touted as having the largest concentration of grizzly bears in the world. Though this claim has yet to be verified by scientific surveys, there is no shortage of studies detailing the complex and numerous

interactions between humans and bears in this confined area (Leonard *et al* 1990, Clark & Slocombe 2005, Sakals *et al* 2010). Snowshoe hares are of particular importance and their numbers form the basis of the Kluane ecosystem food web. Because of the natural ebb and flow in snowshoe hare populations, a disruption to their natural cycle beyond anything that could be referred to as natural could adversely impact carnivore populations as a consequence (Krebs 2001).

The region is characteristic of the taiga eco-zone and white spruce dominate the landscape, though stands of aspen or poplar are not uncommon, particularly in areas of recent forest fire activity (ARRC 2004). Recent trends in climate variability have extended the northern range of spruce bark beetle into the southern reaches of the Yukon, including Kluane. As a result, vast stands of spruce trees are dying and at risk of significantly increasing the potential for severe forest fires across the region in the future (Yukon Energy 2013). The boreal forest plays a significant role in the regulation of the local, regional, and even global climate. Therefore, a sudden absence of a substantial portion of boreal forest could, at least theoretically, impact the ability of the boreal forest to continue to aid in the regulation of the climate.

The region lies within the discontinuous permafrost zone, with sections of the Shakwak Valley permanently frozen (Krebs 2001). Climate instability as well as an increase in human activity could potentially lead to the deterioration of the permafrost layers, thus increasing the risk of mass movements and failures in critical transportation infrastructure, whose construction was predicated upon the long-term presence of permafrost for surface stability (Theberge 1980). Large-scale deterioration of the permafrost layer could also potentially release significant amounts of trapped greenhouse gases into the atmosphere and increase the amplitude of regional

environmental change. For information regarding climatic normals for settlements in Kluane, please refer to Table 4.1 to 4.3.

4.2 Human History

The Kluane region was one of the first areas to be settled by humans and is one of the oldest continuously settled regions in North America (Greater Kluane Planning Commission 1991). Prior to human settlement, much of the region that is currently free of ice was entirely glaciated between approximately 29,600 years ago and 12,500 years ago, with the maximum extent at 14,000 years ago (Morlan & Workman 1980). Following the retreat of the last major glaciation was a relatively warm period in the history of the region lasting approximately 7,000 years. Little physical evidence exists of the first inhabitants of the region, leaving no more trace of their existence than broken spearheads and primitive bone tools. The pre-history of the Kluane region was comprehensively compiled by the Archaeological Survey of Canada in 1978 (see Workman 1978).

Additionally, information about the Kluane's first human inhabitants has also been extensive studied by Parks Canada as well as the Alsek Renewable Resource Council. It is believed the first inhabitants settled the region around 8,000 years ago and the scattered remnants of their society are collectively known as the Little Arm Culture. From 4,500 to 1,300 years ago, another distinct group of peoples, known as the Lake Taya Culture, migrated into the region, either displacing or absorbing the previous inhabitants. There is no known explanation for this influx of people, but evidence from more modern cultures in the region seems to point to the Lake Taya Culture as the predominant archaeological culture in the region (Workman 1978).

Table 4.1: Haines Junction, Climate Normals 1961-1990

(Environment Canada 2013)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Daily High (°C)	-15.8	-8.0	-1.3	6	12.6	17.9	20.0	18.6	13.1	4.9	-7.1	-15.5	3.8
Daily Mean (°C)	-21.5	-15.3	-9.1	-0.4	5.4	10.3	12.6	10.8	6.2	-0.4	-12.5	-21.1	-2.9
Daily Low (°C)	-27.0	-22.2	-17.0	-6.9	-1.8	2.5	5.1	3.0	-0.9	-6.1	-18.1	-26.8	-9.7
Rainfall (mm)	1.1	0.6	0.3	0.8	11.8	28.3	35.2	28.3	33.7	13.3	0.8	0.1	154.3
Snowfall (cm)	32.7	19.4	9.9	8.8	4.0	0.0	0.0	0.1	0.4	23.2	31.3	29.8	159.8
Total Precip. (mm)	32.3	18.6	9.2	9.0	15.7	28.3	35.2	28.5	34.1	35.4	30.5	29.0	305.7

Table 4.2: Burwash Landing, Climate Normals 1971-2000

(Environment Canada 2013)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Daily High (°C)	-15.6	-9.9	-.27	5.3	12.1	17.4	19.3	17.4	11.4	2	-8.5	-13.5	2.9
Daily Mean (°C)	-22.0	-17.6	-11.3	-1.5	5.4	1-.6	12.8	10.8	5.1	-3.3	-14.5	-19.8	-3.8
Daily Low (°C)	-28.4	-25.1	-20.0	-8.3	-1.4	3.7	6.3	4.1	-1.3	-8.6	-20.4	-26.1	-10.5
Rainfall (mm)	0.2	0.1	0.0	0.7	13.9	47	66.2	42.8	19.0	1.9	0.1	0.0	192.1
Snowfall (cm)	12.2	8.6	9.3	8.8	12.0	1.3	0.0	0.8	6.2	18.2	14.8	14.1	106.4
Total Precip. (mm)	9.6	6.8	7.5	8.5	25.4	48.3	66.2	43.7	25.0	17.1	10.8	10.8	279.7

Table 4.3: Beaver Creek, Climate Normals 1971-2000

(Environment Canada 2013)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Daily High (°C)	-22.0	-14.4	-3.9	5.8	13.0	18.7	20.4	17.9	11.2	-1.1	-14.8	-20.1	0.9
Daily Mean (°C)	-26.9	-21.4	-12.9	-1.7	6.2	11.9	14.0	11.2	4.7	-6.6	-19.9	-24.8	-5.5
Daily Low (°C)	-31.8	-28.4	-21.9	-9.1	-0.7	5.0	7.5	4.5	-1.8	-12.1	-25.0	-29.6	-12.0
Rainfall (mm)	0.0	0.0	0.0	1.3	31.5	74.1	97.2	62.2	26.8	2.7	0.0	0.0	295.7
Snowfall (cm)	13.8	12.6	12.3	11.0	5.9	0.1	0.0	1.0	9.3	25.1	18.7	13.3	123.1
Total Precip. (mm)	13.5	12.6	11.8	11.7	37.3	74.2	97.2	63.2	35.7	27.2	18.2	13.8	416.3

In more recent times, the modern Aishihik peoples first made contact with Europeans towards the end of the 19th century, as trading between the inhabitants of the Kluane, the coastal Tlingit, and European Canadians brought new technologies into the region, and new ways of exploiting natural resources (Theberge 1980). Throughout the history of human settlement in the region, the Kluane region has undergone and continues to undergo substantial environmental change. In the 20th and 21st centuries, environmental change in Kluane is arguably triggered by an increase in human activity coupled with a shifting climate coupled with fluvial and geomorphologic process (Slocombe 2003).

With the advent of the Klondike Gold Rush in 1898, people from all over North America trekked into the Yukon in search of gold. While most aimed for the Klondike gold fields near Dawson, a few miners established claims in the Kluane region. One area of Kluane did however prove more fruitful than the rest. Claims were staked along numerous creeks on the Eastern edge of Kluane Lake, prompting the establishment of Silver City on the south shore (Zanasi *et al* 2005). By 1904, there was a mining recorder, police outpost, and a wagon road to Whitehorse. By 1917, major gold strikes across the border in Alaska prompted most prospectors in the Kluane region to leave. A number of mining claims were made in and around the region, but most proved to be a bust. It is estimated that only $70,000 worth of gold was extracted from the Kluane region during this time (approximately worth $1,077,125 CAD in 2013), with many companies and prospectors spending exponentially more capital in their efforts than their resulting yields (Theberge 1980).

The most important historical event in the Kluane region was the construction of the Alaska Highway in 1942 (Slocombe 1992, Krebs 2001, ARRC 2004). Spurred by fear of a

Japanese attack on Alaska's Aleutian Islands, the Government of Canada sanctioned the United States to construct a long-haul trucking route from Dawson Creek, British Columbia, through the southern extent of the Yukon, and into Alaska. Construction began on March 9th, 1942 and officially finished only nine months later on November 20th. Though a major attack on Alaska never materialized, the Alaska Highway marks a major and the most dramatic turning point in the history of the region. As described by Theberge (1980, 123), "Kluane was now accessible to a new batch of gold miners, some using abandoned cranes and bulldozers from the highway construction. And the scientists came to study. And the tourists came to travel North America's last romantic frontier road." The Alaska Highway also spurred the construction of the Haines Road south from Haines Junction to Haines, Alaska – an alternative route to coastal Alaska.

With an increase of people in the Kluane region, and consequent stress on biophysical systems, it became imperative to protect the unique biological representativeness of the Kluane region (Slocombe 1992) – not only so that scientists might better understand the ecology of the region, but also to ensure nature tourism as the long-term staple of the economic sector. Beginning in 1942, the area of the Kluane region to the southwest of the Alaska Highway was designated a national park reserve and wildlife sanctuary. Though not formally a national park, the reserve/sanctuary status prevented private land holdings within its boundaries. Game sanctuary status was added a year later in 1943, thus barring hunting and trapping but still oddly permitting mining exploration, thus alienating those who lived off the land – First Nations and non-Aboriginal peoples alike who starkly opposed it. Consequently, the barring of the region's most lucrative economic activity meant that many people now had no reason to stay or even visit the region (Theberge 1980).

Support for a formal national park waxed and waned until 1972 when it was announced that Kluane National Park would be formally established by 1978 (Parks Canada 2010), and has since been classified a Category II protected area by the International Union for the Conservation of Nature. The national park would become the focal point of the region for the latter half of the 20th century and into the 21st century. Together with Wrangell-St. Elias and Glacier Bay National Parks in Alaska and Tatshenshini-Alsek Wilderness Park in British Columbia, the Kluane region is part of a UNESCO World Heritage Site enveloping the largest transboundary protected area in the world (AARC 2004). Two territorially-administered parks are to be established in the near future, including Kusawa Lake to the east of the park and Dan Keyi immediately adjacent to the north – both of which are the result of the negotiation process of land claims in the region.

Since the construction of the Alaska Highway in 1942, there has been interest from government and industry about constructing an oil or natural gas pipeline the length of highway to carry fossil fuels from remote extraction facilities on the Alaska North Slope at Prudhoe Bay to markets in southern Canada and the continental United States. The proposed pipeline would bisect the region, cross hundreds of waterways, and recently it has been suggested that the pipeline might be laid under a 5km section of Kluane Lake. The proposal has often been regarded as an alternative to other pipeline projects in North America. Regardless, the settling of land claims in Kluane, the constantly shifting mountain landscape, and the sheer mechanics and costs associated with such a megaproject have been major barriers.

4.3 Demographics

Despite its proximity to the capital of the territory, the Kluane region exhibits a relatively sparse population, hovering around 1,200 people in recent decades (Christensen *et al* 2008). The

largest concentration of people by far is the village of Haines Junction with an official population of 593 as of 2011 (see Figure 4.1), though that number stretches to 830 when considering those living just beyond the incorporated boundaries). The village has historically and contemporarily been the economic centre of the region, housing territorial and First Nations government offices, a park interpretive centre, and many services and business catering to those traveling along the highway. Other settlements in the region include Beaver Creek (103), Burwash Landing (95), and Destruction Bay (35). Aboriginal populations are proportionally higher in the Kluane region than the territorial average, with approximately 41% of Haines Junction residents and 73% of Burwash Landing residents claiming Aboriginal identity in 2006 (see Figure 4.2). Due to the relatively small population, any in- or out-migration of people can have a dramatic impact on these communities. For example, the population of Destruction Bay dropped from 55 in 2006 to 35 in 2011 – a decrease of 36.4%.

4.4 Regional Economy

In modern times, tourism is the most important economic driver in the region. The focal point of the tourism economy in Kluane has been the national park since its inception in 1972. Visitor activities in the region vary from traditional tourism, such as museums, interpretive centres, and roadside attractions, to nature-based and eco-tourism, including camping, fishing/hunting, backcountry hiking, mountaineering, and white water rafting. Though more recent numbers are elusive, approximately 10% of tourism dollars spent in the Yukon are spent in the Kluane region – totalling $6.8 million (Government of Yukon 2006).

In 2004, the territorial Department of Tourism of Culture conducted a visitor exit survey and concluded the following. In total, 109,321 tourists visited the Kluane region in 2004, up

from 100,496 in 1994 and 92,516 in 1999. Though third in tourism dollars spent, the Kluane region attracted the second highest number of visitors, trailing only the capital region. Overall, visitor numbers Yukon-wide rose from 476,585 in 1994, 529,347 in 1999, to 667,490 in 2004. Trends based on visitor numbers indicate an expanding tourism sector and thus future regional management initiatives will have to increasingly plan for and accommodate tourism activities as numbers rise in Kluane and the Yukon (Zanasi *et al* 2005).

Though the history of the Kluane region has shown placer mining has been speculative at best, more recently the industry has become more viable as the global price for gold increased substantially. Gold production in the region rose slightly from 819 in 2011 to 894 in 2012, but substantially lower than the 2,549 crude ounces produced in 2002 (Yukon Geological Survey 2011). As illustrated by Figure 4.3, the price for gold in 2002 hovered around $300/oz but steadily rose to $971/oz by 2009. Natural Resources Canada (2011) has reported that by the end of 2010, gold was valued at $1410.25/oz – only to further rise again to $1571/oz the following year. More recently, the price of gold has begun to steadily decline – hovering around $1200/oz as of June 2013 – a three-year low according to the Canadian Mining Journal (2013). This decline has begun to raise concerns about the long-term stability of gold mining in the Yukon.

The recent rise in the global price of gold has revitalized the industry, so much so that the total value of gold produced in the Kluane region in 2012 far exceeded that in 2002 despite vastly lower production numbers. Placer mining in the region is limited to a handful of small-scale operations producing only 4,394 ounces of gold (2.57% of territorial production) between 2007 and 2009 (Yukon Geological Survey 2011). Recent land use conflicts related to mining exploration in areas of unsettled land claims have also brought to light the issue of what constitutes adequate consultation with First Nations with unsettled land claims.

Figure 4.1: Population change of communities in the Kluane region. 1990-2012
(Yukon Bureau of Statistics)

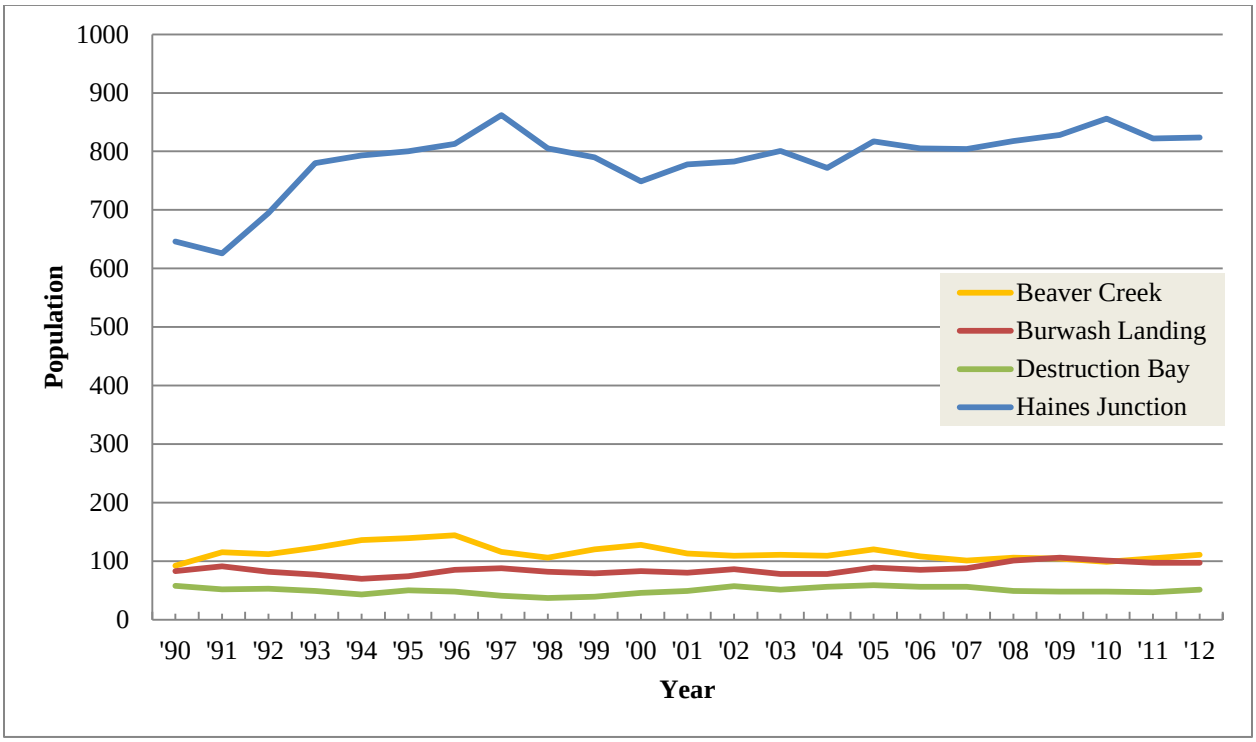
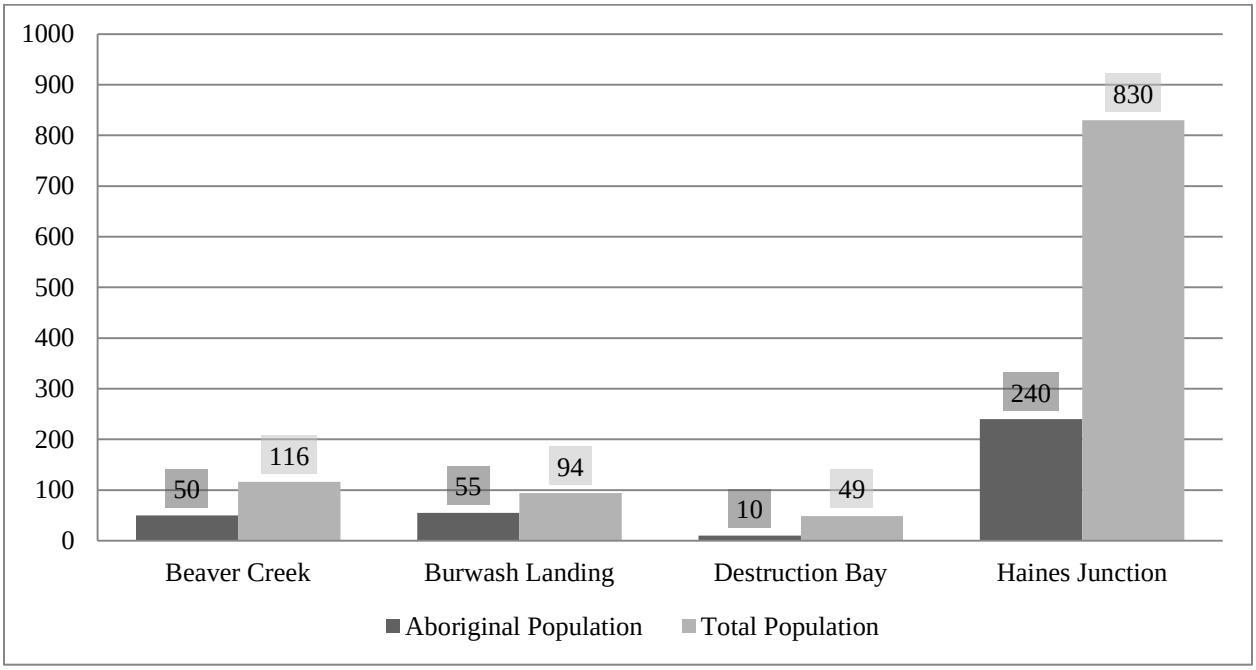
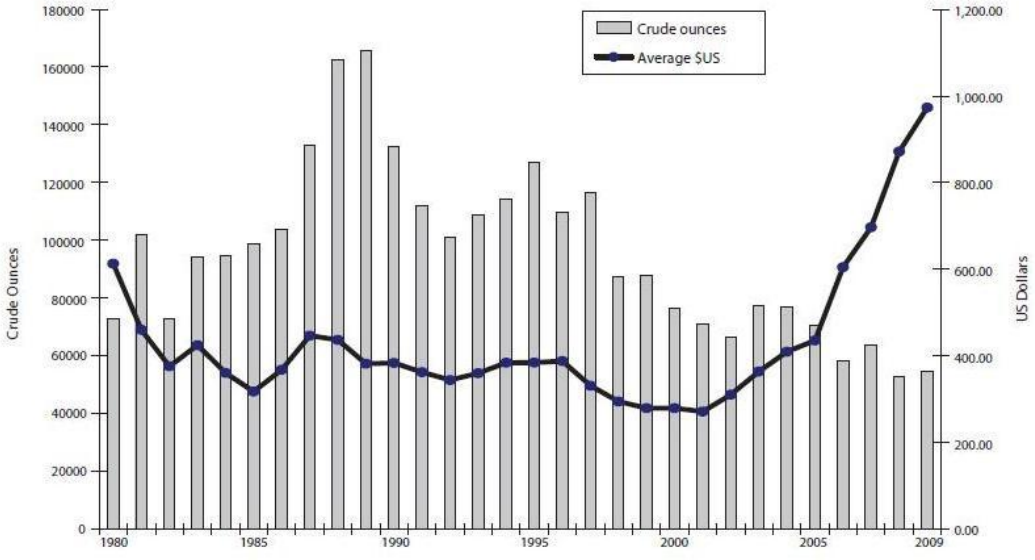


Figure 4.2 Community Aboriginal populations relative to total, Sept. 2012 est.
(Yukon Census 2006 & Yukon Bureau of Statistics)

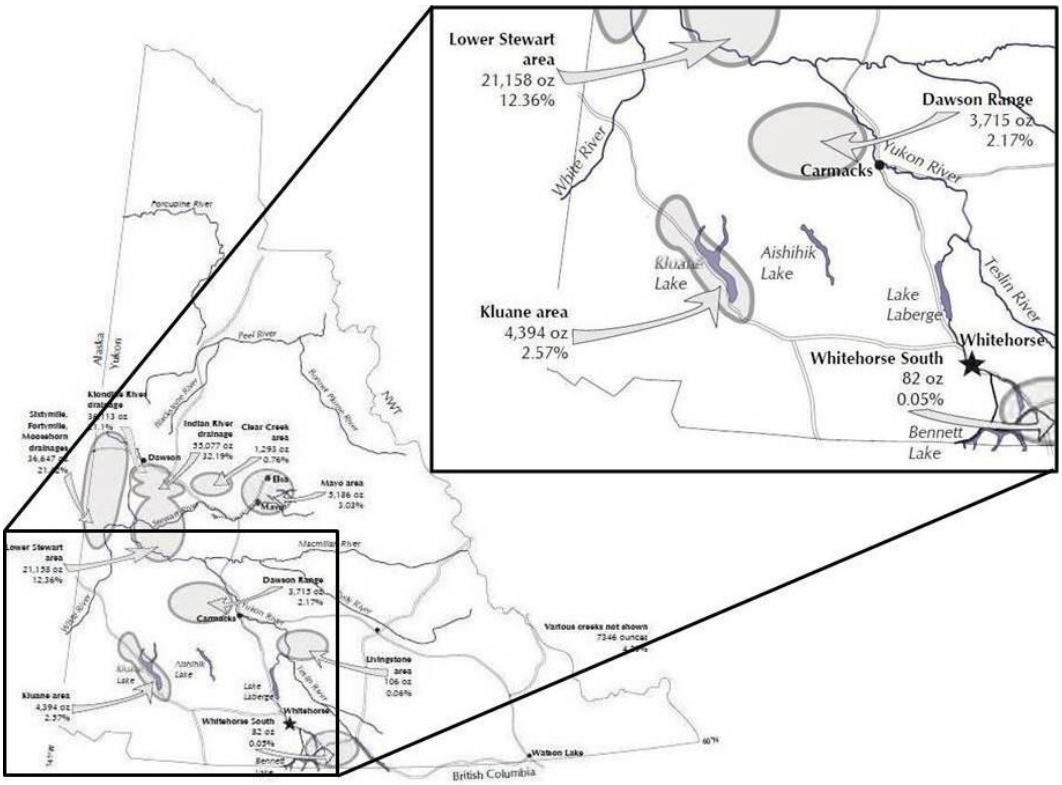


Forestry in the region is active, though minimal. Historically, timber harvesting has been limited to providing materials for local construction, mining operations, and fuel wood (Christensen *et al* 2008). A small number of mills operate in the region to meet demand, most notably at Canyon Creek – just east of Haines Junction. There is increasing interest in ramping up commercial forestry operations in the region as an avenue to dealing with the vast swaths of forest infested by spruce bark beetle (AARC 2004). The use of spruce bark beetle-infested forests as a potential fuel source for a biomass-generating facility is currently being investigated, and could help alleviate the region's dependence on diesel generation (Yukon Energy 2013). However, the lack of formal forest management plans (until very recently), market variability, and lack of public consensus regarding the desired and appropriate scale have raised serious concerns about the future of the forestry sector (AARC 2004).

Figure 4.3: Yukon placer gold production vs. US gold price, 1980-2009
(Yukon Geological Survey 2011)



Map 4.3: Locations of prominent Yukon placer gold production areas
(Yukon Geological Survey 2011)



Energy generation in the region is primarily fueled by the Aishihik Lake Hydroelectric Facility. The facility, which is owned and operated by the crown-corporation Yukon Energy, was originally constructed in 1975 housing two turbines generating 30 megawatts (which at the time accounted for 40% of the territory's hydroelectric generation) in order to provide power to the Faro mine (Theberge 1980). The facility was expanded in 2011 to three turbines generating a total of 37 megawatts. The addition of a third 7 megawatt turbine has allowed Yukon Energy to utilize the stored capacity behind the dam at Aishihik Lake more efficiently during low demand periods in the summer while allowing more capacity to build up in the reservoir in anticipation of the electric-intensive winter months (Yukon Energy 2013a).

There has been recent debate about increasing the storage capacity of a number of hydroelectric facilities in the Yukon in order to keep pace with demand – not only for new mines but also for expanding communities, particularly Whitehorse. Public reaction has been mixed as the idea inherently requires increasing water levels and may thus encroach or private lands or cause unnecessary erosion of shorelines, among other impacts, although any such plan for Aishihik Lake would only be likely to spark concerns regarding impacts of an environmental nature and not socio-economic.

4.5 Evolution of Regional Governance in Resource Management Regimes

Governance in Kluane, despite its remoteness and sparse population, is dominated by government and heavily influenced by bureaucratic dialogue. Beginning in 1898 as a result of the Klondike Gold Rush, the Yukon Territory was carved out of the most western extent of the then Northwest Territories as a separate administrative unit in order to better govern the territory, and in particular, regulate and control the influx of peoples. From 1900 to 1978, the territory was administered by the federal Department of Indian Affairs and Northern Development and its predecessors via an appointed territorial commissioner.

Modern responsible and representational government was introduced to the territory in 1978, along with the Yukon Legislative Assembly and the Yukon Territorial Government. Since then, the Kluane region has undergone significant political and institutional restructuring, most notabl3 the settling of two land claims in 1993 and 2002 respectively, and devolution in 2003. The Yukon Territorial Government has since become the Government of Yukon and has absorbed some federal responsibilities, notable land, water, and natural resources. The

Government of Canada is still notably responsible for national parks as well as Aboriginal affairs (i.e. land claims and self-government), navigable waters, and fisheries.

The nuances of the evolution of governance in resource and environmental management in the region will be chronicled at length in subsequent subsections. However, further adding complexity to the governance structure, is that one land claim in the Kluane region is still outstanding and has been the source of much debate and tension in the region as settling land claims has become the primary determinant of resource management regime design and implementation. Such constant restructuring as well as the current gaps and overlaps in regulatory authority have meant that long-term regional initiatives, such as land use planning, have not yet been formalized as rights and tenures to land have been too fluid over that time period.

4.5.1 First Nations' land claims and self-government

As a result of a number of seminal Aboriginal and northern events in Canada in the 1960s and 70s, including the Calder case, as well as the Mackenzie Valley Pipeline Inquiry and later Section 35 of the *Constitution Act* as elaborated in Chapter 2, it became apparent that the current state of land ownership across Canada was beginning to change. Support for Aboriginal land claims and self-government in the Yukon was spurred by Chief Elijah Smith's publication *Together Today for Our Children Tomorrow* in 1973 (Council of Yukon Indians 1982). It was also during this time that representational government was introduced in the territory, ushering in opportunities for First Nations groups to participate in political processes for the first time. Negotiations between the federal and territorial governments, and the Council of Yukon Indians (now the Council of Yukon First Nations) extended into the 1980s but ceased shortly thereafter.

Negotiations picked up again in the late 1980s, culminating with the Umbrella Final Agreement (UFA) in 1993.

The UFA was a landmark agreement between the two governments and Yukon First Nations that set out the foundation for individual land claims agreements for Yukon's 14 identified First Nations. The UFA required that each First Nation finalize an individual land claim agreement that would grant them approximately 9% direct ownership of public lands within their defined traditional territory (Government of Canada *et al* 1993). Specifics regarding which tracts of land would be transferred and if they would be defined as Category A (surface and sub-surface rights) or Category B (surface rights only) Settlement Lands would be determined by individual land claim agreements. Table 4.4 provides a breakdown of the total amount of land transferred to First Nations in the Kluane region. The UFA also detailed how settled First Nations would interact with territorial resource and environmental management regimes (Duerden *et al* 1996, Natcher & Davis 2007). Most pertinent to this research is their increased role in development assessment and land use planning, but also relevant are changes in surface and sub-surface rights, protected areas, heritage resources, water resources, fish and wildlife, forestry resources, non-renewable resources, and resource royalty sharing.

Table 4.4: Area of Category A, Category B, and Total Settlement Lands in Kluane
(Government of Canada *et al* 1993)

	Year Settled	Category A (km^2)	Category B (km^2)	Total (km^2)
Champagne & Aishihik	1993	1230.24	1165.49	2395.74
Kluane	2002	647.50	259.00	906.50
White River	Unsettled	259.00	259.00	518.00

By officially recognizing such rights, the land use planning and development assessment regimes already in place would need to be reformed in order to accommodate a new prominent stakeholder in the system. New co-management agencies like the Yukon Land Use Planning Council (YLPUC) and the Yukon Development Assessment Board (YDAB) were to be established an governed by joint federal-territorial-Aboriginal arrangements, ensuring the interests of each party to the UFA were represented in the governance of these institutions (GC *et al* 1993).

The YLUPC was to replace DIAND's Land Use Planning Policy Advisory Committee that was established under the *Agreement of Land Use Planning in Yukon* in 1987, and YDAB to absorb DIAND's environmental assessment responsibilities outright (GC *et al* 1993). The UFA also mandated that each region of the Yukon defined by the YLUPC would undergo a formal land use planning exercise once land claims in that region had been signed. In each region, a land use planning commission is established to actually undertake the process, with the YLUPC providing logistical, financial, and administrative support. While the YDAB mandate would eventually become deeply rooted in environmental assessment-specific legislation, the mandate of the YLUPC is determined entirely by the UFA, and lacks robust planning legislation that is often present in other jurisdictions (Leach 1999).

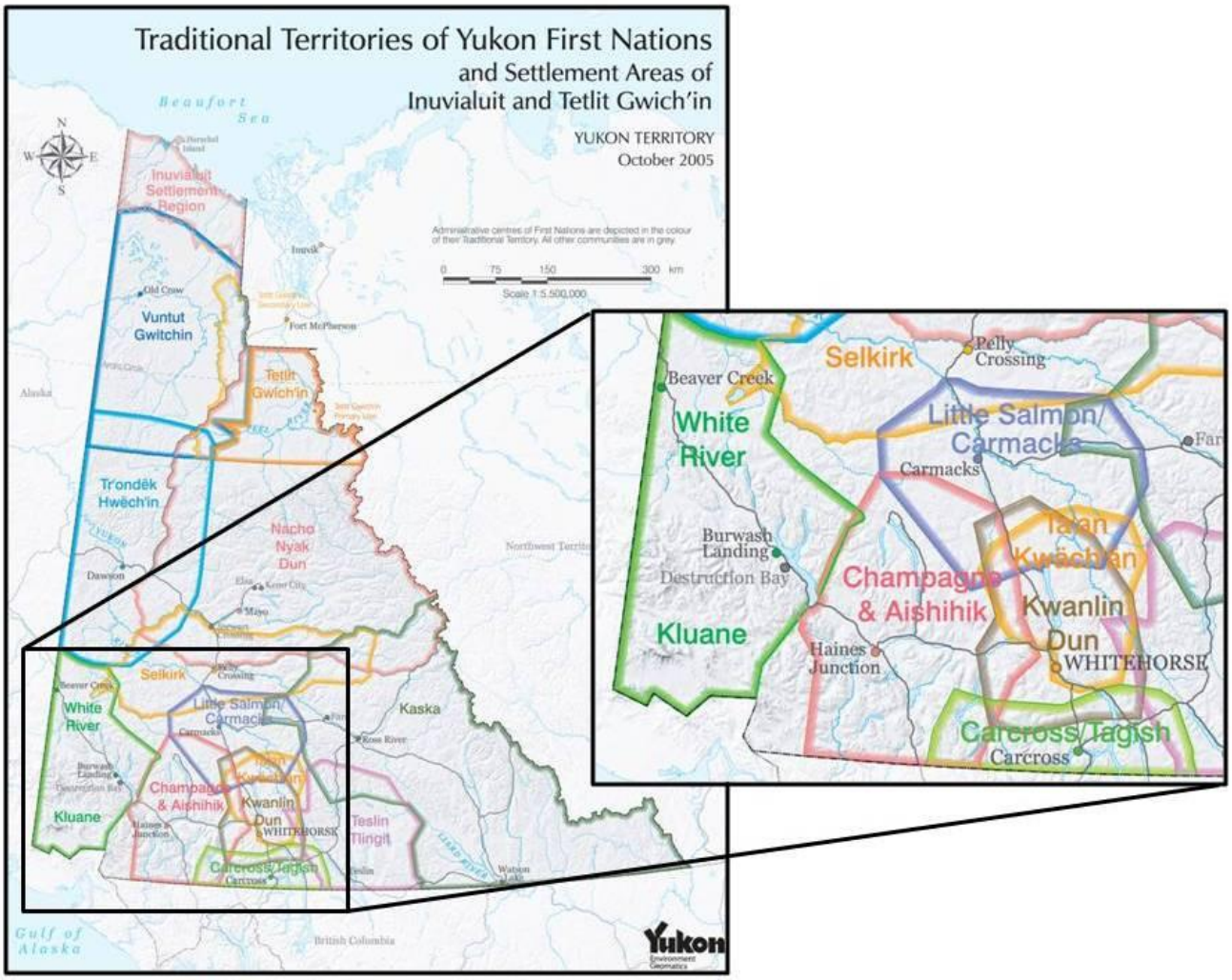
The UFA also detailed a number of similarly structured advisory bodies to be established that may have an interest in land use planning or development assessment, such as the Yukon Fish and Wildlife Management Board, Kluane National Park & Reserve Management Board. Renewable resource councils would be set up at the time of each individual land claim agreement, and regional planning commissions would be formed when the critical mass for regional planning reached a certain level of support. The specifics of the governance framework

of the current land use planning and environmental assessment regimes, the organizations that administer the processes, and the manner in which they operate will be discussed in subsequent sections of this chapter.

Since the signing of the UFA in 1993, two First Nations groups in the Kluane region have signed their final land claim and self-governing agreements. The Champagne & Aishihik First Nation (CAFN), based in Haines Junction, was one of the four original First Nations to sign a land claim agreement in 1993 under the UFA. The Kluane First Nation (KFN), based in Burwash Landing, followed suit in 2002. The White River First Nation (WRFN), based in Beaver Creek, has yet to sign a land claim agreement (see Map 4.4 for a spatial overview of First Nations` traditional territories in the Kluane region). As a result, the WRFN still maintains unextinguished right and title within their traditional territory, as guaranteed by section 35 of the *Constitution Act.* As of March 31st, 2005, the Government of Canada's mandate to negotiate land claim agreements in the Yukon expired, and it has since entered a stage of tripartite dialogue with the WRFN, but maintains no obligation to negotiate a final land claim any longer (Government of Yukon 2008).

The lack of contiguous land claims in the Kluane region is problematic for several reasons. It means that WRFN's right to lands and resources in their traditional territory is poorly defined, and as a result their role as a principal stakeholder in land use planning of public land and resources is limited at best. Land use planning as an exercise is unlikely to be undertaken if boundaries are poorly defined.

Map 4.4: Traditional territories of Yukon First Nations in Kluane
(Environment Yukon 2005)



4.5.2 Land use planning

Land use planning has been a concern in the Kluane region in recent decades. Well before the establishment of the UFA and land claims, formal land use planning exercises were underway in the region. In the years following the introduction of DIAND's northern land use planning programme, the final draft of the Greater Kluane Regional Land Use Plan (GKRLUP) was completed after lengthy consultation and dialogue between the federal and territorial

governments, and First Nations people in 1991. The GKRLUP was the first attempt at regional-scale land use planning in the Yukon under the new programme (AARC 2004). The rationale for the exercise was simple: rapid resource development over the past 80 years in the region had brought both positives and negatives to the region. The general landscape aesthetics and presence of the national park already lends itself to a tourist economy, but competing interests from the mining industry and energy infrastructure increased the potential for conflict (Zanasi 2005). Both sectors can positively contribute to economic development in the region, but there are inherent risks involved that need to the planned for and management.

In the late 1970s and early 1980s, DIAND began drafting a federal land use planning programme for northern Canada, largely after support from northerners swelled following the Berger Inquiry. By 1980, the CYI had signed an agreement-in-principle with the federal government to commit to comprehensive land use planning, presumably being the northern land use planning programme. However, initial reactions from territorial officials and Yukon First Nations were lukewarm at best. The Yukon Territorial Government (YTG) had already produced a draft land use plan for the eastern portion of the Kluane region by 1981, and many heavily criticizing the internally developed policy as being too exclusive, too rigid, too centralized, and not accurately reflecting the interests of northerners – especially in light of recent progress in land claim negotiations in the territory (Staples 1987, Notzke 1994).

In a 1982 discussion paper titled *Land Use Planning, Environmental Assessment, and Land Ownership in Yukon* produced by the Council of Yukon Indians, Vice-Chairman of Negotiations Mike Smith states,

> *We object strongly to the way in which the federal government is proceeding. Their proposals suggest a degree of centralized decision-making and Ottawa-dominated planning for the whole north that is unacceptable to use. Ottawa seems insensitive to the*

> *legitimate desires of both Yukon Indians and non-Indians alike. It is time for all Yukoners to act.*

Given the language present in both the Council's proposal and the UFA, it is likely that this discussion paper caught the attention of bureaucrats in Ottawa, and had a profound impact on the devising of the chapter on land use planning and development assessment.

According to the document, the CYI (1982) believed that a formal planning process ought to be comprehensive, decentralized, and fully integrated with community planning processes. Planning ought not to be merely a means to an end, but rather an entire institution ensuring positive and evenly distributed environmental and socio-economic outcomes across the landscape. It ought to be conducted at scales relevant to the purpose of planning, and that decentralization of decision-making will ensure local and regional interests will be respected. This requires a formal process "firmly rooted in legislation" to ensure equal opportunity and uniformity. It is also key that planning of public lands not only respects planning at the community level, but also integrates fully in that land use designations adjacent and immediately surrounding municipal boundaries are congruent with the goals and objectives of community land use plans. Additionally, the discussion paper stresses the importance of First Nations participation and meaningful dialogue throughout the process.

By 1983, DIAND opted not to pursue its original land use planning policy and began searching for alternative solutions more closely akin to northern interests. In response, the YTG and the CYI came to their own agreement on land use planning in 1983, which was effectively the final nail in the coffin for DIAND's sole jurisdiction over the development of the northern land use planning programme (Notzke 1994). This forced decision-makers in Ottawa to re-evaluate DIAND's authority, culminating in a letter of understanding signed by the minister in 1984 (Fenge 1987). While the Government of the Northwest Territories was quick to also sign

the letter, the YTG outright refused, arguing that land once planned for ought to be transferred to the territory for administration and management. According to Notzke (1994), First Nations people in the Yukon were wary of YTG's hard negotiation tactics, and were adamantly opposed to transfer of authority over land until final land claims in the territory had been settled (Staples 1987). With each party largely unwilling to compromise, it would not be until 1987 the YTG and the federal government reached an agreement on land use planning in the territory.

Such stark opposition towards DIAND's original land use planning programme lead to a memorandum of understanding with the territorial government and the Council of Yukon First Nations was signed. Pursuant to the *Agreement on Land Use Planning in Yukon* signed in 1987, the Land Use Policy Advisory Committee was set-up under the agreement and determined the Kluane region was the ideal region to test DIAND's northern land use planning programme in light of the new agreement (GC & YTG 1987). A number of drafts of the GKRLUP were produced until a final recommended draft was issued in 1991. However, with the signing of the UFA in the year prior, and land claim negotiations already underway for at least one First Nations group in the region, the extent to which the draft plan was still politically relevant was up to debate. It has also been suggested that because the process lacked a clear decision-making model, consensus on the final draft was anything but, and was ultimately shelved with only one First Nation in the region formally accepting the plan (ARRC 2004).

In response to the criticism of DIAND's first attempt at the northern land use planning programme, as well as lessons learned from the Greater Kluane planning exercise and the impending shift in regional land governance as a result of the potential land claims in the Yukon, Chapter 11 of the UFA detailed how land use planning will be conducted. The objectives of this chapter are (GC *et al* 1993, 93)

- *To encourage the development of a common Yukon land use planning process outside community boundaries;*
- *To minimize actual or potential land use conflicts both within Settlement Land and Non-Settlement Land and between Settlement Land and Non-Settlement Land;*
- *To recognize and promote the cultural values of Yukon Indian People;*
- *To utilize the knowledge and experience of Yukon Indian People in order to achieve effective land use planning;*
- *To recognize Yukon First Nations' responsibilities pursuant to Settlement Agreements for the use of Settlement Land; and*
- *To ensure social, cultural, economic, and environmental policies are applied to the management, protection and use of land, water, and resources in an integrated and coordinated manner so as to ensure sustainable development.*

It is clear from the outset of the UFA that under the new territory-wide governance regime the rights, interests, and issues of First Nations peoples with regards to the use of land, water, and natural resources would be the paramount focus, if not the crux, of the Yukon's new regional land use planning programme (Duerden *et al* 1996). To ensure these objectives were met, the UFA detailed the establishment of the Yukon Land Use Planning Council (YLUPC) to oversee the new process – replacing the Land Use Policy Advisory Committee under the *Agreement on Land Use Planning in Yukon* (GC *et al* 1993).

According to section 11.3.3 (GC *et al* 1993, 95), the YLUPC shall make recommendations to government and affected First Nations on:

> *...land use planning, including policies, goals, and priorities in the Yukon; the identification of planning regions and priorities for the preparations of regional land use plans; the general terms of reference, including timeframes, for each Regional Land Use Planning Commission; the boundary of each planning region; and such other matters that government and First Nations may agree.*

Therefore, the YLUPC's role is to facilitate the generation of recommended land use plans and it has no regulatory authority over the approval process, implementation of its plans, or long-term monitoring.

The governing board of the YLUPC would consist of three members – each nominated by the Council of Yukon First Nations, the Government of Yukon, and the Government of Canada respectively, and appointed by the Minister of DIAND (GC *et al* 1993). The intent of this high-level governance structure is to ensure the YLUPC meets it obligations to all parities under the UFA. A small ensemble of staff supports the board, maintains the day-to-day operations, and interacts with the regional commissions. This structure is common to many to the boards, councils, and secretariats set up under the UFA.

The YLUPC does not actually conduct formal land use planning exercises, but rather manages the process. Regional planning commissions are the actual bodies that conduct and generate land use plans for each region as determined by the YLUPC (Leach 1999, Francis & Hamm 2011). Each regional commission is established when government and First Nations deem it necessary and/or when the public expresses an interest (refer to Map 4.5 for a territory-wide overview of the pre-existing and tentative regional commission boundaries). Each commission is structured identically to YLUPC, with each of the major parties to the UFA nominating members to the commission to oversee operations once established in addition to staff that actually carries out the planning exercise.

Regional commissions according to the UFA will continue to operate once a final recommended land use plan is issued, offering support and logistics with plan implementation as well as performing conformity checks. Final approval would be the responsibility of DIAND (YG & GC 2003). Any changes to a final recommended land use plan by any of the UFA parties must undergo additional rounds of consultation, and consensus ought to be unanimous before final approval (GC *et al* 1993). However, the current reality is that as a result of limited funding between the federal and territorial governments, regional commissions do not operate beyond the

issuance of a final recommended plan. The YLPUC therefore has absorbed the regional commission's responsibility to perform conformity checks. Similarly, the federal government is no longer the final authority on land use planning approval since devolution in 2003. These changes to the approval structure of land use planning and funding agreements of the regional commissions will be detailed further in section 4.5.6.

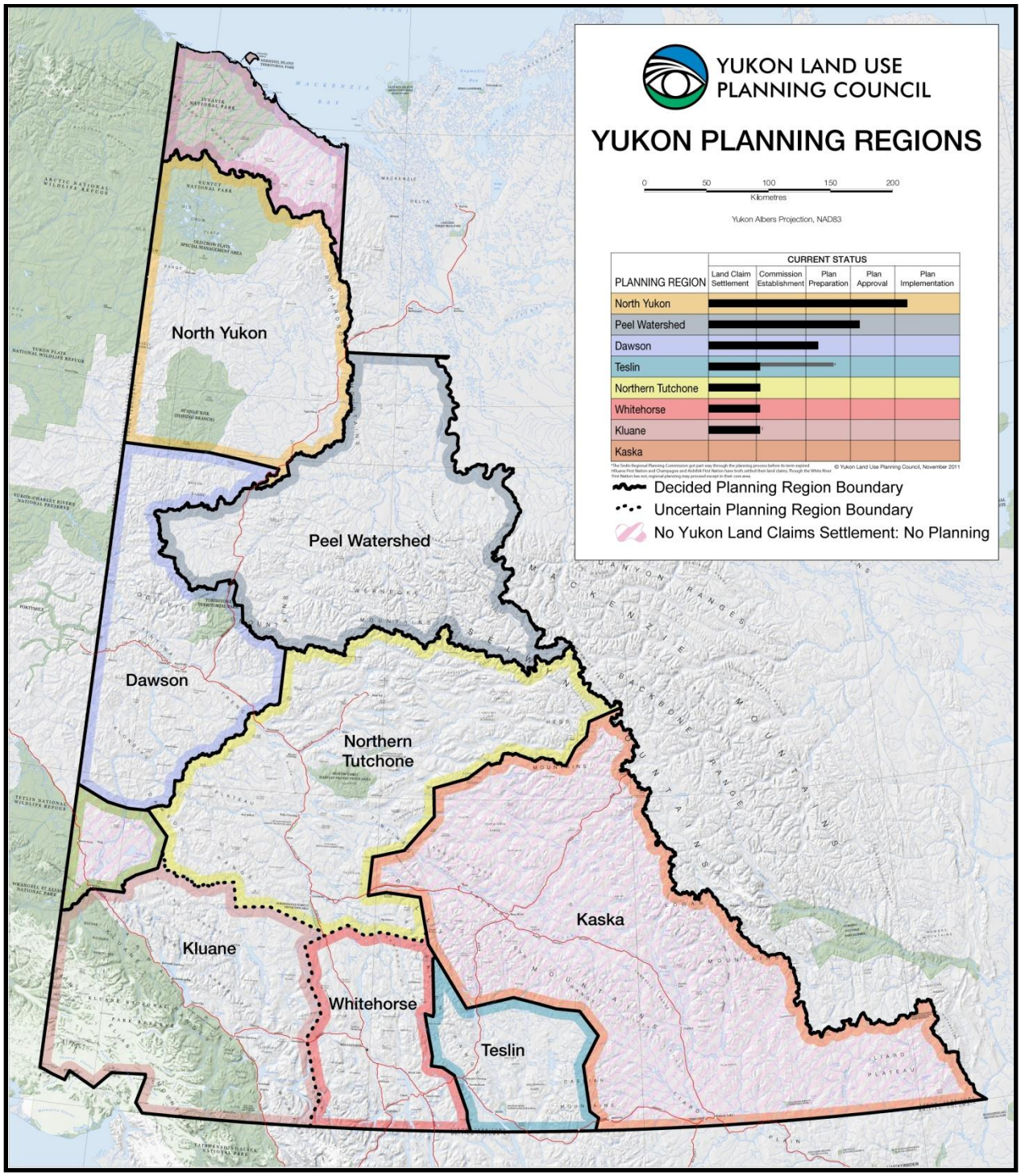
The YLUPC and the regional commissions receive funding for their obligations under the UFA by the Government of Canada. Funding for each commission is roughly capped at about $1.8 million, including staff wages, public tenders, and other contracts.. Only an agreement between the parties of the UFA would extend the funding to individual planning commission if need be. This is of course an issue as the modern planning paradigm focuses heavily on the cyclical nature of planning processes (Hodge & Robinson 2001, Lein 2003, Randolph 2012). This concept is predicated upon the notion that land use plans are "living documents" (Rees 1987) that are intended to be reviewed, updated, and/or amended on a semi-regular basis when it is deemed a plan is outdated or when new information about the context and characterization of the region is known.

4.5.3 Environmental assessment

Also pursuant to the UFA was the introduction of Yukon-specific environmental assessment legislation under Chapter 12. This chapter detailed the requirement to create an arm's length environmental assessment advisory body to government and First Nations that would be charged with carrying out assessments and managing the process. (Slocombe *et al* 2009). Previously, environmental assessment in the Yukon was the responsibility of the Environmental Directorate within DIAND, which adhered to EARP and its guideline orders (and later CEAA).

Map 4.5: Yukon planning region boundaries

(Yukon Land Use Planning Council 2011)



While DIAND was not legally bound to conduct environmental assessments under formal legislation, it often did so for major development and infrastructure projects, even following the UFA in 1993. Regardless, it became apparent that with the onset of land claims, a formal environmental assessment process would be required to ensure the responsibilities of each signatory under UFA were upheld (Natcher & Davis 2007).

Oddly enough, despite provisions in the UFA calling for the establishment of a "Yukon Development Assessment Board", it never materialized and DIAND would remain purveyor of the environmental assessment process in the territory until 2005. From 1993 to 2003, the environmental assessment process continued to be operated under EARP and CEAA by DIAND. After 2003, interim legislation was developed based on EARP and the definition of environmental and socio-economic effects was substantially broadened, thus increasing the spectrum of what activities require an assessment (Slocombe *et al* 2009). The UFA also detailed how the new assessment agency would be structured and governed, but this would not be actually established until after devolution and the new Yukon environmental assessment legislation replaced the interim guidelines.

However, pertinent to this research is subsection 12.17.1 of the chapter on land use planning, which links new environmental assessment and land use planning processes in the Yukon. The section states that, non-existence of YDAB aside, (GC *et al* 1993, 117):

> *Where YDAB or a Designated Office receives a Project application in a region where a regional land use plan is in effect, YDAB or the Designated Office, as the case may be, shall request that the Regional Land Use Planning Commission for the planning region determine whether or not the Project is in conformity with the approved regional land use plan.*

It is this link between the two processes that forms the foundational basis of this research and is a central theme in the criticism surrounding the current state of regional land use planning in the territory.

In March 2003, in preparation for new environmental assessment legislation coming into effect in the territory, the *Yukon Environmental Assessment Act* (YEAA) was passed as an interim piece of legislation designed to essentially 'wean' regulators, industry, and decision-makers onto the new regime to be installed by 2005. This interim legislation however simply mirrored the federal *Canadian Environmental Assessment Act* (Slocombe *et al* 2009). The interim act satisfied the requirement from the parties of the UFA to administer "interim measure for assessing a project which shall be consistent with the spirit of this chapter and within the existing framework of Law and regulatory agencies" (GC *et al* 1993, 103) until proper legislation could be introduced.

The new legislation, the *Yukon Environmental and Socio-Economic Assessment Act (YESAA)*, received royal ascent from the federal government in 2005, and formally replaced YDAB and YEAA with the Yukon Environmental and Socio-Economic Assessment Board (YESAB) and the Yukon Environmental and Socio-Economic Assessment Act (YESAA), respectively (YESAB 2012). Staying true to Chapter 12 of the UFA, YESAB inherited the responsibilities that were originally intended for YDAB, and would remain an arm's-length advisory agency which would issue recommendations to regulators reject, accept, or vary a proposal. The assessment would also recommend mitigating measures to be included in terms and conditions of the government permit required to legally undertake the activity. The matters to be considered during an assessment, including cumulative effects, can be found under section 42 of the YESAA. The government regulator of the required permit, or decision body, varies

depending on which piece of legislation requires the permit in the first place, federal, territorial, of First Nation (though by far the government regulator that is most often the decision-body under YESAA is the territorial Department of Energy Mines and Resources).

Ergo, the YESAB has no legislative authority to accept or reject proposals outright, but instead recommends to regulators issuing the permit that triggered the assessment in the first place. There are distinct pros and cons to this system. On the one hand, because YESAB has no approval authority, there is virtually no political interference in the actual assessment process itself, but it also cannot legally enforce or regulate its own recommendations – leaving government regulators to make the final decision and follow-up with inspections.

Although the majority of recommendations are followed, YESAB and regulators do not always see eye-to-eye on some assessments, as YESAB can recommend a permit not be issued but regulators are free to ignore such advice, though sufficient rationale is required from the regulator justifying their decision. Recommendations for mitigating adverse cumulative effects can therefore be easily dismissed by regulators if the information to support such a decision is lacking (Canter & Ross 2010). This is especially true in the Yukon context as YESAB, although mandate to consider cumulative effects, often does an inadequate job at communicating cumulative effects data requirements to proponents as well being more stringent with proponents to undertake cumulative effects studies and generate the necessary baseline data (SENES 2009).

Under YESAA, proponents whose proposed development activities trigger environmental assessment under the legislation must submit a proposal of their activities to one of the designated YESAB offices operating in six districts throughout the Yukon, including Haines Junction (whose district boundaries roughly correlate to the YLUPC's definition of the Kluane region; refer to Map 4.6 for territory-wide assessment districts). The legislation outlines what is

required from proponents to ensure a successful submission, the corresponding period for public comment, as well as other timelines for deliberations and drafting of project recommendations, among other details. Projects that are unable to be adequately assessed by designated offices at the district level are referred to an executive committee evaluation at the main office located in Whitehorse (YESAB 2012). Executive committee evaluations may also be required for certain large-scale projects as outlined by the legislation. Such activities include Class IV hard rock mines, large-scale transportation or energy infrastructure, or projects that may have transboundary impacts in adjacent jurisdictions.

As per the UFA, the governing board of YESAB consists of seven members all appointed by the federal Minister of the Environment: two of which are nominated for appointment by the Council of Yukon First Nations and another by the Government of Yukon. Three members of the board are named to the executive committee, with one of those members being the Chair of the board (GC *et al* 1993). The purpose of the executive committee according to YESAB (2012) is to:

- *Conduct screenings,*
- *Review plans and existing projects,*
- *Establish Panels of the board, and to develop and publish the terms of reference for reviews of projects, existing projects and plans,*
- *Negotiate agreements for joint panel reviews,*
- *Provide advice about audits and effects monitoring,*
- *Carry out effects monitoring or a project audit when requested to do so by a minister or first nation, and*
- *Conduct a review or carry out research when requested to do so by a minister or a first nation.*

Given its mandate, it is through the executive committee that cumulative effects studies and research may be commissioned; whereas routine assessment conducted by designated offices largely focus on project impacts alone. However, because the executive committee's

responsibilities are determined by YESAA, it could be argued that conducting or commissioning cumulative effects studies independent of any specific development project or proposal is beyond the mandate of the YESAB under the legislation, as resources should be focused on the process itself. This lends to the argument made by Canter & Ross 2010 that CEA is not currently adequately administered at the project-scale; that is not to say however that it cannot be.

This notion was echoed in 2009 following a five-year review of YESAA – as required by its own provisions. According to the final observations and conclusions report prepared by SENES Consulting (2009, 38),

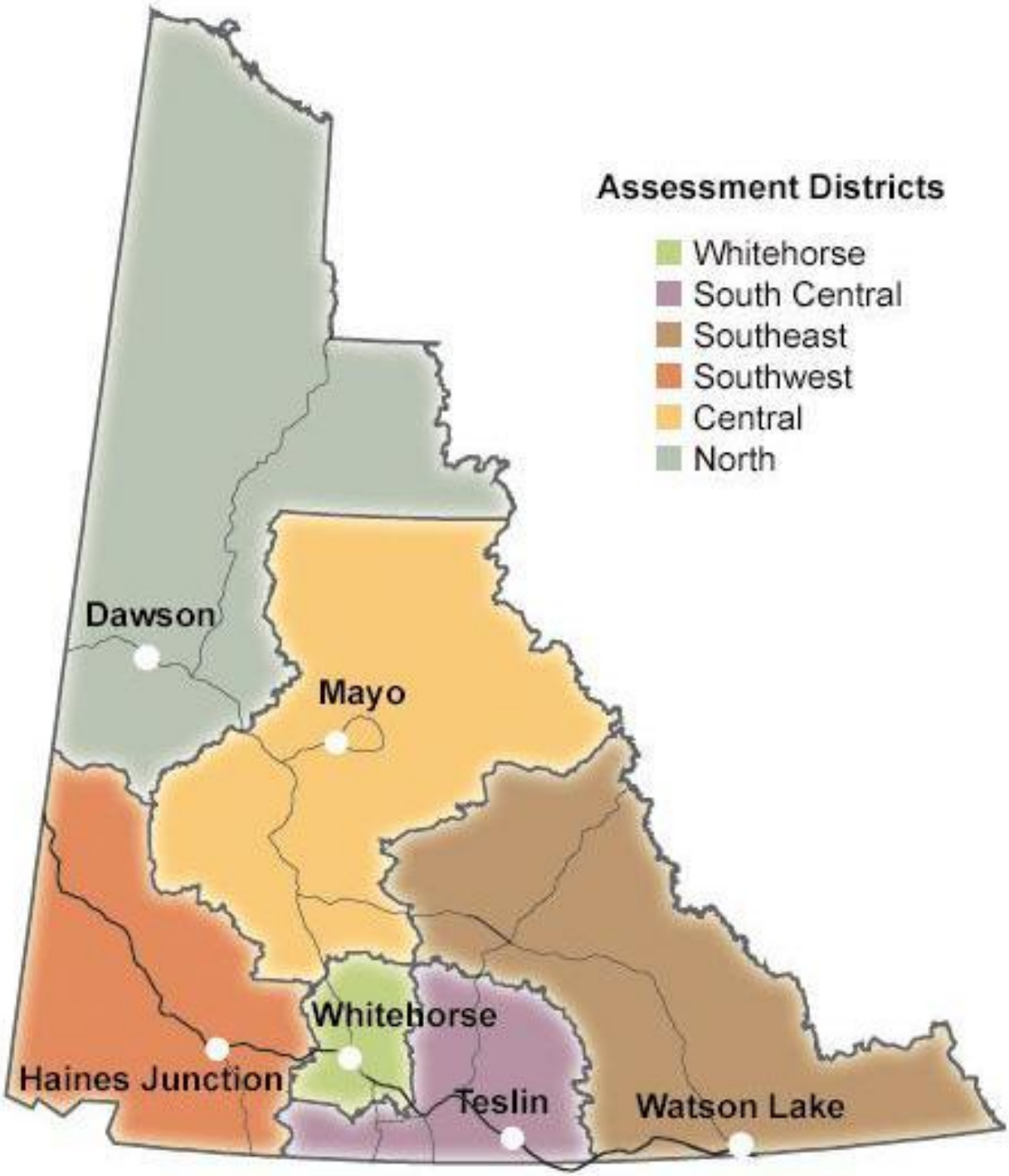
> *Concern about inadequate cumulative effects assessment (environmental and socio-economic) was probably one of the issues raised most often. Cumulative effects was identified as a concern by all levels of governments, non-governmental organizations, UFA and other boards and councils, the general public and a few business organizations. Directly linked to the cumulative effects issues is the lack of land use plans which would provide guidance from regional or other plans upon which to base cumulative effects assessment.*

The report goes on to state that a lack of clarity and consistency in the scope and approach to CEA, mechanisms for regional or cumulative effects monitoring and baseline data, and regional land use plans, and clarity regarding the ongoing role of land use planning commissions are key issues regarding CEA.

The report found that project assessment in the Yukon is relatively weak for yielding significant CEA results, elaborating that the issue is not the assessment process itself, but rather the manner in which YESAB has chosen to interpret what projects or activities are to be included when considering cumulative effects – a finding that resonates throughout recent literature (SENES 2009). Additionally, the report also advocated the use of regional land use planning as part of a larger cumulative effects assessment, management, and monitoring regime, while

Map 4.6: YESAA assessment districts and Designated Office locations

(Yukon Environmental & Socio-Economic Assessment Board 2013)



permitting YESAA to continue to operate at the project level. Regardless of the validity of project-scale assessment to effectively evaluate cumulative effects, project-scale assessments in and of themselves are clearly inadequate and require collaboration with regional-scale initiatives – which currently are lacking. The report also found a lack of integrated monitoring, with federal and territorial government conducting overlapping studies with often data and results portraying conflicting perception of the reality of monitoring.

Ultimately, SENES (2009) concluded the 1) the manner in which YESAA describes cumulative effects is too narrow to include activities that are "reasonably likely to occur", 2) decision-makers lack the tools, data and information to make informed planning decision with regard to cumulative effects, and 3) the lack of regional land use planning in a majority of the territory represents a "significant void" shrouding the current assessment and management processes in unnecessary uncertainty and complexity. Not surprisingly, the report recommends that regional land use planning should be the highest priority for managing cumulative effects and the regional monitoring programs be established to better facilitate both project- and regional-scale assessment processes. It is clear from the current state of regional land use planning, assessment, and monitoring that this has not materialized as of yet.

4.5.4 Protected areas

A prominent feature of the Kluane region since the latter half of the 20th century has been Kluane National Park and Reserve. Though regarded today as a centerpiece of the regional economy, support for the national park has not always been so strong. Since establishment of the park reserve and game sanctuary in 1942-43 and official national park status in 1972, a number of prominent interest groups in the region have been highly critical of the federal government's

initiatives to remove extractive activities from the park in the name of conservation – traditional, subsistence, or otherwise (Theberge 1980). While the territory's regional land use planning framework under the UFA does not apply to federally administered lands, such as national parks (GC *et al* 1993), it would of course be ill advised to devise a land use plan for the region without first acknowledging the goals and objectives of the park management plan (Dixon 1993, Danby & Slocombe 2005).

A lack of consistency and uniformity across planning levels (i.e. community, protected area, and regional planning) could potentially lead to further fragmentation of government management but also fragmentation on the landscape as well. Danby & Slocombe (2005) re-affirm this notion, stating that there exists little understanding of how protected areas interact with surrounding land uses. This is particularly exacerbated in the Kluane region where the presence of the national park is relatively recent and baseline data are already lacking.

Additionally, the degree of First Nations' participation in park management in Kluane National Park is also similar to a number of co-management organizations established under the UFA, and current efforts to improve stakeholder engagement and collaborative parks management can yield lessons for similar struggles at other planning levels, such as regional planning. In many ways, the park management plan resembles many key aspects of a land use plan, employing a system of land use designations or "zones" than allow for graduated uses of land consistent with protected area and First Nations' values (Government of Canada 2010; see Map 4 of the park management plan). This can be attributed to the fact that human activity within the park boundaries occurs only in a small number of areas on the edges of the boundary while the vast majority of the park has little, if any human presence.

In the years to come, parks planning and management will play a more significant role in the future of the Kluane region. While historically, management of the national park and the game sanctuary has been of main interest to many land users, with the onset of two new territorial parks in the region, the dialogue between planning levels will inevitably become more complex. This new paradigm of the importance of protected areas in Kluane will inherently require planning of public lands adjacent and in the immediate vicinity of protected areas consistent with current protected areas planning, management, and strategies, as well as planning in anticipation of newly established parks, and how such a new management regime might influence planning processes. Kluane National Park is also valuable to land use planning as it represents one of the few areas in the region where substantial scientific research is and has been conducted, and thus provides in greater detail an accurate picture of the natural history of the landscape and how it might change in the coming decades. This is particularly important due to the requirement of adequate baseline data as a pre-requisite for successful regional land use planning (Johnson *et al* 2011).

4.5.5 Local area planning

Of the four communities in the Kluane region, only Haines Junction is an incorporated community. Still, land use planning within community boundaries is undertaken by the territorial government, often with support from community members in the form of steering committees. This responsibility is mandated under the Area Development Act and its subsequent regulations. This applies to all communities (towns, villages, hamlets, and other unofficial settlements on public lands) in the Yukon aside from Whitehorse and Dawson which have the capacity to plan their own communities. Settlements located on First Nations' land as per land

claim agreements are planned by the corresponding First Nations government, though if broader land use planning applies to the parcel of land the settlement is located within, such policies must still be adhered to or amended (GC *et al* 1993).

The Area Development Act is actually the only formal piece of planning legislation in the Yukon. Its scope is unfortunately too narrow to address cumulative effects on its own, but still represents an opportunity for doing so at a more regulated and methodological planning scale whose focus is more physical development. Additionally, despite the title of being the Yukon's only planning legislation in the realm of territorial government, there is still no requirement on behalf of government to produce local area plans proactively – often waiting for community support or interest from senior-level management to spark interest. Still, there are no local areas plans or for any of the Kluane settlements, but official community plans do exist for the community of Burwash Landing as well as for lands under direct control of the KFN. Community-level land use planning provides an ideal and very manageable opportunity to more quickly gather data, consult residents, synthesize results, and approve a plan. It could be expected that interests, issues, and concerns at the local scale in fact parallel those at the regional scale, providing insights into public and First Nations' values across the region.

Historically speaking, the rationale for locating settlements has often been based on biophysical conditions, such as animal migration routes or access to water bodies for transportation. As a result, many communities in the Kluane region are located near or on wildlife corridors or terrestrial aquatic environments. Despite the fact that community planning is largely development-oriented, there is still a significant ecosystem component to ensure valued ecosystem components within community boundaries are maintained. Settlement areas outside of incorporated communities, such as the Hamlet of Ibex Valley situated between Kluane and the

capital Whitehorse along the Alaska Highway, actually are quite large in terms of area with a sparse population spanning hundreds of square kilometres and encompassing numerous water bodies, river valleys, wildlife corridors, and other prominent ecosystem features.

According to the local area plan for the Ibex Valley, residents overwhelmingly felt that "the preservation and proximity to wildlife... is one of the hamlet's most valuable assets" (UMA Engineering Ltd. and David Hedmann & Associates 1998, 21), which is of course part and parcel of the desired preservation of the hamlet's rural lifestyle. This sentiment is explicit in the plan's vision statement, citing that hamlet residents desire rural settlements that "retain extensive vegetation and green spaces, and respect wildlife values" as well as "recreational needs within the Ibex Valley that does not impinge unduly on wilderness features, wildlife habitat, and migration corridors" (UMA 1998, 25). Because the population of these communities is so small despite such a large area, planning for these settlements internalizes an inherent ecosystem or environmental component. As of 2011, 345 people lived in the Ibex Valley census subdivision over more than 200 square kilometres, compared to Haines Junction, whose 593 people are spread out over approximately 35 square kilometres (Statistics Canada 2012).

There is significant opportunity for incorporating cumulative effects considerations into the territory's local area planning as part of an integrated planning approach across multiple planning levels, especially as it relates to ecosystem connectivity and river valley dynamics of the Takhini River and nearby plateaus. Adjacent land use plans that do not take into account each other's goals, objectives, and purpose may inadvertently undermine each other and ultimately lead to adverse impacts on the landscape as a result. Essentially, local area planning is an opportunity to generate a small-scale snapshot of local values that may provide insights into what regional values might be. Also given the tendency for many rural communities and the majority

of development activities in the territory to parallel transportation infrastructure (or at the very least be indirectly contingent upon highway access), highway corridor planning for example along certain stretches of the Alaska Highway also might yield similar outcomes.

4.5.6 Yukon Northern Affairs Program Devolution Transfer Agreement

The nature, extent, and implications of comprehensive land claim agreements in the Kluane region under the UFA changed substantially in 2003 following the transfer of significant regulatory authorities of various federal government sectors, including those relevant to land use planning, such as land, minerals, forests, and oil & gas, to the territorial government (Christenson *et al* 2008). This transfer of power, known as the Yukon Northern Affairs Program Devolution Transfer Agreement (more commonly referred to as 'devolution' in government discourse) also established the territorial government as the regulator of regional land use planning and environmental assessment processes, though the advisory bodies established under the UFA are the actual agencies that undertake the initiatives. This transfer also meant that as federal presence has declined, First Nations' governments have de facto increased their influence in territorial political processes (Natcher & Davis 2007).

It is now commonly regarded that First Nations' approval in any resource management regime is integral to successful implementation (Duerden *et al* 1996) and thus First Nations governance seems to have succeeded the federal government as a more influential institution. While the direct implications for the land use planning and environmental assessment processes due to devolution have since been easily navigated by the affected parties, the desire to devolve represents a paradigm shift in the importance of transparency, accountability, and inclusiveness in resource management regimes (Porter 2006, Booth & Muir 2011). Standard stakeholder

consultation with interested parties, the public, and First Nations is no longer considered adequate to ensure positive outcomes (Duerden *et al* 1996); collaborative processes that foster consensus building towards a common objective have proven more effective in plan implementation (Margerum 2011) in not only the Yukon but also all across Canada – particularly in those areas where a significant Aboriginal population remains.

4.6 Chapter Summary

The Kluane region of the Yukon exhibits many classic elements of the cultural perception of northern Canada. It is sparsely populated by predominantly Aboriginal peoples with a long-standing history of settlement and a wealth of traditional knowledge, limited and often vulnerable transportation infrastructure, landscapes characterized by expansive boreal forests, alpine plateaus, snow capped mountains ranges, thriving wildlife populations, and harsh climatic conditions, and an economy dependent on tourism, government, and primary resource extraction. However, unbeknownst to many is the rapid rate at which such stereotypical northern landscapes are changing – biophysically, socio-economically, and institutionally – particularly since the latter half of the 20th century and into the 21st century.

The Umbrella Final Agreement and the establishment of land claims and self-government agreements across the territory vastly altered just about every aspect of federal and territorial government administration. Land use planning and environmental assessment were formally introduced at this time after decades of good intentions but a serious lack of following through. Devolution has only further advanced this narrative in the Yukon of increasingly transferring the concentration of power and decision-making authority to primarily territorial actors, whether the territorial government, the individual First Nations' governments, or a combination of the two.

Kluane National Park is one of few jurisdictions still under the federal government, but even so efforts are being made to increase inclusion of First Nations and local stakeholders in decision-making processes (Natcher & David 2007, Francis & Hamm 2011).

Nevertheless, it is widely considered that land claim agreements are still a necessary pre-condition to land use planning in northern Canada (Notzke 1994; Lane 2006). Consequently, planning in Kluane is unlikely to be undertaken in a timely manner if unsettled land claims persist, and the potential for land use planning to mitigate cumulative effects is limited. If it can be demonstrated that cumulative effects pose a significant threat to regional landscape change and thus First Nations livelihood, then perhaps government might be more inclined to resolve unsettled claims in the face of uncertainty in order to avoid potential litigation for failing to uphold their fiduciary obligations under the UFA.

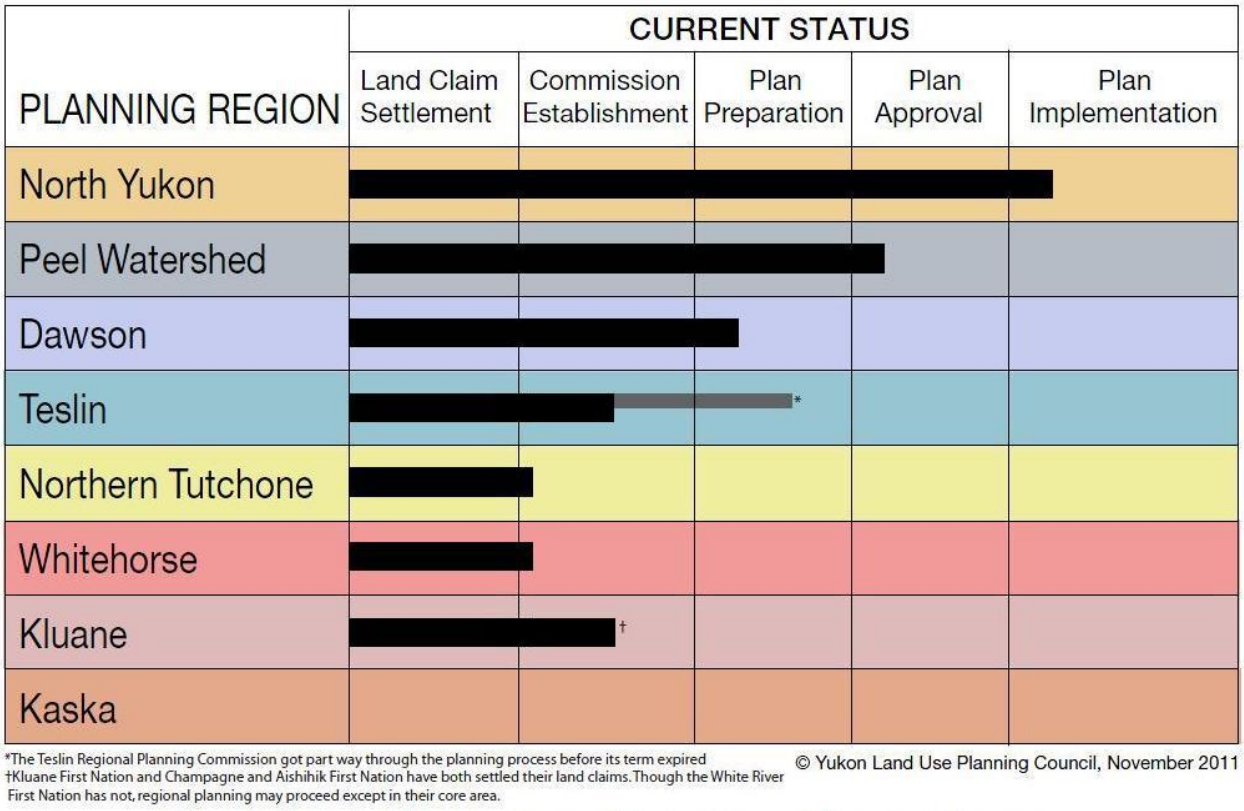
5.0 Assessing the Yukon's Regional Land Use Planning Framework as a Tool for Managing Cumulative Effects

This chapter represents the combined presentation and analysis of the information gathered using the methods outlined in Chapter 3. First, the current state of cumulative effects assessment (CEA) as it relates to the regional land use planning framework will be discussed, including the cumulative effects indicators being implemented in other regional land use plans. The value of CEA studies conducted to date will also be discussed, including the White Gold cumulative effects study and its implications with respect to cumulative effects and land use planning in the Kluane region. Immediately following will be a discussion of the main findings from the interviews including the identification of major themes as they relate to the goals and objectives of this research, and any prominent trends in the responses to specific questions.

5.1 Background of Regional Land Use Planning and CEA in the Yukon

To date, only one regional land use plan, the North Yukon Land Use Plan, has been approved by territorial government and is currently being implemented (YLUPC 2011). Another plan, the Peel Watershed Land Use Plan (PWLUP), has been issued by its regional planning commission to the parties but no final decision has yet been made regarding its approval (Peel Watershed Planning Commission 2011). Currently there is only one region under the land use planning framework whose regional planning commission is active and in the process of producing a land use plan – the Dawson region (see Figure 5.1 for the current status of each regional planning exercise in the Yukon). The final product from the Dawson regional land use planning exercise is of the utmost importance to future regional land use plans, including Kluane.

Figure 5.1: Current status of regional land use planning processes in the Yukon
(Yukon Land Use Planning Council 2013a)



The lack of formal land use plans in the Yukon is problematic for a number of reasons. First, development in regions without land use plans cannot be compared to any baseline or guided towards more sustainable land use. Because the current environmental assessment framework is designed only to assess impacts at the project level and thus only project-specific data is required from proponents, the impacts from development that may transcend spatial and temporal scales, such as cumulative effects, may adversely affect adjacent land uses or whole regions in ways that standard environmental assessment cannot predict or mitigate. Second, it represents a disparity in First Nations-Yukon-Canada relations. Allowing incompatible land uses that may adversely affect First Nations' land claims or unsettled Aboriginal rights and title

indicates government failure to uphold the spirit and intent of the UFA to First Nations (Natcher 2001). In the first two regional land use plans, both regions are characterized as predominantly pristine or unaltered wilderness (Leach 2011, PWPC 2011). Very little development has occurred in either region, though the potential for large-scale industrial development looms if significant reserves of natural resources could be proven. However, the existence of such mineral or fossil fuel reserves at present is speculative at best, and as such development remains limited. But the Dawson region is very different from the North Yukon and Peel Watershed regions due to its history of the placer gold mining industry as well as a recent surge in hard rock gold exploration and mining in the White Gold district in the southwest of the region (EDI 2011).

The issue of cumulative effects was prominently featured in the North Yukon Land Use Plan (NYLUP), which was issued by the North Yukon Planning Commission (NYPC) and approved for implementation in 2009 (NYPC 2009). Like the Kluane region, much of the North Yukon region is already protected under law, which includes two national parks. According to the plan (NYPC 2009), the NYLUP utilizes an indicator system of direct surface disturbance and linear density thresholds to measure the potential for cumulative effects; an increase in indicator measurements means an increase in the likelihood of damage, and consequently cumulative effects.

Scenario and development modelling were used to determine thresholds for a system of what the plan calls Landscape Management Units (LMUs) that human disturbance occurs within. These LMUs are defined as: Protected Areas (PAs), Community Areas (CAs), and Integrated Management Areas (IMAs), with separate units for highways and river corridors (NYPC 2009). Human disturbances that have the potential to result in cumulative effects are most likely to take place in IMAs simply due to the nature of activities most likely to cause cumulative effects

(Francis & Hamm 2011). The other LMUs typically have separate land use policies that largely restrict the types of activities that may cause cumulative effects, and therefore are less of a concern in that regard, though they are still part of a "holistic regional strategy" and cannot be ignored.

The plan emphasizes that the best approach towards cumulative effects management is via integrated and coordinated actions, including assessment, mitigation, policy, legislation, and planning (NYPC 2009). The plan further emphasizes that the regional plan itself is not enough to ensure cumulative effects are minimized, citing project-scale assessment, determining the source of impacts on valued landscape components, and simultaneous monitoring of multiple landscape units as barriers to assessing cumulative effects. The general management direction of the plan advocates the integration of best management practices into the environmental assessment framework, and the inclusion of a results-based framework that links high-level objectives with operational decisions (NYPC 2009).

However, the implementation of the plan is the most crucial stage in determining if the principles set out in the plan are feasible and realistic and they can be monitored in order to provide feedback for evaluation. Though provisions are included in the plan for regular revision as new concepts, knowledge, demands, and shifting valued landscape components regarding lands/resources/impacts emerge (NYPC 2009), a framework for implementation of the plan, enabling well-informed decisions, and providing guidance to proponents and current users has not been developed.

This is of particular concern as lessons learned from the completed NYLUP process have thus far been scant and therefore cannot inform current and future land use planning exercises in the territory. However, Leach (2011) in a thesis dedicated to evaluating the North Yukon process

found that most of the issues associated with the implementation of the plan can be solved by increasing front-end clarity regarding roles and responsibilities, terms of references, and detailed budgets for determining the planning commissions role in implementation. Furthermore, Leach (2011) recommends encouraging future planning initiatives to consider developing political accords similar to that signed in the North Yukon process.

The political accord was an agreement independent of the regional land use planning process between the Vuntut Gwich'in First Nations and the Government of Yukon signed well before the actual process began. The accord allowed a venue for clarifying the accountability of each party with respect to achieving specific objectives on an annual basis which was critical for ensuring smooth transitions between stages in the process. Leach references Steven Kennett's contributions to a Conference Board of Canada scholar-in-residence publication in which Kennett emphasises the difficulty in clarifying the roles and responsibilities once the process is underway (Kennett 2010). According to Leach (2011, 62), the accord "was a vehicle for the parties to get together in a venue unrelated to the planning process, discuss issues, and agree on a course forward". In her recommendations, she once again highlights the accord as a tool that aided significantly in working collaboratively in anticipation of the final plan as well as streamlining respective responsibilities and input of the parties into the process.

The second regional land use planning exercise, the final draft of the PWLUP issued in 2012, is currently (and unfortunately) in "approval limbo", as the Government of Yukon has not agreed with the plan produced by the Peel Watershed Planning Commission (PWPC) and has proposed various alterations to the plan – which required additional rounds of consultation (Government of Yukon 2012). Though it can be argued that the stall in the PWLUP is for political reasons (the popular narrative being that territorial politicians want to open up the

region for industrial development against the wishes of the public and First Nations), the plan itself shares a striking resemblance to the NYLUP, in particular its system for measuring potential cumulative effects. Unfortunately, due to its current status, it is unlikely to produce insight into the regional land use planning-CEA paradigm in the territory because such political intervention in matters guaranteed under the UFA is likely to lead to a lengthy court battle between the parties.

The third and only currently operating regional planning exercise, the Dawson Regional Land Use Plan, is set to begin drafting its land use plan by mid-2013 with the final plan scheduled for March of 2014. Though the commission for the Dawson region has not yet produced a draft plan, an issues and interests report was issued in December of 2011, which summarizes the thoughts and concerns of the various stakeholders in the region (DRPC 2011). One of the prominent stakeholders represented in the report, the Government of Yukon expressed a desire for an integrated approach to monitoring cumulative effects, citing a lack of adequate baseline data to assess priorities, identify conflicts, estimate demand, and monitor change in a region where mining activity has been the key driver for land use planning (DRPC 2011).

Another prominent stakeholder, the Tr'ondek Hwech'in First Nation, commented that an increase in activity on the landscape would inevitably lead to an increase of cumulative effects on land, fish, and wildlife (DRPC 2011). Additionally, they expressed their concern for appropriate thresholds in the long-term (considering that thresholds used in the previous two regional plans would be inappropriate for the Dawson region given the historical, current, and expected levels of activity). Again, the lack of baseline data is cited as a barrier to CEAM, suggesting that land use planning will be a more fruitful cumulative effects exercise than project-

scale environmental assessment. Although not explicitly referred to as cumulative effects, the issues and interests summarized from public input effectively echo those from the territorial government and First Nation.

More recently, the planning commission released its resource assessment report for the region which comprehensively compiles information about the region, including biophysical characteristics, regional institutions, cultural heritage and settlement patterns, economic development, conservation priorities, and transportation (DRPC 2013). One of the objectives of the resource assessment, among others, is to identify, describe, and elaborate on potential issues relating to current and future land uses that were outlined in the issues and interests report. In the assessment, cumulative effects as a result of vehicle access and mineral development were the most prominent concern, claiming access would be managed at the regional level, citing that individual mining projects and their corresponding managements have no incentive to coordinate access (DRPC 2013). The report points out that one of the stated goals of the Yukon Resource Access Roads Framework is to minimize environmental and cumulative effects from mining and oil and gas access roads, and in particular, their impact on wildlife and conservation priorities in the region (Government of Yukon 2013b).

Due to the lack of implementation of the NYLUP and the unfortunate static status of the PWLUP, it has yet to be determined if the system for measuring direct surface disturbance and linear density thresholds utilized in either land use plan is effective in determining the potential for cumulative effects. While the consequences of inaction in the first two regional planning exercises are arguably minimal, the implications of such failures for future exercises are substantial. As planning in the Dawson region progresses and the metrics for measuring potential cumulative effects are developed, there is no established indication that the system used in the

two previous land use plans is effective. This arguably leaves planners and decision-makers in the Dawson exercise a difficult choice about whether to employ the same system or develop their own. Given the level of landscape disturbance in the Dawson region – past, present, and likely in the future – a different metric for measuring cumulative effects likely will be employed, but the lack of lessons learned thus far from such measurement schemes is still to the detriment of current planning exercises.

In the last few years, mining activity in the area surrounding the mouths of the White and Stewart Rivers has increased dramatically. Given that some areas of the Dawson region have been in a constant state of mining since 1898, there is a tremendous underpinning for the historical driver for cumulative effects in the region. The potential for adverse cumulative effects in the Dawson region is exacerbated by the rise in global gold prices (~$1300/oz as of July 2013), making placer mining a more lucrative economic activity than in decades previously as miners expand their operations into previously undisturbed creek beds. However, the threat of cumulative effects as a result of increasing placer activity is present but not overwhelming. The level of placer mining is likely to increase which may impact stream dynamics and water quality in river valleys as well as cut off crucial wildlife corridors, though it is likely terrestrial species have already adapted to some level of activity given its historical presence in the region.

The majority of concerns regarding cumulative effects are those that may result from the increase in hard rock mineral development. Recent discoveries of several high-quality deposits in the White Gold district have sparked concerns about the rapid rate of development as well as the potential concentration of several strip, open pit, or underground mining operations in such a small spatial area. In response to this concern, the Yukon Environmental and Socio-Economic Assessment Board tendered a cumulative effects study of the White Gold assessment area that

was completed by Environmental Dynamics Inc. in 2010. The report specifically focuses on the cumulative impacts of several advanced mining projects, both placer and quartz, on local moose, caribou, and thinhorn sheep populations (EDI 2010).

The research conducted by EDI was gathered through a number of methods, notably a literature review, expert opinion, and land user experience – capitalizing on the vital role of local knowledge in determining impacts at the ground-level (EDI 2010). General results from the study showed that experts and land users alike are concerned that increased vehicle access into previously inaccessible areas will inadvertently surpass the threshold for harvesting numbers, citing that moose populations are healthiest where predator-prey dynamics are intact and human disturbance is minimal (EDI 2010). Vehicle collisions, illegal hunting, disease, and habitat, fragmentation are all likely impacts that may be the result of cumulative effects, lead to cumulative effects, or a combination of the two.

An update to the report in 2011 found that total allowable hunting quotas for moose in one game management zone within the White Gold assessment area continued to rise since the original report one year earlier (EDI 2011). This is cause for concern as the rate continues to climb despite the fact that no ground access into the area has yet been constructed. The Government of Yukon is currently exploring options as part of a government-wide working group dedicated to reducing the potential for cumulative effects as a result of ground access into the area, but no recommendations to cabinet have yet been issued. The cumulative effects study for the district is the first of its kind in the Yukon on public lands outside protected areas. The future of the White Gold assessment area has significant implications for cumulative effects studies, assessment, and management throughout the Yukon. It is particularly important given its geographical proximity to the Kluane region – lying adjacent to its northern boundary and

wildlife may have their habitat range and migratory corridors between the two areas. It is speculated that regional land use planning will be conducted in Kluane after the Dawson exercise, and therefore the White Gold cumulative effects study will provide insights into the impacts that large-scale surface disturbances like mining might have on regional biophysical dynamics.

More specifically as it relates to the Kluane region, between 2001 and 2002 a CEA was conducted for Kluane National Park and Reserve by Slocombe, Danby, & Lenton (2002) at the request of Parks Canada. The resulting report found that in the short-term, while tourism has increased gradually over the years, the majority of tourism-related impacts in the Kluane region are contained within the Alaska Highway corridor, and that future cumulative effects are more likely to be the result of forestry activity and pipeline development. Although the CEA was conducted for the park and not the surrounding Crown land, it is the activities that will occur on Crown land that will have the greatest impact on the park and the surrounding region, most significantly the on again/off again Alaska Highway Pipeline proposal. Additionally, the report found that hardrock mining also had the potential to induce cumulative effects across the Kluane region.

The report recommended that those individuals employed in the natural resource sector ought to be educated about the impact of their activities and the need for active maintenance of a sustainable forestry sector based on a healthy boreal ecosystem. According to the authors, this recommendation was found in numerous other publications. The report also recommended the establishment of clearly defined thresholds for surface disturbance. This method of utilizing a series of surface disturbance thresholds for mitigating potential cumulative effects has become popular approaches in regional land use planning in the Yukon. This report was critical because

it brought to light the interaction between the national park and the surrounding land base that has been explored very little up until that point. Likewise, the report re-affirms the need for complementary planning between governments and sectors when aiming towards a regional comprehensive planning strategy – something regional land use planning is designed for.

5.2 Interview Results and Analysis

As stated in Chapter 3, the intent of this research is not to explicitly evaluate the technical aspects of land use planning, but rather management processes that determine planning-related decisions. Participants were asked a series of questions ranging from their direct involvement in the regional land use planning process; assessment of the future of CEA in the territory, to the implications of the ability to conduct regional land use planning in light of unsettled land claims within a planning region (refer to Appendix B). The goal of the line of questioning was not to look for specific responses, but simply to generate discussion in order to explore the perceived extent of the disconnect between land use planning and cumulative effects assessment among professionals and their affiliations. Since such a study focusing on the management aspect of the Yukon's regional land use planning framework is unique in this context, it was unrealistic to have expectations of what the concerns with the framework might be without first exploring the nature of the issue.

5.2.1 Section A: Land use planning and environmental assessment regimes in the Yukon

The first set of questions dealt with the roles and responsibilities of the various participants in the integrated land use planning-environmental assessment framework as well as

general thoughts and opinions about the integrated framework as established by the Umbrella Final Agreement.

Broadly speaking, all participants agreed that both environmental assessment and land use planning in the Yukon, when conducted in the context which they were designed for, are adequate in principle at ensuring their respective goals and objectives are met. As alluded to in Section 4.4 of this research, it is increasingly becoming common for land use planning to inform environmental assessment decisions in northern Canada, as it is now the basis for preliminary screening in all three territorial jurisdictions. Eleven participants noted this imperative link and elaborated on the need for an integrated environmental assessment-land use planning regime in the Yukon. However, several participants claimed that while this framework works in theory and looks good on paper, implementation of the framework under a host of challenges prevalent throughout both the Yukon and northern Canada has yet to be effective. The North Yukon Land Use Plan was cited as a prime example of a sound land use plan that, while innovative and progressive in its goals, objectives, and approaches, has not been translated from the realm of theory on paper to practice on the ground. Implementation represents a key challenge thus far in the Yukon context and elsewhere in northern Canada and provides segue into the next question.

Participants were asked if the arrangement between environmental assessment and regional land use planning established under the Umbrella Final Agreement (i.e. the conformity check during preliminary screening of project proposals) was an effective model to link non-binding land use plans to the issuing of regulatory permits. Again, many participants (9) criticized the gap thus far, citing the lack of regional land use plans throughout the majority of the territory as a major crux. One participant (AL1; an environmental assessment officer) referred to environmental assessment as “the bluntest club used for land use planning”,

insinuating the cumbersome inability of environmental assessment to be utilized as a planning tool in lieu of actual land use planning. Another (YG8; a regional land use planner) characterized environmental assessment as a "knee-jerk reaction"; dogs "chasing cars... where the rubber hits the road", perhaps alluding to the fact that even if environmental assessment in the Yukon was able to identify and mitigate potential cumulative effects, its limited scope prevents it from ensuring such mitigations are included in regulatory permits as legally-enforceable terms and conditions.

In many instances, participants inadvertently segued from the third question into the fourth. This is important to note because it highlights the apparent connection between environmental assessment and land use planning in the Yukon among most participants, as well as the rationale for this framework under ideal conditions. The reason for the lack of regional land use plans, however, had anything but consensus. Some cited the vagueness of the UFA as the root cause or a lack of formal planning legislation (YG6, FN1). Others claimed the limited role the commissions play once a land use plan is approved is a hindrance to plan implementation (YG1, YG8). Furthermore, another participant highlighted the lack of clearly defined roles in the same vein as the concern prior (YG6).

A few participants pointed out the complex and often politicized nature of conducting land use planning in the Yukon with respect to First Nations' rights. One participant referred to pre-UFA planning efforts such as Teslin and Kluane, and one particular post-UFA plan, the Peel watershed, as examples. This participant (AL1) stated during the interview that,

> *It's difficult to get people in a room and to start thinking 'Hey, what do you want for your future? What do you want for your kid's future? What do you want for their kid's future? What do you want this to look like?' Most people have trouble deciding if they want cheese on their hamburger.*

Another said they had difficulty imagining any UFA-related matter that is free of political intervention. This participant (YG6; a resource manager) stated that any UFA-related matter is intrinsically political as the agreement was designed to redistribute the imbalance of power at the time. However, it seems that given the current decision-making model, with the Government of Yukon as the final approval authority for regional land use plans, the concentration of power is still imbalanced. This sentiment discussed by participants raises questions regarding the validity of the purely advisory nature of the YESAB, YLUPC, and the planning commissions, and perhaps whether they ought to have more influence in the process of approving their recommendations. While the planning and assessment processes in the Yukon are free from intervention, once a recommendation has been issued, albeit an evaluation report or a land use plan, intervention can still very much present in the approval process, such as in the Peel watershed example. To elaborate on this point, one participant (YG5; a resource manager and environmental assessment professional) clearly favoured the urgency for a "shared leadership model" in which the Government of Yukon acts not as "big brother", but as a stakeholder with inherent rights and interests throughout the process the same as any other.

The striking majority of participants who highlighted the conformity check that links land use planning and environmental assessment in the Yukon under the UFA confirms the hypothesis prior to conducting the interviews that without a network of approved land use plans covering the entire territory, conformity checks during the environmental assessment process could not be carried out with any consistency. Though not explicitly mentioned in this section of questioning, it can certainly be interpreted that a lack of such consistency with respect to conformity of development activities in a single region could be cause for concern as the issue of

cumulative effects becomes more prevalent. As one participant (YG8) grimly stated, “we don’t want to be the next Alberta”.

2.5.2 Section B: Integration of cumulative effects assessment in land use planning

The second section of questioning dealt more specifically with how the issue of cumulative effects has emerged in the territory, what it means to stakeholders, why they feel land use planning may or may not be the most appropriate course of action, and what (if any) alternative methods are readily available in the Yukon to ensure cumulative effects are being actively tackled. In the first question of this section, participants were asked how the issue of cumulative effects has and continues to influence their participation (as professionals employed by their respective organization) in environmental assessment and/or regional land use planning in the Yukon. Participants approached the question from a number of perspectives. Refer to Table 5.1 for a breakdown of the latent coding themes discussed by participants.

Some participants (YG3, AL1, FN1) responded to the question by discussing the lack of understanding surrounding cumulative effects and its basis largely in the realm of the theoretical. As a result, little progress on how to predict, mitigate, and manage cumulative effects has been made in recent years. This not only refers to the Yukon context, but these participants often noted the lack of effective cumulative effects assessment and management regimes in any jurisdiction in Canada, let alone the northern territories. This has in turn rationalized the adoption of adaptive management principles in many environmental management policies, such as regional land use planning. Adaptive management was one of the guiding principles championed in the North Yukon land use planning process and its inclusion seems to be a reflection of this

perspective on how to deal with complex problem in the absence of adequate information about them.

This approach to cumulative effects included not only including the precautionary principle in land use planning, but also the use of preliminary area thresholds to monitor surface disturbance on the landscape – another prominent feature of the North Yukon Land Use Plan. This marriage of adaptive/precautionary and technical management tools within land use planning represents an explicit acknowledgement that cumulative effects assessment and management initiatives thus far in the Yukon have not been robust enough to warrant a single, linear decision-making model with regard to land use. Several other participants referred more specifically to those quantitative metrics in the NYLUP for determining the potential for cumulative effects (YG2, YG8, AL2). While this method is relatively new in the Yukon land use planning context, it remains to be seen if it will be effective. Nine of the thirteen participants expressed concern that thus far the required baseline data to make informed decisions to mitigate potential cumulative effects do not exist in the Yukon and thus is a significant barrier to the implementation of plans, particular their methods for controlling potential cumulative effects.

Other participants (NG1, NG2) characterized cumulative effects as "front and centre" among major issues in exercising their mandates. This is especially true for participants from NGOs and industry associations. Both of these groups of participants felt that while their understanding of cumulative effects from a technical or scientific standpoint was limited, the broader issue was approached by their respective organizations from a citizen participation perspective. One of these two participants stated "for us, the whole concept of land use planning is in order to deal with cumulative impacts so you really know what's going on the landscape and how what goes on here affects what goes on there; [it is] fundamental". From the tourism

perspective, the issue of cumulative effects was framed as an economic issue, citing the presence of adverse cumulative effects as a deterrent to investment in the tourism industry – a "major influence".

Even though the mechanics of cumulative effects are poorly understood (if at all), the issue has been utilized and capitalized upon by non-government and citizen interest groups as a catalyst for public awareness and extends their clout in environmental assessment and regional land use planning processes. This sentiment was shared by one participant (YG4; an environmental assessment manager) referring to the Development Assessment Branch (DAB) of the territorial government. According to this participant, although DAB is an agency within the territorial government, its primary role is largely one of client relations with other territorial government agencies and departments as regulators of land uses in the territory. DAB's position as a non-regulatory stakeholder is advantageous as it is free to liaise across government to promote cumulative effects initiatives as well as ensuring the coordinated and cost-effective participation of territorial regulators in the processes. This also includes federal and First Nations government agencies to a lesser extent. Additionally, the importance of synergized cumulative effects strategies across government was raised by one participant (YG8) but more as it relates to plan implementation and monitoring.

Curiously enough, participants from both of the arm-length agencies included in this study (AL1, AL2) responded to this question from a "desired future state" approach. Both participants pointed to the regional land use plan as a method of extracting context from the current state of the region to determine the desired future state of the region (according to stakeholders in the planning exercise) and the potential for cumulative effects to either hinder or advance that vision. Both participants also hinted at the notion that early on in the inception of

both agencies, cumulative effects emerged as a prominent concern, but the urgency to establish both agencies in light of land claim agreements and environmental assessment legislation meant that developing in-house cumulative effects policies was too costly and time-consuming.

As a result, efforts were concentrated on researching similar frameworks in other jurisdictions, extracting lessons, and applying them to the Yukon. It could very well be argued that this haste in policy development is the source of the current set of challenges and frustration in applying an effective cumulative effects framework, as although it might have been a speedier approach, the challenges associated with those intra-jurisdictional policies may have been inadvertently inherited in the Yukon framework. As one participant (AL1) stated, during this period of urgency, they (i.e. YESAB) were not about, nor willing to, "re-invent the wheel."

It was also pointed out by both interview participants that cumulative effects is one of the common reasons for project proposals to be recommended for rejection in the environmental assessment process. Either this is due to a lack of conformity with the approved land use plan or pre-existing land use conditions, or because the assessment process deemed that significant adverse impacts, like cumulative effects, cannot be mitigated to a reasonable degree. So while it is clear cumulative effects is a central concern during planning and assessment, it remains to be seen if those recommendations are being translated into permitting, implementation, and long-term monitoring processes outside of assessment processes.

Three other participants discussed the issue of cumulative effects as it directly relates to the sector in which they operate. One participant's response (YG7; a land use planner) commented on the consideration of cumulative effects in the territory's local area planning process. This response was relatively short and straightforward, it reflected the limited footprint of the incorporated, unincorporated, and development areas in which local area planning can be

exercised. As a more conventional planning approach, local area planning is also concerned with the residual and cumulative impacts of development within those administrative boundaries and the consideration of alternative development scenarios has always been a key focus. Maybe it is for this reason that other participants pointed to local area planning (YG3, AL1) as a regulated process that is more focused on the concentration of development activities in communities as an avenue for combating small-scale cumulative effects on adjacent and neighbouring natural systems to human settlements.

The mining industry was also discussed in depth with one participant who had experience with EMR's Mineral Services – a branch dedicated to regulating and promoting mining in the territory. This participant (YG5) stated that cumulative effects will not "make or break" the recent advances in industry, but did interject that it has potential to present a risk to future investment and development opportunities and that a "common established framework" is required to ensure stability of mineral development, but did not further elaborate. Another participant (YG6) also discussed EMR's Agriculture Branch and the importance of cumulative effects in the creation of agriculture plots, as the disposition of agricultural land in the Yukon is a long-term activity (agricultural leases typically last 30 plus years) that may permanently alter local or regional dynamics dependent upon the scale. Therefore, long-term residual effects as a result may also be indeterminate and such concerns are explicitly internalized in the permitting process.

However, one viewpoint throughout the interview process remained unique with respect to this question. This participant (FN1; a forestry professional) framed the issue of cumulative effects as a need for profound and deep respect for the land and the water vital to its traditional inhabitants. The participant further elaborated that this approach to cumulative effects is not

entirely based on the scoping process or the activities that are triggered by the legislation. Accordingly, the legislation does a poor job at defining what "reasonably foreseeable" means in terms of matters to be considered under section 42(1) of the Act and that it is difficult to incorporate such a broad perspective into project-scale assessment. Regardless, the First Nations governments across the Yukon continue to advance this perspective and are equally-focused on land use-related matters outside of the assessment process as a more effective and strategic method of ensuring their perspective is taken into consideration by decision-makers.

From these responses, it can be determined that participants theorized and visualized the issue of cumulative effects from their predominant perspective as professionals embroiled in land use planning and environmental assessment. Most participants from the Government of Yukon discussed either the theoretical nature of cumulative effects or how it directly influences their agency's mandate. Participants from non-government organizations elaborated on the issue of cumulative effects as a catalyst for inciting action among their colleagues and constituents. Participants from arm's length agencies talked about the influence of cumulative effects on defining a desired future state for a planning region, and lastly, the broad view that cumulative effects management means instilling values among all stakeholders that are predicated upon respect for sensitive ecosystems. From this range of perspectives, developing a commonly held definition of cumulative effects and their implications may yield more fruitful results regarding what is and is not required from this framework. The importance of problem definition is crucial to establishing key objectives, implementation strategies, and monitoring programs as discussed by Hanna & Slocombe (2007).

In the next question, participants were asked if they agreed with the academic and government literature that suggests, "regional land-use planning might be one of the best tools

for managing cumulative effects". Responses fell into three broad opinions: yes (7), under ideal conditions (5), or no (1). Refer to Table 5.2 for a breakdown of manifest coding responses from participants. Of those participants that responded outright 'yes', it was common to reference the fact that regional land use planning is the only tool that can be both logistically and operationally implemented at a scale that is most relevant to managing cumulative effects; a "natural fit" according to one of the participants (YG4).

Regional land use planning also provides an ideal opportunity to incorporate adaptive management principles into a cumulative effects management regime. Given the lack of capacity and resources for predicting and mitigating cumulative effects, it is more reasonable and cost-effective to simply plan for the uncertain potential of cumulative effects. This is especially true when climate change is factored into decision-making. Cumulative effects may very well be influenced by global climate change but it is difficult to determine the source of those effects and whether they can be managed at the same scale as more localised sources of cumulative effects.

Another reason for land use planning's effectiveness in this regard is its proactive tendencies, as opposed to the reactive tendencies of environmental assessment. This allows land use planning to consider cumulative effects in providing strategic guidance to permitting well before it may actually be present or a concern to land users. If the potential for cumulative effects in a given region is unknown or uncertain, then logically land use planning is the only viable tool readily available. The regional land use planning process and regime has already been established (after a great deal of time, negotiation, consultation, and financial resources) and therefore it makes little sense to develop a new framework specifically for cumulative effects when regional land use planning may already be appropriate. To that end, one participant briefly mentioned the more targeted use of strategic environmental assessment to progress the regional

land use planning framework, claiming they both utilized similar concepts but ultimately ask different questions that together might provide more insights into cumulative effects management than just land use planning alone, but did not elaborate any further.

One participant gave a current example from one of the Government of Yukon's recent local area planning initiatives, for the Carcross development area (a small, predominantly First Nations village and surrounding residential subdivisions south of Whitehorse). Currently, in Carcross there is only one point of access to the main downtown district from the adjacent highway. During local area planning, residents and government officials raised concerns about this lack of access in case of an emergency and thus discussions began as to how and where to incorporate the new access route. Creating new ground access for vehicles will inevitably lead to future development opportunities along the new corridor as well as increasing pressures on local wildlife populations. A new access route might also encourage an increase in traffic speed and number, potentially increasing the risk of pedestrian collisions – especially if the new route directly connects to community schools.

While this example may seem to be far removed from the larger scale of regional cumulative effects, it demonstrates on a smaller scale the explicit and implicit effects of the decision-making process. A scenario-based study example like this can yield lessons as to how seemingly one-off decisions can lead to cumulative effects and eventually adverse impacts. Especially given that this example also directly deals with access management – one of the most prominent concerns for potential cumulative effects in the Yukon today – the development of alternatives and the incorporation of adaptive management in planning is critical.

Five participants agreed with the statement in theory, but went on to elaborate that there are significant challenges that must first be overcome in order to agree 100% with the statement.

One reason for this response is the unfeasibility at this time of actually conducting regional land use planning due to political constraints, predominantly unsettled First Nations' land claims in a number of planning regions as defined by the YLUPC, including Kluane. Without land claims contiguously throughout the Kluane region, some First Nations groups will not receive the federal funding guaranteed under the UFA that is required to actively participate in the process nor will their role and mandate be clearly defined.

Therefore, to an extent participation of unsettled First Nations participate may be reduced to mere tokenism, though it could be equally argued that because they have yet to extinguish their right and title with a modern treaty, consultation requirements are even more stringent under section 35 of the Canadian constitution. Given this dichotomy of arguments, it seems the decision to undertake regional land use planning for First Nations' traditional territories not subject to a final agreement at the current moment could be a scenario that all parties involved would be wise to avoid. Failure to do so could result in further political barriers to land use planning and in a worst case scenario result in legal action against the territorial government. The possibility of litigation and legal precedent has been demonstrated in the Kaska region of the Yukon – which also has unsettled land claims – where recent decisions by the Supreme Court of Canada and the Federal Court of Appeal determined that the territorial government and industry had not adequately consulted First Nations governments in the region regarding mining exploration activities.

Another concern was the lack of legal foundation for land use planning in the Yukon. Although the UFA and individual land claim agreements are rooted and upheld under a plethora of territorial and federal statutes as well as numerous and influential court decisions, land use planning is still not legislatively-based in the territory. As a consequence, there is no legal

foundation for ensuring development proposals conform to land use plans. The presence of planning legislation is considered a crucial component of a robust land use planning framework, in a similar vein to that of environmental assessment legislation. The importance of planning legislation cannot be understated, as while there is a mechanism for traveling down the environmental policy hierarchy from planning to assessment to permitting to monitoring, there is no legal mechanism for ensuring terms and conditions in land use permits are conducive to and feeding back into the planning process.

One participant (YG5) commented on the lengthy timelines required to properly conduct a formal land use planning exercise, claiming that a disparity between the urgency to address cumulative effects and the consultation requirements is unfortunately precluding its utility as a cumulative effects management tool. This participant further commented on the potential utility of regional strategic assessment as a "surrogate" for regional land use planning in areas where the critical mass to support planning might not have yet developed – and pointed to Bram Noble's recent contributions to the RSA literature regarding the extension of project-scale assessment on a regional basis. The rationale for this suggestion stems from the fact that RSAs are by their very nature future-oriented and utilize scenario analysis and modelling to make recommendations to existing land use legislation and regulations to ensure a desired state on the landscape.

One of the participants (NG2; a conservation director) explicitly mentioned concern regarding the concentration of decision-making authority in the territorial government as a barrier to effective land use planning. This participant said they believed in the process itself as the ideal opportunity to represent their constituents' concerns regarding development that may adversely impact constituents' tourism-based operations in natural and wilderness areas. This

participant further commented that the decision-making model ought to be more streamlined to ensure more equitable land use outcomes.

Only one participant (AL1) even remotely suggested that land use planning is not the ideal environmental management tool for cumulative effects. This lone participant argued that land use planning is not the best environmental management tool available, but only one of many options that must be used in conjunction and integrated with other tools, such as environmental assessment, strategic assessment, or best practices. They described land use planning as a tool for providing context in which cumulative effects might manifest on the landscape, but it is not the appropriate tool to directly address them. This perspective may not be that far removed from other participants' perspectives, although the participant challenged this standpoint as perhaps "semantics" in the grand scheme of the land use planning-cumulative effects debate.

Unlike the responses to the previous question, there do not seem to be any patterns between participants' affiliation and their corresponding response. Participants seem to have responded according to their depth of knowledge and experience in the process.

Next, participants were asked a series of questions regarding how the academic literature has presented the shortcomings of cumulative effects assessment and management in Canada and how CEAM could be resolved. In particular, participants were asked to keep in mind the feasibility of these possible solutions in light of capacity and resources constraints in the Yukon context. The first suggestion given to participants was to establish more rigorous cumulative effects requirements from proponents during the environmental assessment process. This would allow YESAB to gather the necessary baseline data faster and at lower cost to the public, which could be fed into the land use planning process and back into assessment and so on.

Participants responded outright yes or no, believing that either the assessment process is at fault for not requiring this information from proponents when submitting an application for assessment in the preliminary screening stage or felt that the cumulative effects requirements under YESAA are explicit enough and that attention ought to be focused elsewhere within an integrated framework. Consensus among those that responded positively to this question revolved not around explicitly requiring more baseline data, but rather clarifying the concept of cumulative effects under section 42 of YESAA as well as what constitutes 'reasonably foreseeable'. However, actual amendments to the legislation are unlikely to be made any time soon and a combination of definition clarification as well as more guidance for proponents regarding the current requirements from proponents would be more effective in the short- to medium-term.

One participant (YG5) came back to the fact that environmental assessment in the Yukon is still project-based and increasing cumulative effects requirements from proponents will do little, if anything, to the solve the problem. This sentiment was echoed by another (AL2; a planning advisor), who said that land use planning is the ultimate determinant of cumulative effects, and not environmental assessment. Another participant (NG2) alluded to the potential for industry groups to spearhead monitoring programs but speculated that the motivation to do so within some industry sectors, like eco-tourism, would be minimal at best while monitoring strongly landscape-altering industries might be more effective – both in terms of available resources and pressure from the public and government.

This comment logically touches upon another from a different participant (YG4) regarding the role of public-private partnerships (P3s) in long-term monitoring programs. The potential for P3s was at the time of the interview process an option being explored by the

Government of Yukon as a tool for minimizing cumulative effects as a result of newly-constructed vehicle access into previously undeveloped wilderness areas. However, there seems to be some traction surrounding the notion of industry providing financial resources to government to undertake long-term monitoring programs. This would absolve industry from having to do it themselves (which is costly, time-consuming, and arguably beyond the realm of their responsibilities) and allows government the resources required to produce baseline data. Whether or not P3s are good ideas in either context described above is up to debate, but these types of arrangements should not be ruled out as demonstrated by the territorial government's Yukon Resource Access Roads Framework (Government of Yukon 2012).

One participant (AL2) pointed out a rather substantial flaw in the current method of determining the potential for cumulative effects in the North Yukon region. As per the North Yukon Land Use Plan, development in the region is only allowed to disturb a pre-determined area on the landscape, and as various level of thresholds for surface disturbance are passed, certain actions are then triggered that are required to mitigate any cumulative effects that may result from said disturbance. The problem with this model is that areas with low surface disturbance thresholds can effectively become monopolized - if certain industries are quick to reach those thresholds then other industries may be prevented from also developing.

The participant elaborated, stating such exclusive single use of a large tract of land is far removed from the concept of sustainable development (which is ironically one of the cornerstone principles of the regional land use plan). The participant prompted the hypothetical question, in what sense is such a monopoly of land uses in a region like the North Yukon considered sustainable development? This flaw in the North Yukon plan might not be such a contentious issue given that natural gas exploration is more or less the only known resource extractive

endeavour currently in the region and even that activity is still relatively benign, but this system may not be conducive to sustainable development in other regions where land uses are more diverse and extensive.

The next sub-question asked participants about delegating the responsibility of cumulative effects assessment and management to a pre-existing government agency outside of the current Yukon regimes, such as the Canadian Environmental Assessment Agency or the Environmental Directorate of Indian and Northern Affairs Canada. This suggestion was met with near universal disapproval, as many participants felt that involving an increasingly unmotivated federal government in light of recent devolution as well as recent political intervention in these agencies' mandates and responsibilities would only add additional costs and barriers. Many cited that such a delegation would be seen as yet another barrier in the approval process and might result in resentment from industry that is already outspoken about the increasing requirements of proponents as part of the process (YG5, NG2, FN1). Some seemed content with the current responsibility jointly shared by the YESAB and the territorial government, again citing no need for further institutional presence on the matter. Others called the inclusion of the federal government "virtually abhorrent" and "counterintuitive" (YG6) to the UFA and existing framework.

Instead, a number of participants suggested that the planning commissions for each planning region continue to operate indefinitely (YG2). Currently, regional commissions are disbanded following their issuing of a final recommended land use plan for that respective region. Final approval and implementation of the plan are then carried out by the territorial government. Many have argued that keeping the regional planning commissions intact following

a final recommendation could resolve a number of issues currently plaguing the land use planning framework.

First, according to the UFA, it is the planning commissions and not the planning council that are supposed to conduct conformity checks during the environmental assessment process. The planning council has only inherited this role due to the absence of planning commissions (AL1). Allowing the planning commissions to continue to operate to perform this vital function under the UFA could not only absolve YESAB and the planning council from these duties but also could foster positive relations with First Nations who expected that it would be one of the outcomes of the UFA. Second, as the final authority on regional land use plans, the Government of Yukon has not yet demonstrated it has the ability to actually implement the plan at the landscape level by integrating planning and assessment processes into permitting and long-term monitoring. Third, it is generally well regarded that land use plans of this nature are not meant to be static policies "collecting dust on a shelf", but rather living documents that are constantly updated as new information about baseline data and/or cumulative effects is uncovered or the social values of inhabitants in a region change. When it comes time for such review or amendments, the original planning commissions could undertake these duties as opposed to having to establish an entirely new planning commission.

Another common theme throughout responses to this question was the current role of industry (YG3, YG4, NG1, NG2). In responses to previous questions, it seemed consensus was that it would be unfair to increase the amount of baseline data required from proponents at the onset of the assessment process. Including industry players in the dialogue might yield quicker results, at least in the short-term. A number of such possible initiatives have already been discussed previously, such as industry-specific data gathering, and monitoring programs

spearheaded by industry associations, or P3s collaborating on limiting surface footprints of regional development or investing in long-term government monitoring schemes – "the polluter pays".

These comments touch upon the need to develop best environmental management practices between advisory bodies, government regulators, First Nations, and industry – particularly regarding those activities that are not triggered by an environmental assessment or those activities that do not require a permit or licence of any kind. In some cases, these best practices exist already, such as those provided by the Yukon Chamber of Mines, the Klondike Placer Mining Association, and the Wilderness Tourism Association of the Yukon, but other less prominent industry sectors simply do not have the resources or the willingness from their members to spearhead such projects. This includes raising awareness and mentoring operators who are new to the regulatory regimes in the Yukon to follow best environmental best practices as part of a territory-wide regulatory regime, which includes cumulative effects assessment and management.

Another suggestion that was sparked by this question was the potential for DAB to increase its mandate to explicitly include cumulative effects assessment and management (YG4, YG5). Although DAB is a relatively small branch, its position as a corporate agency geared towards managing the territorial government's involvement in the environmental assessment process would be well adapted for this new role. Additionally, DAB in recent years has administered an annual fund to various territorial government agencies to assist in their obligations to the environmental assessment process. This often takes the form of a contract position with that agency or a large data-gathering project. Often DAB has applied to this very fund to provide financial support fund a variety of positions and/or project within itself over the

years. The same could be done for a cumulative effects-oriented position within DAB with the goal of better integrated cumulative effects initiatives across government into the planning and assessment process.

Participants were less receptive to the idea of establishing an entirely separate, arm's length cumulative effects assessment and management agency. It was generally felt that inclusion of yet another advisory agency in the dialogue would add further barriers to the assessment and planning processes. It would be too time consuming to implement and resources should be focused in the existing framework. YESAB already has the staff, mandate, and experience to be on the forefront of cumulative effects assessment and management, and with time YESAB will becoming increasingly more able to address such concerns. Others suggested expediting land use planning would eliminate the need for such a separate advisory body.

This final question in this series of sub-questions asked participants if the use of strategic environmental assessment (SEA) would be more effective in determining the sources of potential cumulative effects as a result of government regulations and policies. All participants were either receptive or very receptive to the idea, at the least saying that it "couldn't hurt" or it would be "value added" to the current regimes. In spite of this, SEAs and regional strategic assessments (RSA) are not without their own set of challenges. Most prominent to conducting SEAs in the Yukon is the current concentration of decision-making authority with the federal Minister of the Environment.

An SEA under YESAA can only be undertaken at the request of a territorial minister, or a First Nations government under certain circumstances (Government of Canada 2005). Given the decreasing federal presence in Yukon environmental assessment under YESAA since devolution, it seems the Government of Canada has little proactive interest in enacting this ability of

YESAA. Not once since YESAA received royal assent in 2005 has any minister or First Nation requested the review of a government program, plan, or policy (PPP) as they relate to the environmental assessment process. There also seems to be a lack of public knowledge about SEAs and the provisions under YESAA to conduct them in the Yukon.

In that regard, the topic of RSAs came up a number of times, and in terms of its applicability in light of slow regional land use planning (YG4, YG5). Regional strategic assessment mimics many of the cornerstone features of regional land use planning, particularly its reliance on baseline data, evaluation of alternatives, use of scenario modeling, generating comprehensive and strategic policy recommendations, and implementation of long-term monitoring programs. They may also effectively function as sub-regional planning initiatives in areas where development may be increasing rapidly but regional land use planning has not yet been entirely established, such as the White Gold area.

Because RSAs are a particular type of SEAs but not explicitly mandated under any legislation, there may be ambiguity surrounding how to authorize such an undertaking, given the requirement for the federal Minister's involvement under YESAA. Another question would be the level of transparency in such a process. If RSAs do not require federal approval, then the Government of Yukon could undertake its own RSA outside of YESAA and thus public input and stakeholder involvement in the process may be limited as a result. Even so, such a strategic initiative would certainly require sanctioning by territorial politicians who may be reluctant to do so if the possible outcome could contradict the majority perspective on development opportunities in the Yukon held in the territorial legislature.

The last question under this section asked participants if they believed that cumulative effects are solely the responsibility of the current territorial land use planning-environmental

assessment-regulatory permitting regimes. More specifically, given the current framework that has been established, is this framework at all capable of being effective at what it is designed for with respect to territorial governance, capacity, and resources? Basically, are all the prominent stakeholders capable of implementing this framework to some degree without significant exogenous influence from beyond territorial boundaries, or, is trans-boundary collaboration a requirement for success given the nature of cumulative effects? Responses to this question were mostly mixed, which in hindsight may be the result of the somewhat vague wording of the question.

Some participants responded to the question from a transboundary or collaborative perspective while others approached the question from a jurisdictional or administrative perspective, or a combination of the two. In many respects, both perspectives touch upon similar issues, mostly the issue of cumulative effects assessment and management in relation to geopolitical boundaries. A common theme among responses was the decreasing presence of the Government of Canada in the Yukon since devolution, and, very recently, the scaling back of several key pieces of federal environmental legislation, like the Canadian Environmental Assessment Act, the Migratory Birds Convention Act, the Navigable Waters Act, and the Fisheries Act. Given that various federal agencies are regulators in the YESAA process as per the relevant pieces of legislation, it is becoming increasingly difficult for federal agencies in the Yukon to exercise their role as decision-makers in light of regulatory downsizing across the federal government. This is particularly true when one considers the prospect of the Alaska Highway Pipeline proposal, which received a slight revival in public and government circles in 2012, though industry interest in the project has once again waned.

Another concern was the lack of communication or overlap between Yukon regimes and neighbouring regimes in the Northwest Territories, British Columbia, and Alaska. While the lack of cooperation with American regimes is perhaps understandable, greater consideration of the neighbouring Canadian regimes (and vice versa) ought to be taken. This has been brought to light recently as a number of developments straddling the Yukon-Northwest Territories border, such as the Selwyn lead-zinc mine in Howard's Pass, as well as the Cantung and Mactung mining projects. Additionally, a number of regional land use plans in the Yukon border parts of the Northwest Territories as well as encompassing parts of Aboriginal traditional territories established under modern treaties in the Northwest Territories (with their own arrangement of advisory and regulatory bodies as described in Chapter 2).

To some extent, the inclusion of these Aboriginal groups, such as the Gwich'in and the Inuvialuit has already taken place during the North Yukon and Peel planning exercises, but extensive collaboration between the planning and land & water boards in the NWT, and YESAB and YLUPC in the Yukon has not happened to a significant degree. Whether or not such collaboration is conducive to cumulative effects management remains to be seen, but theoretically it should be required under an integrated resource management regime in the Yukon.

The transboundary planning most relevant to the Kluane region would be the Atlin Taku Land Use Plan (ATLUP) to the south, which was approved by the Government of British Columbia in 2011 (Government of British Columbia 2011). The YLUPC hosted a forum that same year to determine lessons learned from the ATLUP and how they could be applied in the Yukon, the rationale being many of the biophysical, socio-economic, and institutional characteristic of the ATLUP region are strikingly similar to regions like the Kluane.

Complementary planning for adjacent regions was brought up by only one participant (YG8) in response to this question and may represent a topic of potential concern in Kluane.

2.5.3 Section C: Recommendations and next steps

The last of the three sections in the interview questions deals with how to improve the current framework connecting land use planning and environmental assessment. Topics include stakeholder and decision-maker recommendations to the processes, the implications of unsettled land claims in the Kluane region (and elsewhere in the territory), how to bridge the gap in timelines of the two processes, and the future of cumulative effects assessment, management, and regional land use planning in the Yukon. Many of the responses from this section of questioning will be directly used in the generation of policy recommendations in the following chapter.

The first question asked participants their professional opinions of what is required from stakeholders, decision-makers, and regulators in order to more effectively facilitate the framework. Many of the issues, concerns, and challenges already mentioned in answers to previous questions were once again raised here: sufficient and up-to-date baseline data, financial resources and funding agreements, political willingness, industry compliance, staff capacity, long-term monitoring, better use of development scenarios and evaluation of alternatives, plan implementation, and best environmental management practices. Nevertheless, there were still a few unique comments not yet discussed.

First, one participant (YG3; an environmental assessment manager) commented on the need for certainty over land use and land-based rights. This most certainly includes the debate surrounding the presence of unsettled land claims and how the interpretation of rights and title

between neighbouring First Nations might impact land use planning process. In many instances across northern Canada, the finalizing of Aboriginal land claims is viewed as a prerequisite for successful land use planning programs and is supported by the literature.

Also equally important is the interpretation of land users' rights, for example the intersection between sub-surface and surface rights. Explicit tenure and rights to land are typically one of the assumptions internalized in the rational comprehensive planning model so while more clearly defining land use rights will certainly aid in the process, it should not be viewed as an absolute requirement. Resource and land use planning in British Columbia has certainly proved that in areas or regions where there is substantial ambiguity and/or overlap of land use and land-based rights between users, including First Nations' rights and title to land, a culturally-sensitive, collaborative planning exercise that meets the needs of all users is possible (Libby 2006, Booth & Muir 2012, Morton *et al* 2013).

Two participants (AL1, AL2) touched upon the inherent purpose of a desired future state and what it means to cumulative effects assessment and management. There is currently a general lack of understanding or rationale as to how and why individual stakeholders develop the values that ultimately determine the collective desired future state for a specific region and if those values are indeed conducive to actual policy actions that may curb potential cumulative effects. Elaborating further, one of the two participants discussing this matter (AL2) commented on the perceived negative nature of cumulative effects. This participant questioned that some of the more mainstream values and interests expressed during the land use planning process, as well as the definitions in YESAA, do not provide a valid avenue for determining any potential positive impacts of cumulative effects and ought to be further explored.

As one participant (FN1) stated, summing up their disenfranchised feelings thus far, “I just don’t think we’re seeing life given to these plans; they’re kinda [sic] viewed as static entities that just sit on the shelf and get referred to until they get out of date”.

The next question is perhaps one of the most pertinent questions with respect to the case study region. The question asked participants if a perceived failure to address cumulative effects in the Yukon via regional land use planning (or rather, lack thereof) could be seen as a failure to uphold the intent of the Umbrella Final Agreement. The rationale for asking this question stems from the assertion that land use planning is one of the best tools for managing cumulative effects at the regional scale. This belief was also confirmed by the second question in the previous section of questioning. If regional land use planning is not conducted, does the potential for cumulative effects as a result pose a risk to First Nations’ interests on the landscape as guaranteed by the UFA?

There was a variable mix of responses to this question. More than one participant (YG3, YG4) commented on the fact that they were simply unsure what the consequences of not undertaking land use planning in Kluane might be, citing their unfamiliarity with the detail of the UFA. Others questioned the validity of the claim, citing that there are numerous aspects of the UFA that have yet to be implemented. Hence there is no weight behind the argument that failure to implement any one section of the UFA would lead to failure to uphold its intent when other sections remain unimplemented. One participant (YG6) asserted both the language of the UFA and the definition of cumulative effects are too vague for an argument to effectively articulate cumulative effects management as a treaty right and that there are more tangible treaty right issues to be addressed first.

Regardless of the validity of the claim that failure to mitigate potential cumulative effects is also a failure to uphold the intent of the UFA, there was at least some consensus that settling First Nations' land claims throughout the territory, including the Kluane region, can only aid in the process. At the very least there ought to be a concerted effort to open up formal avenues for dialogue and collaboration between stakeholders. Although the issue of tenure and rights is certainly a concern, broader policy actions and the development of a desired future state for the Kluane region should not be predicated upon such short-term, site-specific, and determinate interests on the landscape.

Although there are First Nations without a final land claim agreement in Kluane, those whose traditional territories overlap with the Kluane planning boundary are signatories to the UFA itself and are still therefore guaranteed at least meaningful consultation regarding their rights and title per the *Constitution Act*. However, specific final agreements are enforceable by law, and those First Nations in the Kluane region with such agreements could resort to legal action if they felt the federal and territorial governments were not upholding their end of those final agreements.

Therefore, it is entirely possible that the potential threat of legal action from settled First Nations may spur the federal and territorial governments to re-enter negotiations with unsettled First Nations in order to engage in regional land use planning. This however is unlikely as unsettled First Nations in Kluane have not been actively seeking a final land claim agreement under the UFA. Therefore efforts must be made to come to an agreement between the territorial and federal government, and unsettled First Nations, about how to proceed to conduct regional land use planning in the absence of land claims, as well as other natural resource and environmental management regimes. This sentiment was shared by the YLUPC as recently as

April 2013 in an open letter to the Premier of the Yukon urging such an agreement for the sake of sustainable development and cumulative effects management (YLUPC 2013), as well as the related findings from Leach's research regarding the North Yukon planning process (2011).

One argument explored in response to this question by one participant (YG5) was that while cumulative effects assessment and management could be perceived as a treaty right under the UFA, regional land use planning is not the only tool currently at the disposal of territorial decision-makers. Other tools like forestry management plans, local area plans, habitat management zones, protected area strategies, and parks planning can all be utilized in this regard, and indeed already are used to a significant degree in the Kluane region. The difficulty of course lies with the harmonization of these alternatives, particularly across levels of government, such as the management of Crown lands (by the territorial government) which abut against national park boundaries (governed by Parks Canada) where political agendas, willingness, and resources to harmonize may be lacking. Regardless, this participant felt that enough sector-specific planning and management regimes are already well established in Kluane, albeit perhaps fragmented, that even if cumulative effects were identified as a treaty right in the region, cumulative effects are being addressed to a sufficient degree.

Another participant (AL1) responded similarly, elaborating on the difference between government in general and the decision bodies that permit activities that have been evaluated in the environmental assessment process. The participant went on to provide an example. If a regulator or decision body heeds the YESAB's recommendations to reject a project proposal based on the potential for cumulative effects, that is enough to demonstrate that the government signatories to the UFA are taking sufficient action to mitigate cumulative effects.

The participant further commented, claiming it is unfair to decision bodies to expect them to consider cumulative effects in their permit approval process when the recommendations issued by YESAB are too narrow in scope and scale to effectively mitigate cumulative effects. According to the participant, the question asked is not relevant - rather the question should focus more on the kinds of values on the landscape that are currently not being managed properly as potential vulnerability to adverse cumulative effects, and the consequences of not managing them effectively. In this regard, land claims are clearly not the only, or even the most important, source of potential conflict between the signatories to the UFA.

First Nations' capacity to overcome expectations of settling land claims is the largest hurdle to collaborative planning, according to one participant (YG7). The participant stated, "once you're in a planning process you can only go as fast as the slowest participant", perhaps alluding to the tendency for land use planning to slow down to allow time for all stakeholders to actively participate in the process, particularly those that lack capacity, resources, and expertise. Even land use planning at the local scale is not immune to many of the challenges at the regional scale. The participant commented on the fact that only five local area plans in the entire Yukon have been adopted since 1995, with the majority of those coming after devolution in 2003. Given the recent collaborative planning paradigm, it makes sense that local area planning (and therefore regional land use planning too) ought not to be conducted without full participation from all affected parties, most notably First Nations. Thus land claims are imperative in this regard. This participant also commented on the fact that no local area plans have been produced for communities within unsettled First Nations traditional territories in the Yukon.

Transitioning back to the question at hand, this participant felt that both yes and no are appropriate responses and equally likely outcomes. On one hand, it is difficult to assess the

success of government initiatives against a concept that is so vague – both in theory and in land claims law, and therefore the ability to meet goals based on that concept is ambiguous as well. Another participant (FN1) also saw this issue as either a 'yes or no' scenario. Either the lack of contiguous land claims in the Kluane region will have no implications whatsoever, or they could be a perceived failure of government's fiduciary obligation to First Nations.

In the former scenario, regional land use planning in the Champagne-Aishihik traditional territory is guaranteed under the UFA. However, the Kluane traditional territory and its spatial extent is in a state of limbo so to speak as without a formally recognized boundary between it and the White River traditional territory to the North, the extent of overlap between the two is still undecided – although there is a generally defined core area for both traditional territories. On the other hand, if the lack of cumulative effects management, whether in the form of regional land use planning or not, is deemed to be a failure to uphold the spirit and intent of the UFA, it is conceivable that numerous other unimplemented or under-implemented sections of the UFA could also be brought into the debate. In conclusion, this participant stated that if land use planning fails and environmental assessment is not protecting rights under the UFA then there is a serious problem with implementing entire final agreements.

The third question in this section asked participants if there is a need to expedite regional land use planning processes so that the conformity check during the environmental assessment process has better context to determine compatibility with existing land uses. All but one participant (FN1) felt speeding up land use planning was entirely unnecessary and completely counterintuitive to the goal of regional land use planning. Another participant (YG2) commented on the fact that land use planning and environmental assessment processes themselves are not seamlessly integrated but rather operate simultaneously in tandem, and therefore they are not

dependent on one or the other to exercise their mandates and thus there is no need to bridge temporal gaps. Nor is it realistic for YESAB to wait for land use plans before accepting project proposals.

As such, YESAA is very clear as to what the YESAB must do if land use plans are not yet established in certain regions. This participant did however feel that the land use planning process could be more streamlined, suggesting the scale of land use planning be reduced in order to decrease the amount of consultation and data required to produce a plan. The participant noted that while this approach may be more conducive to determining acceptable land uses, it would lack the strategic decision-making utility of larger-scale land use plans. Regardless, this participant likened the comparison of the two processes under this question to comparing "apples and oranges".

Interestingly enough, this participant was not the only one to use the apples and oranges analogy in this context. Another participant (YG5) explained that the issue is not necessarily about decreasing the timelines associated with regional land use planning, but rather how to provide strategic guidance to development in the interim. While some parties may agree to enter into moratoriums on certain types of development in certain areas until guidance that is more concrete is available, an outright ban on development is entirely unrealistic. Governments are not willing to cut off the benefits that accrue from development activities to ensure a "robust economy and a sustainable social fabric".

Furthermore, there are opportunities for planning-like instruments (such as forestry planning/management or local area planning) to fill the void while including all the key components of a planning exercise, according to the participant. Utilizing such a strategy would ease the urgency and allow the actual land use planning process to be undertaken properly

resulting in the highest quality plan. Given the current tendency for land use plans to incorporate redundancy, adaptive management, and precautionary principles, the amount of baseline data now required to make decisions (albeit perhaps interim) could thus be reduced.

Many other participants (NG1, NG2, AL2, AL1, YG1, YG7, YG8) also felt that speeding up land use planning might be a detriment to the overall quality of the result of the process. Land use planning is inherently a time-consuming process that requires extensive data collection and stakeholder consultation and collaboration. Especially for the latter, no amount of increased capacity or financial resources will ensure greater participation from interested parties, particularly the public. Not all parties operate on the same timeframe so large windows of time must be granted in order for participants to find the time to input but also to ensure the highest quality of the input.

One participant (YG7) summarized their response stating, "it takes as long as it takes" to flesh out issues and build consensus. Another participant (YG8) quickly mentioned that there is already enough public doubt about the land use planning process, and limiting the amount of time required might result in public "fear and paranoia" about the future of the process and its relevance. Only one participant (FN1) stated that there is a need to expedite land use planning, claiming that it should have been addressed 10-15 years ago and it is undermining the validity of some sections of the UFA, but did not elaborate any further.

The fourth and last question of this section (and last question of the interview protocol) simply asked participants, in an open-ended manner, as professionals what they felt the issues of regional land use planning and cumulative effects management would look like in the future. For this question it was somewhat popular for participants (YG1, YG2, YG3) to point to the outcome of the North Yukon Land Use Plan as potential insight into the future of cumulative effects

management in the rest of the territory. According to these participants, the future success of cumulative effects management through land use planning relies on a number of key determinants – all of which have already been discussed at length above – including implementation, monitoring, regulation, and follow-up, as well as the effectiveness of the decision-making model.

To that extent, one of the participants (YG2; an environmental planner) felt that the true effectiveness of the decision-making model under the NYLUP could not be assessed until several versions of the plan have existed and been reviewed. Another participant (YG3) similarly felt that there has been no progress on decision-making surrounding issues of cumulative effects, and government needs to consider alternative options to address them. Furthermore, this participant felt that "practical mitigation" would be more effective than a new cumulative effects framework. What exactly "practical mitigation" implies was not revealed but responses from previous questions can provide insights, such as best environmental practices.

Two other participants (YG4, YG5) commented on the need for consistency across the board. This means adopting a simplified approach to cumulative effects and not a "Cadillac framework" (as one of these participants (YG5) phrased it) that can be built up incrementally as more monitoring reveals more insights. This includes coordinating government efforts to establish priorities, identify high priority areas, discuss general indicator and threshold levels, and develop adaptive management, before transitioning into more area-specific concerns. This commonly-held position is certainly a result of the Government of Yukon's cumulative effects working group, which both participants were heavily involved in.

One participant (FN1) was rather pessimistic about the future of the process. It will be many years before regional land use planning covers the entire territory. Moreover, while the

future for land use planning in the Kluane region looks dim especially in light of unsettled land claims, the southeast Yukon is an example of another traditional territory with unsettled land claims. Given the barriers of unsettled land claims in the Kluane region, it seems likely that land use planning will not be formally conducted in the southeast Yukon under the current framework without some sort of multilateral agreement between the parties to the UFA stating otherwise.

There will continue to be pressure put on the parties involved to conduct land use planning, as political agendas tend to increasingly favour industrial-scale resource extractive development. This participant went on to allude that land claim agreement that have clear sustainable development objectives that are protected under the Section 35 of the Canadian constitution will prevail over any other existing legislation. The participant said they remained hopeful that respectful use of land based on such concepts as sustainable development will continue, but at the same time could not help feeling pessimistic given the current state of regional land use planning as well as findings from the five-year review of YESAA that have not yet been addressed.

5.2.4 Concluding remarks

This concludes all the substantive findings from participant responses to the questions asked during the interview process. During the concluding remarks at the end of the interview protocol, most participants had little to add to their responses already and felt the line of questioning covered most, if not all, of the most pertinent and persistent issues identified thus far in the process. However, one topic was briefly mentioned in passing by one of the participants that the author felt was worth further exploring following the approved protocol – regional growth strategies.

A regional growth strategy according to this participant (YG7) is a situational analysis of land suitability within a specified area for differing land uses. Layers of social, economic, cultural, and ecological spatial data are overlain for the area, resulting in strategic targeting of certain areas for certain land uses. Areas not in conflict with opposing values are designated for future development. Regional growth strategies inherently involve determining the demand for land and development phasing based on area values. This includes setting out broad principles, rationalizing regional development based on current growth rates, and coordinating adjacent jurisdictional planning processes. While regional growth strategies in theory sound ideal, their application thus far in the Yukon has been limited and represents another possible tool for cumulative effects management and an area of future research once more time has permitted their utility to territorial regulators to be better known.

Regional growth strategies (RGS) have been adopted in a number of urbanized regions in southern British Columbia and elsewhere. According to the BC Ministry of Community Services, a regional growth strategy is a, "regional vision that commits affected municipalities and regional districts to a course of action to meet common social, economic and environmental objectives. It is initiated and adopted by a regional district and referred to all affected local governments for acceptance" (Government of British Columbia 2006, 3). Crucial to the success of a RGS is the inclusion of "regional context statements" which are inserted into official community and district plan that define the relationship between the varying scales in different planning sectors, such as municipalities and districts (GBC 2006). Also crucial are "implementation agreements" that outline the role and responsibilities of each of the parties involved in implementing the RGS. Key initiatives under concern of RGS are: transportation,

protected areas, resource base, economic development, pollution reduction, water use, energy generation, heritage resources, and finances.

It must be noted that RGS are not land use plans and explicitly state that no new institutions should be established. While RGSs certainly are concerned with adverse impacts on valued ecosystem components, its leanings towards regional development is more conducive to promoting sustainability and enhancing positive impacts of development. The applicability of a RGS in Kluane has potential given the lack of coordination and cooperation between governments and sectors as it relates to defining rights and access to land in First Nations' traditional territories, particularly with regard to unsettled land claim agreements. This is coupled with the findings from Leach's (2011) research citing the political accord as a critical agreement to land use planning in North Yukon. The requirement for an implementation agreement may help expedite regional land use planning in Kluane by more clearly defining roles and responsibilities as well as a formal avenue to participate in planning exercises. This is imperative as the YLUPC has recently called upon the territorial government to broker agreements with unsettled First Nations so that they have equal participation in the process (YLUPC 2013b).

5.3 Thematic Summary

This section will briefly provide an overview of the most prominent themes discussed during the interview process. While many of the themes described below have already been discussed at length in previous chapters, for the sake of clarity and conciseness, as well as being able to link these themes to findings from the literature, they are summarized below.

5.3.1 Adequate baseline data

Throughout this research, a number of common themes have become prominent. The first and arguably most prominent theme thus far has been the issue of baseline data. Under section 42(1)(d) of YESAA (GC 2005), the act states that when conducting an assessment, the following matter shall be taken into consideration:

> *The significance of any adverse cumulative environmental and socio-economic that have occurred or might occur in connection with the project or existing project in combination with effects of (i) other project for which proposals have been submitted under subsection 50(1), or (ii) other existing or proposed activities in or outside Yukon that are known to the designated office, executive committee, or panel of the Board from information provided to it or obtained by it under this Act.*

As a result of limited capacity and resources, the baseline data available in order to inform decision-making processes are inadequate. Given that YESAB, the territorial government, and industry are not currently in a position to fully respond to cumulative effects threats, a precautionary approach must be integrated into decision-making models that call for adaptive management and long-term monitoring, rather than one-time linear permitting processes.

5.3.2 Implementation

Following the approval of the final recommended plan for the North Yukon region in 2009, the question of who is responsible for implementation of the plan is unclear. With the regional commission having been disbanded shortly thereafter, the Government of Yukon's Department of Energy, Mines, and Resources (the government regulator on regional land use planning) has been slow to take initiative and demonstrate how it plans to achieve the goals and objectives of the plan. During the interviews, some participants suggested that the regional commissions should continue to exist well into implementation of the plan to provide guidance

to development in accordance with the goals and objectives of the plan. However, budgetary allotments would have to be re-negotiated with the parties to the UFA.

5.3.3 Access management

Of particular concern in Yukon in recent years has been the issue of access management with specific respect to the mining industry, but also increasingly in the oil and gas industry. In the White Gold district, the potential for numerous large-scale industrial mining operations is cause for concern with respect to potential cumulative effects. As the result of various pieces of territorial legislation, the government must provide reasonable access to mineral claims should advanced exploration proceed. Thus far, territorial government has been struggling to provide strategic direction to ensure industry has reasonable access to their mineral claims. Linear features on the landscape, most notably roads but also seismic lines or cut blocks, are known to have substantial impacts on the local ecology – which could drastically alter migration routes and wildlife corridors. As an alternative, it has been suggested that the Yukon River be utilized as a transportation corridor in lieu of roads. This option is also not without its faults as there is some concern increased traffic on the Yukon River could adversely impact salmon numbers.

5.3.4 Surrogates for regional land use planning

Local area planning was cited numerous times throughout the interview process as a more targeted approach to mitigating impacts from development that is based on zoning and land use regulations. Unfortunately, it can only be utilized within the confines of incorporated or municipal boundaries. Many of the more prominent pressures on the landscape are occurring in more wilderness areas far removed from settlements. In addition, local area planning has

jurisdiction over only conventional development and land use activities, such as residential, commercial, and industrial development, and is also very site specific. There is little opportunity for any strategic initiatives within the limited scope of local area planning.

Forestry planning and/or management has also been suggested as a potential surrogate for regional land use planning and is already heavily embedded in the Kluane region. In 2004, a Strategic Forest Management Plan for the Champagne & Aishihik traditional territory was released. According to the plan (AARC 2004, 1), the purpose is to:

> *...provide direction for sustainable forest management in the Champagne-Aishihik Traditional Territory (CATT). It is intended to provide a clear framework and practical guidelines for forest management and planners. It should assist them in working with others, especially local people who live and work in the area, to ensure healthy forests are maintained and support a broad range of social, economic, and cultural values and uses.*

Given this, it is easy to see how forestry management might be used as a surrogate for regional land use planning as it is also heavily based on the rational planning model as well as providing guidelines for activities not under the purview of YESAA. It is however limited to only timber harvesting and non-timber forest products. Another limitation is that approximately 42.2% of the CATT is classified as 'alpine' and is naturally unforested, thus a plan needs to apply beyond the tree line where many wildlife inhabit.

Last is the potential for regional strategic assessment to take the place of land use planning – at least in the short-term. As demonstrated by Johnson *et al's* (2011) framework and the analytical framework designed for this study, regional strategic assessments address the key temporal shortcomings of land use planning to address ongoing uncertainty. However, any SEAs conducted at the federal level have thus far precluded meaningful levels of public transparency and therefore lack a collaborative perspective, which, in light of complex issues such as

cumulative effects, may be limited in problem identification, information gathering, and inclusive processes.

5.4 Evaluation of the Characteristics of Successful Integrated Resource Management in the Yukon's Regional Land Use Planning Framework

To determine which policy and/or implementation options will be recommended in the next section, the presence of the analytical framework's twelve guiding principles in the Yukon will be evaluated based on the literature and the interviews. From this evaluation, recommendations will be generated that focus on how to increase the application of each of the four characteristics of successful integrated resource management. Each of these characteristics as it relates to the presence of the twelve guiding principles will be discussed below.

5.4.1 Issue characterization

According to the analytical framework, issue characterization in successful integrated resource management depends on the purpose and scope of the integrated program as well as the nature of the problem the program is intended to address. The most significant complaint from those involved in this research was that the land use planning regime and process is not currently conducive to addressing cumulative effects at an appropriate scale. This is due to a multitude of issues, but it seems that territorial politics have had the largest impact on the success (or in some cases lack thereof) of the Yukon's regional land use planning framework, with many levels of government attempting to utilize the planning process to advance their own mandates and/or agendas. While it is entirely reasonable that stakeholders should view the planning process as an avenue for incorporating their issues and interests into the desired future state, attempting to advance a politically-oriented agenda conflicts with the modern collaborative planning paradigm

and as a result there is a lack of consensus across the board as to how cumulative effects are defined, their significance to the parties of the UFA, and how best to address such concerns.

5.4.2 Context

Context typically includes effective decision-making, meaningful timelines, and strong legislation (though this context does vary across space, the needs of IRM in each context should be respected in regards to independent government institutions). Of all the characteristics of successful integrated resource management, context is the one lacking the most in the Yukon. Recent debates about the fate of the final Peel Watershed Land Use Plan have most certainly brought the issue of effective decision-making to light. The lack of consensus between interested parties surrounding the appropriateness of the original land use plan for the region and the additional rounds of consultation required as a result of proposed changes by the Government of Yukon have been met with substantially less than consensus. It is apparent that in light of such disputes, a more clearly defined decision-making model is needed in the territory. While imposing planning legislation for the entirety of the territory can achieve this as it has done in some provincial jurisdictions, the predication of land use planning on land claims makes doing so redundant. Despite the lack of formal planning legislation, the requirement of the parties to the UFA is to implement territory-wide land use planning that is inclusive, comprehensive, and adaptive.

5.4.3 Institutional structure

The principles of the institutional structure as defined by the analytical framework include multi-scalar, multi-tiered, adequate capacity. Capacity was not only a challenge

identified in the Yukon context, but it has been unanimously identified in all other similar regimes across northern Canada as per section 2.4 of this thesis. This came not only in the form of technical and professional expertise, but also finances and technology – all of which are elaborately intertwined. Additionally, the lack of integration between advisory processes like land use planning and environmental assessment, and regulatory practices like permitting, inspection, and long-term monitoring means that decisions made at the advisory level that are intended to advance cumulative effects considerations in development activities are not necessarily guaranteed to be included in the terms and conditions of licences and permits. This was the primary rationale for approaching this research from an integrated resource management perspective as it was clear from the outset that integration was clearly lacking and desperately required if regional land use planning is to be more effective at addressing potential cumulative effects.

5.4.4 Process analysis

Lastly, the process analysis principle includes that the planning process be multi-sectoral, participatory, opportunistic, adaptive, strategic, and transparent. In terms of the process itself, there were few concerns with the Common Land Use Planning Process (CLUPP) mandated by the YLUPC, but also that there simply has not been enough time to determine what, if any, changes to the CLUPP are required. This sentiment was recently addressed in a paper drafted by Ohlson & Cabott (2013) as a summary and culmination of a conference hosted by the YLUPC. The paper, titled *Exploring the Opportunity for Structured Decision Making in Support of Yukon Regional Land Use Planning,* outlined a number of opportunities and challenges present in the current land use planning regime. Of those challenges identified, transparency and inclusiveness

within the process itself were the only guiding principles from the evaluative framework to be discussed in any detail. These findings harken back to the notion that a more clearly defined decision-making model must be developed and that particularly First Nations people, with or without finalized land claims, must be provided a meaningful opportunity to have their issues and interests and representation equitably in the process. These challenges, while inherent in the actual process itself, can be more strategically addressed through any of the other three integrated resource management characteristics.

5.5 Chapter Summary

It is evident from the current state of land use planning and cumulative effects management in the Yukon, the professional opinions and perceptions of those directly or indirectly involved in either process (or both), and the summary themes, that there is no easy solution to this complex problem. Much of what is known about cumulative effects is still rooted largely in theory, and the application of management regimes to mitigate them is limited thus far to only the least populated and most remote region of the territory.

The interviews conducted with the participants provide key insights into the intricacies of regional land use planning, environmental assessment, and other related processes, and why the current framework for cumulative effects management has been slow to gain any momentum. The responses, comments, and suggestions made by participants will be utilized in the following chapter to generate a series of recommendations to improve the framework. These recommendations both corroborate previous research on framing cumulative effects issues through an integrated resources management approach, as well as adding details to the recent discourse.

6.0 Conclusions

A substantial amount of consensus insists that regional land use planning is the best and most appropriate avenue for managing cumulative effects - both in the academic literature and in the environmental management community of practice in the Yukon. From the initial design phase, this research was intended to shed light on how to best adapt and inform the territory's regional land use planning framework to ensure that potential cumulative effects are indeed being actively addressed. Environmental management in general in northern Canada is often underpinned by a variety of agreements between federal, territorial, and Aboriginal governments as a result of comprehensive land claims. However, it is these very agreements that make implementing a territory-wide regional land use planning programme in the Yukon so complicated and resource consumptive, though it is not the sole source of challenges to this goal.

This chapter first summarizes the objectives, methods, and results of this research. A series of recommendations to improve regional land use planning in the Yukon will be made based on this analysis, as well as this research's utility in the pan-northern Canadian context and elsewhere. Lastly, opportunities for future research and contributions to the integrated resource management literature will be briefly mentioned, followed by a short section concluding this thesis.

6.1 Fulfillment of the Goals and Objectives

Although the research design evolved over time, the overall goal of this research was to positively contribute to the integrated resource management discourse regarding the use of land use planning for managing cumulative effects. Conducting a case study of the Yukon's Kluane

region with this goal in mind presented an opportunity to put many IRM theories to the test. Four objectives were initially developed to ensure the overall goal was achieved.

6.1.1 Land use planning as a tool for managing cumulative effects in the literature

Many themes, barriers, and broad research questions around integration of land use planning and management of cumulative effects were identified from an exhaustive literature review. An integrated resource management perspective was chosen to frame this research due to the logical need for greater integration between the territory's regional land use planning and environmental assessment regimes. The origin and application of both land use planning and environmental assessment were discussed, culminating in the eventual convergence of the two as the standard dual approach for addressing cumulative effects. Land use planning and environmental assessment are not the only environmental management tools employed to identify, evaluate, and address cumulative effects; others included strategic environmental assessment, regional strategic assessment, sustainability assessment, and integrated assessment.

Also included in this literature review was an overview of integrated planning-assessment frameworks across northern Canada, and the lessons extracted from each example and how they might provide insight into improving the Yukon framework. The prominent literature was used to help formulate interview questions and topics of interest related to the research to discuss with participants. However, themes discussed in the literature might not reflect the issues and challenges in the Yukon and their responses may more so reflect their viewpoints regarding the questions than perhaps more Yukon-specific topics.

6.1.2 Development of a framework for assessing policy and implementation actions

In order to evaluate the effectiveness of the Yukon's regional land use planning regimes at addressing cumulative effects, a conceptual framework was developed for this research. The framework began with the principles of regional strategic assessment (RSA) as identified by Johnson *et al* (2011). In many ways, the principles of RSA parallel those of regional land use planning as, according to Johnson *et al* (2011, 482), RSA is,

> *A tool used to support regional planning through assessment of cumulative effects associated with alternative development scenarios and identification of the suite of land-use strategies and management approaches that best achieve desired environmental, social, and economic outcomes.*

In addition to the principles identified by Johnson *et al*, two other principles were included to the analytical framework. These additional principles were based on arguments presented by Hodge & Robinson (2001), and participants' common concerns regarding the need for transparency in planning and assessment processes.

These twelve principles were grouped into categories based on the four characteristics of successful integrated resource management as determined by Bellamy *et al* (1999). These categories allowed for the identification of which policy or implementation actions, when compared to the twelve principles, may be preventing more effective and successful cumulative effects management. Both the literature and interviews were utilized to determine which policy and implementation options best adhere to the twelve principles, and which categories of successful integrated resource management need improvement in the Yukon.

6.1.3 Application of the evaluative framework to the Kluane region as a case study

An extensive review of the biophysical characteristics of the Kluane region, its people, its natural resource and governance institutions, and its history of land use planning was conducted

in order to gain a better understanding of how integrated resource management might be implemented in the region. This overview firmly established the history of the various land use planning initiatives conducted in Kluane between the federal, territorial, and First Nations governments, and which events have lead to the current state of the practice in the region. Once a firm understanding of the regional dynamics was established, interviews were conducted with professionals involved in land use planning and/or environmental assessment in the Yukon to fill in any gaps in the academic literature as well as to expand on the current case study literature. However, the relatively simplistic and generic nature of the conceptual framework did not lend itself terribly to drawing out any lessons from the interviews and relating them to the theoretical discussion.

The interviews were conducted in Whitehorse from July to September 2012. In total, 13 interviews were conducted ranging from 30 to 90 minutes and recorded on a digital device. The interview audio was analyzed using a combination of latent and manifest coding to identify trends between participants response as well as prominent themes throughout the process. Analyzing the interview audio took approximately four months from September to December 2012. Preliminary results were presented at the Canadian Mountain Studies Initiative's Thinking Mountains 2012 interdisciplinary conference in Edmonton, Alberta in December 2012. Writing commenced in January 2013 with the first complete draft finished in August 2013.

6.1.4 Generation of recommendations and identification of general lessons

During these interviews, a number of policy and implementation actions were discussed beyond the realm of regional land use planning and environmental assessment. These options were discussed as to whether or not they are viable in the Yukon given capacity and resource

constraints under the current arrangement of resource management regimes. They included forestry planning, local area planning, regional strategic assessment, access management, public-private partnerships, among others. These options were then compared to regional land use planning and environmental assessment, utilizing the conceptual framework to assess each option's ability to meet each of the twelve principles as determined by the literature and participants' responses. Based on the characterization of each principle into one of the four categories of successful integrated resource management, recommendations on the current regime were made in order to strategically improve the robustness of each category towards a more comprehensive and integrated planning-assessment regime in the territory. These recommendations, discussed below, are organized into short-term, medium- to long-term, and Kluane-specific recommendations.

6.2 Recommendations

The recommendations outlined below are divided into three broad categories in order to provide better guidance to decision-makers: short-term recommendations, medium- to long-term recommendations, and recommendations specifically for the Kluane region.

6.2.1 Short-term recommendations

- *Recommendation #1: Continue to strengthen and refine the current regional land use planning and environmental assessment processes*

Both the regional land use planning and environmental assessment processes in the Yukon are still in their infancy. Although the UFA was signed in 1993, a Yukon-specific environmental assessment regime was not fully established until 2005. Likewise, the only approved regional land use plan was approved as recently as 2009. This sentiment was echoed in

the five-year review of the YESAA, which states "the Yukon development assessment regime is still in its infancy, with project assessments only having been conducted since November 2005" (SENES Consulting 2009, 90). Furthermore, many sections and regulations of the Act have not yet been adequately tested, including seldom used executive committee screenings and panel reviews. SENES recommended that review of YESAA be continued at regular intervals (e.g. 5-7 years), including critical examinations of its linkages to regulatory regimes and monitoring, of which SENES (2009, 91) stated the lack thereof was deemed as a "major gap in the scope of the review".

Therefore, it stands to reason that no drastic action be taken to alter the current regimes. Insights into the effectiveness of CEA in the assessment process may only be revealed after several future reviews of both YESAA and the regional land use planning framework. Moreover, the relatively undeveloped land base in the Yukon suggests that cumulative effects might not be a major concern until more intense development becomes commonplace and residual impacts are better known. Similarly, the planning process is equally untested in the long-term. The lack of implementation of the sole approved land use plan is cause for concern when evaluating land use planning's ability to manage cumulative effects. It may be some time (e.g. ~10 years) before a formal review of the first round of regional land use plans will be conducted. Therefore, it is crucial that lessons from regional land use planning be unpacked as soon as feasibly possible.

It is recommended that the land use planning and environmental assessment regimes continue to be applied while providing opportunities for critical evaluation in order to better improve the process, particularly as it relates to cumulative effects.

- *Recommendation #2: Strategically incorporate CEAM considerations and requirements into other planning levels and sectors*

During the interviews, participants suggested a number of alternatives that could aid planning and assessment in their mandates to help identify, mitigate, and manage cumulative effects, as well as demonstrating some consensus that industry could contribute more voluntary measures operationally. While it was generally regarded that these alternatives can play a positive role in CEAM at the regional level, land use planning is still the primary and most preferred method for doing so. Forestry management and planning were referenced a number of times during the interviews. Forestry management and planning occurs at a much smaller scale, typically at the scale of First Nations' traditional territory. A prime example is the forestry management plan for the Champagne & Aishihik First Nation traditional territory (CATT). Forest only covers about 42% of the CATT land base outside of protected areas. Regardless, forested areas along infrastructure corridors and in and around settlements are where development pressures are most likely to happen.

Forestry management and planning are therefore ideal for exploring this recommendation because specific provisions within the UFA link the practice to both regional land use planning and environmental assessment. According to sections 17.6.1 and 17.6.2 respectively, of the UFA (GC *et al* 1993, 199, "a Forest Resources Management plan and a forest fire management plan shall be consistent with any approved regional land use plan". In the absence of such plans, forestry management plans therefore can take the lead in determining thresholds for surface disturbances. Moreover, "Yukon First Nations and Government shall manage and protect their respective Forest Resources in a manner consistent with any recommendation approved in accordance with Chapter 12 – Development Assessment" (GC *et al* 1993, 200). A finalized land

claim is not explicitly a requirement to undertake a forestry planning exercise, as all Yukon First Nations have a well-defined 'core' to their traditional territory.

The importance of the future of the management of the forestry sector in Kluane is also echoed by Slocombe *et al* (2002, 106), who state that one of "the most important potential driving forces in the next five years is almost certainly forestry". Therefore, it certainly resonates with both the interviews and the literature that forestry management and planning represent an ideal opportunity to integrate cumulative effects into the regional land use planning dialogue.

There is also opportunity for local area planning to also contribute to the cumulative effects management dialogue. Although limited in scope, local area planning can still be useful, for example, for ensuring wildlife corridors that bisect human settlement remain intact or maintaining buffer zones between development activities and water bodies. Unlike regional land use planning, local area planning is more regulatory and zoning-based which determines a very specific set of uses for a given piece of land as well as what is not permitted, and allows for a more gradual and varied flow of land uses across the landscape.

Also heavily underutilized thus far is strategic environmental assessment (SEA). According to YESAA, only a territorial minister can request an SEA be undertaken in the Yukon. However, not once since royal assent in 2005 has an SEA been conducted. In some cases, SEAs may not be necessary and may perhaps be viewed as yet another obstacle to final approval. A prime example of this would be interrelation to any PPP that is regularly reviewed or amended. It may however be useful for PPPs that have not been or are not being reviewed on a regular basis. In this case, SEA of regional land use plans may provide insights that could be used to inform future processes. As well, SEAs could be utilized to determine if government

programs, such as those that offer incentives or aid to developers are disproportionately causing potential for adverse cumulative effects on the landscape.

- *Recommendation #3: Promote and adopt best management practices in industry with respect to cumulative effects*

There is also opportunity for industry itself to play a more significant role in the cumulative effects management dialogue. This would likely include the adoption of best environmental management practices (BEMP) in industry activities. To a large degree, the incorporation of BEMPs into daily operations is already encouraged by a number of industry associations, such as the Yukon Chamber of Mines, the Wilderness Tourism Association of the Yukon, or the Yukon Outfitters Association. To a certain extent, many BMPs are already present in permits and approvals, and many activities on the landscape are bound by what regulators have permitted.

Nevertheless, in many cases, these BEMPs are currently only voluntary and proponents of development may choose to follow them in good faith or not. Greater strides must be taken to encourage or mandate BEMPs into daily industry operations across multiple sectors. In order to accomplish this, better relationships and communication between industry, YESAB, and government regulators must be fostered regarding what commitments are required from proponents, what types of practices are generally acceptable, and what activities are more likely to lead to potential cumulative effects. Neither government nor industry are doing an adequate job at incorporating cumulative effects into routine planning and management applications. Doing so would increase the cumulative effects terms and conditions in permits and approvals pursuant to the recommendation made by SENES (2009) in its five-year review of YESAA as discussed in the previous recommendation.

- *Recommendation #4: Increase clarity, communication, consolidation, and collaboration of CEAM efforts within government*

The Government of Yukon is not only the final approval authority of regional land use plans, but is also the primary regulator of the majority of land, water, and natural resources. Therefore, the territorial government has the most significant role in the management of cumulative effects, as well as the largest influence on management schemes. This by no means excludes the federal or First Nations government from their obligations under the UFA, but the territorial government must take the lead. It was clear from the literature and reinforced by the interviews that the definition of cumulative effects varied across sectors, government levels, and individuals themselves. Problem identification is the starting point for effective program delivery, and if poorly defined, goals and objectives lack vision. Therefore, it is imperative that a collective definition of cumulative effects be developed.

It was evident that while the concept of cumulative effects is predominantly used in the literature and government circles, its significance to First Nations people is relative to the power other institutional bodies in the Yukon grant it. From the interviews, First Nations in Kluane seemed to be concerned with cumulative effects because government. is concerned Instead, language surrounding First Nations' understanding of cumulative effects was more in tune with respect for the land, water, and wildlife to ensure its use for future generations within broader understanding of environmental issues and sustainable development. First Nations government can choose to adapt to other institutional understandings of the issue, the territorial and federal governments must make room for the First Nation definition in the current discourse, or a consensus built definition between stakeholders can be developed.

This new integrated definition must also allow for the inclusion of positive impacts as a result of cumulative effects. The discussion of such impacts is absent for the cumulative effects

discourse in Yukon and focuses largely on the negative. If regional land use plans are to truly promote sustainability as per their goals and objectives (see North Yukon Land Use Plan), then it is imperative potential enhancement of environmental, social, and economic systems as a result of development be included in a cumulative effects definition, in order to more appropriately parallel the definition with the philosophy of sustainability and not just simply advocating for trade-offs between competing sectors, industries, and values.

Only once a collective definition exists, an open dialogue between all levels of government is established, and critical baseline information is consolidated can true collaborative planning can be undertaken. It is infeasible to establish a separate cumulative effects regime due to limited resources, and thus collaborative planning must become the predominant approach. The current governance framework that places the territorial government as the final authority on plan approval undermines the collaborative planning paradigm in the territory. Therefore, it is recommended that an alternative decision-making model be explored within the current institutional structure that gives greater consideration of cumulative effects in the regional land use planning based on the collectively determined definition.

This could include increasing the influence of DAB in the approval process instead of the Department of Energy, Mines, and Resources - which some have argued has a conflict of interest as both the regulator of activities that are most likely to result in cumulative effects and agency responsible for the approval and implementation of regional land use plans. The fox guarding the henhouse is a common analogy used in the public discourse to describe this conflict of interest. As a result, pressure from politicians and senior management may be placed on regulators to modify or reject recommendations from the planning and assessment processes if they do not advance a certain political ideal and development that would otherwise be rejected based on

adverse impacts that could not be mitigated receives approval (often to the dismay of many concerned interest groups).

6.2.2 Medium to long term recommendations

- *Recommendation #5: Increase the influence and decision-making authority of the territorial government's Development Assessment Branch*

There is an opportunity for the Development Assessment Branch (DAB) of the Executive Council Office within the territorial government to spearhead exploring an alternative decision-making model within the territorial government. DAB is well positioned to inherit this role as it already has a strong client-service focus as the territorial agency that is responsible for facilitating smooth and trouble-free territorial government participation in the environmental assessment process, as well as being the decision body for Executive Committee screening in the YESAA process. Cumulative effects management is a significant portion of DAB's mandate in recent years, culminating most recently with an intra-territorial government cumulative effects working group to advise senior management on strategic decisions – a joint departmental initiative between the Departments of the Environment, Energy Mines and Resources, and DAB. There is already capacity and a willingness to communicate and collaborate across the territorial government, so at some point that dialogue ought to be extended to the federal government as well as First Nations.

- *Recommendation #6: Maintain the regional planning commissions beyond the issuance of final recommended plans*

Throughout this research, a number of key aspects of the regional land use planning process were highlighted as currently lacking. Most notable was the lack of plan implementation

and long-term monitoring, and to a lesser extent, conformity checks. Currently, planning commissions are dissolved after the issuance of the final recommended plan. This is problematic for ensuring the cyclical nature of planning persists in order to feed back into future planning exercises. The territorial government is solely responsible for plan implementation. But thus far has not demonstrated how it intends to implement these plans.

According to the UFA (GC *et al* 1993, 97), section 11.5.4 states, "in developing a regional land use plan, a Regional Land Use Planning Commission... may monitor the implementation of the approved regional land use plan, in order to monitor compliance with the plan to assess the need for amendment of the plan". To date, budgets drafted for each commission have not provided the ability to operate beyond the final plan. Doing so would not only contribute directly to plan implementation, but commissions could also become involved in long-term monitoring in collaboration with or entirely in lieu of the territorial government.

The largest hurdle to this recommendation is funding. As per the devolution agreement in 2003, funding allocations for the YLUPC and the regional commissions were predetermined by the parties. In order to extend the life of regional commissions, either the devolution agreement would require amendments and greater financial commitment from federal government, or the parties to the UFA arrange an alternative means to raise the funding. There is an opportunity for industry to either directly contribute to commissions' budgets, or enter into a potential P3. Doing so would allow industry to help contribute funds needed for regional commissions to participate in implementation and long-term monitoring while relieving industry from the onus to carry out monitoring themselves.

6.2.3 Kluane region-specific recommendation

- *Recommendation #7: Encourage the signing of a political accord or implementation agreement between the territorial government and Kluane region First Nations*

The issue of unsettled First Nations land claims in Kluane is the largest barrier to regional land use planning in the entirety of the region. Without contiguous land claims in the region, the formal avenues for unsettled First Nations to actively participate in the CLUPP is not clearly defined, nor are rights, roles, and responsibilities. This lack of clarity leads to confusion between stakeholder and overlap in agency mandates. Pursuing a political accord similar to that signed in North Yukon can help clarify those mandates in addition to providing detailed work schedules and implementation approaches (Leach 2011). The pursuit of such an arrangement is also conducive to the position of the YLUPC which has openly stated its position that agreements between the territorial government and unsettled First Nations, including the WRFN, are necessary if regional land use planning is to succeed. Both the CAFN and KFN have already brokered inter-governmental accords with the Government of Yukon in 2008 and 2013 respectively, but are not specific to the CLUPP. Therefore there still remains room to facilitate positive dialogue with respect to regional land use planning and Kluane region First Nations.

Similarly, the concept of a regional growth strategy for the Kluane region might yield like results. This is particularly true as a RGS would not require any actual land use planning as defined by the UFA, nor would it require any new institutions, relying entirely on existing capacity and a willingness to collaborate across the region. It would rely on brokering agreements and consensus on the role and responsibilities of each party. Therefore, it is not contingent upon settling land claims and could be utilized as an important consensus building process that may result in a more streamlined and efficient CLUPP when regional land use planning is finally undertaken in Kluane.

- *Recommendation #8: Conduct a regional strategic assessment for Kluane to determine baseline data and identify regional priorities*

The last recommendation to come out of this research is to conduct a regional strategic assessment (RSA) for the Kluane region. An RSA in Kluane will be useful two-fold. First, it would allow the territorial government to identify strategic priorities for the region. Specific spatial units in the region could be labelled as areas of future interest where intense development might occur in the future resulting in potential cumulative effects, similar to the White Gold district to the north. An RSA could also focus on a specific development activity, like mining, and recommend a regional framework for minimizing impacts as a result of that particular sector. The same could be done for other predominant regional sectors, such as tourism (given the amount of protected area), forestry, or hunting/trapping/fishing.

An RSA would allow agencies to begin collecting critical baseline data for these areas ahead of formal planning processes in an effort to speed up the process slightly for the sake of managing cumulative effects, especially given Kluane's history of settlement and development. An RSA does not necessarily have to be conducted by the Government of Yukon, but can also include collaboration with the federal, First Nations government, and/or academics. An RSA could also be conducted by YESAB, or even spearheaded by industry. There remain plenty of opportunities for all stakeholders to be involved in the RSA process, regardless of the structure or institutional capacity of each interested party. What exactly this RSA might look like is beyond the scope of this study and could be a topic to focus on in future research, but likely would include many of the guiding principles found in Table 2.4.

Overall, it seems the collaborative planning paradigm has yet to truly penetrate land use planning, environmental assessment, and other resource management regimes in the territory. The decision-making model and concentration of authority established under the UFA is largely

unbalanced and favours the territorial government. This imbalance has certainly come to light with the Peel Watershed Land Use Plan case. Collaboration is not only lacking in the decision-making process, but also in a number of key areas. The variation from stakeholder to stakeholder as to what constitutes cumulative effects and its significance to the future state of the landscape is also detrimental to integration of resource and environmental management in the territory as a whole. From this, there is substantial disagreement between the roles and responsibilities of each stakeholder as it relates to cumulative effects management, particularly when it comes to funding, resources, and capacity.

There is an opportunity for cumulative effects scenario modeling to help clarify the significance of cumulative effects as well as determine whose mandate its management falls underneath. For example, Francis & Hamm (2011) applied scenario modeling to the oil and gas industry in the North Yukon planning region. They found that scenario modeling was "effective in facilitating increased communication between and understanding between participants, identifying key drivers of change, and high-lighting the type and magnitude of potential trade-offs between conservation and socio-economic considerations" (Francis & Hamm 2011, 10). Furthermore, they found that not only did the modelling process directly corroborate the recommendations in the final draft plan, but also it lead to greater acceptance and adoption of the recommendations. The results provided by Francis & Hamm (2011) provide support to the use of cumulative effects scenario modelling in other Yukon planning regions where roles and responsibilities as a result of complex institutional structuring are even more undefined.

Many of the recommendations provided above are highly contingent upon more meaningful collaboration between the parties to the UFA in implementing many of the provisions, including Chapters 11 and 12. There is significant ambiguity between mandates,

responsibilities, definitions, decision-making authority, and alike. Without clarity, many aspects of an effective cumulative effects management regime would be largely symbolic without any meaning in a real world context. Moreover, without clarity, collaborative planning cannot hope to be firmly established. This is particularly true in the Yukon where the presence of additional levels of government and layers of institutional governance, and the complex interwoven structure between them, presents the most significant barrier to providing clarity to the collaborative planning paradigm in the territory.

6.3 Opportunities for Future Research

Given the nature of this research, as well as the overall methodology and the specific methods, there are a number of gaps, which could be addressed by future research. First, given that this research was qualitative in design, there is an opportunity for quantitative research to complement the findings, possibly in the form of participant questionnaires instead of interviews. A number of key participant groups were also absent from this study, including industry, the general public, and the federal government. It would be worthwhile to obtain views expressed by these groups, particularly given the current level of public distrust in the regional land use planning approval process due to the stalemate in the Peel Watershed. While some attempt was made to include these perspectives in the research, participants were largely chosen for their experience in the territorial regime.

Lastly, this research was above all an investigation into land use planning as a social process. Although some technical aspects of some of the regional land use plans were discussed, they were beyond the intent of this research. A thorough investigation into the legitimacy of the land use planning concepts proposed in the plans and their ultimate outcomes on the landscape in

comparison to more established and proven planning concepts could yield insightful results into the effectiveness of the current threshold-based approach to mitigating cumulative effects.

6.4 Contributions

Given the fairly unique institutional environment in which this research is bound within, the analysis, findings, and recommendations are of course intended to provide insights and be applied to Kluane as a region both representative and unrepresentative of the Yukon as a whole. Regional land use planning in recent years has become a topic of concern for many Yukoners in the public discourse, in government mandates, and the legislative assembly. The high profile debate regarding fate of the final recommended Peel Watershed Land Use Plan further justifies the need for this kind of inquiry in order to shed light on some of the challenges and re-inject public confidence in the system.

However, as illustrated in the lessons learned from the overview of the integration of land use planning and environmental assessment in Nunavut, the Mackenzie River Valley, and the Beaufort Sea, the results from this research may be equally valuable across the Canadian North. If anything, the conceptual framework developed for this research could prove useful in evaluating other integrated regimes particularly in three territories, but also in the northern reaches of other provinces or other less conventionally defined region of Canada's North. As the collaborative planning and management paradigm become more prominent, the guiding principles provided by the framework outline a comprehensive collection of values that stakeholders, concerned citizens, and the general Canadian public have come to expect and even demand in planning processes.

6.5 Concluding Remarks

The identification, evaluation, and mitigation of potential cumulative effects via the Yukon environmental assessment regime is limited at best, simply due to the narrow scope of typical assessment processes and the unpredictable nature of cumulative effects. Therefore, addressing cumulative effects through the regional land use planning process remains a relatively viable option for territorial officials. Luckily, there is a significant amount of consensus regarding the ability of regional land use planning to actively manage cumulative effects. However, the presence of unsettled First Nations land claims in some regions of the Yukon, such as Kluane, represents a significant barrier to conducting regional land use planning.

While it is likely that regional land use planning will eventually be conducted in the Kluane region regardless of the presence of contiguous land claims, it is those very land claims that set out the extent to which First Nations governments can participate, influence, and collaborate in the planning process. The lack of land claims is not the only issue currently in the regional land use planning process. The lack of plan implementation and a clear decision-making model for the first two regional planning processes raises serious questions about the validity of the current arrangement between the signatories to the Umbrella Final Agreement. In light of this, management of cumulative effects in the Kluane region may not occur on a time scale that is appropriate given the current rate and intensity of industrial and resource development.

The aim of this research was two-fold. One aim was to critically evaluate the viability of the current integrated framework between regional land use planning and environmental assessment in light of these challenges, and recommend suggestions to improve the process. The other aim was to recommend alternative policy options to complement regional land use planning, that might help expedite the process once it is underway in advance of a formal

planning initiative in the Kluane region. These recommendations provide practical and feasible solutions to the decision-makers in the Yukon, and it is hoped that the findings, results, and recommendations of this research will yield lessons not only for similarly structured and integrated frameworks across northern Canada, but also throughout Canada and abroad.

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Appendix A – Informed Consent Statement

Wilfrid Laurier University
Informed Consent Statement

EVALUATING THE YUKON'S REGIONAL LAND USE PLANNING FRAMEWORK AS A TOOL FOR MANAGING CUMULATIVE EFFECTS IN THE KLUANE REGION

BRANDON A. PIKE
Master's Candidate and Principal Investigator
Department of Geography and Environmental Studies, pike7420@mylaurier.ca, 1.226.748.8119

DR. D. SCOTT SLOCOMBE
Advisor and Professor
Department of Geography and Environmental Studies, sslocomb@wlu.ca, 1519.884.0710 x2781

You are invited to participate in a research study. The purpose of this study is to evaluate the Yukon's regional land use planning framework as a governance tool for managing landscape change at the regional scale. The purpose of this study is to:

i. Investigate the feasibility and effectiveness of land use planning as a tool for managing cumulative effects through a literature review of the Yukon context and elsewhere;
ii. Develop a framework for assessing the policy and implementation context for the integrated management of land use planning and cumulative effects assessment;
iii. Apply the framework to the case of land use planning and environmental assessment in Yukon, including the special issues of First Nations participation and capacity in the planning process with respect to governance;
iv. Recommend policy and implementation actions, and identification of general lessons for greater integration of the land use planning and environmental assessment processes in Yukon and elsewhere.

General Information

The principal investigator will contact potential participants based on their professional affiliation in the land use planning and/or environmental assessment regimes in the Yukon. Each participant will be asked to engage the principal investigator in one 30-60 minutes semi-structured interview regarding the proposed research. Participants will come from an array of agencies, including government, non-government, and First Nations. There will be no use of deception in the process of conducting this research.

Risks

As per the *Yukon Scientists and Explorers Act*, the principal investigator has been granted a licence to conduct this research by the Government of Yukon for 2012. Additionally, this research has been reviewed and approved by the Research Ethics Board at Wilfrid Laurier University. As land use planning and environmental assessment have at times been contentious in the Yukon, we will take care to ensure your participation and responses remain confidential.

Benefits

By participating in this study, participants will be able to provide direct input into the formulation of a potential policy or implementation recommendation, or provide insights as to how to improve the integration of land use planning and environmental assessment regimes in the Yukon. Participants will also have direct access to the result of this research as either a thesis or general summary of findings.

Confidentiality

Interviews will be recorded digitally. All data is assumed anonymous. The interview audio will not be transcribed. Access to the audio will be restricted to the principal investigator and the advisor. Permission from the interviewee must be obtained prior to publication of any quotations. If the principal investigator expresses desire to publish direct quotations, a transcription of the quote(s) will be provided and the interviewee may choose to give permission to do so. Please initial below if you agree to give the principal investigator permission to select sections from the interview audio as potential direct quotations in publications. Electronic audio files obtained from the interview process will be held indefinitely and will remain anonymous. It is within your rights to ask that the data be destroyed should you request upon completion of the project. Electronic audio files will be transferred from the principal investigator to the advisor upon completion of the project.

Initial:_____

Contact

If you have any questions or concerns at any time about the study of the procedures, you may contact the principal investigator given the contact information at the top of this form. This project has been reviewed and approved by the University Research Ethics Board. If you feel you have not been treated according to the description in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Dr. Robert Basso, Chair, University Research Ethics Board, Wilfrid Laurier University, 1.519.884.1970 (ext. 5225) or rbasso@wlu.ca.

Participation

Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty and

without loss of benefits to which you are otherwise entitled. If you withdraw from the study, every attempt will be made to remove your data from the study, and have it destroyed. You have the right to omit any question(s)/procedure(s) you choose.

Feedback and Publication

The results of this research will be published in thesis format. It may also be available in journal articles or conference material. Upon finalization of the results, an executive summary will be provided to participants. A full copy of the results will also be made available to interested individuals, as well as to the Yukon Archives and Yukon College.

Consent

I have read and understand the above information. I have received a copy of this form. I agree to participate in this study.

Participant's signature: _____ Date: _____

Investigator's signature: _____ Date: _____

Appendix B – Interview Protocol

Wilfrid Laurier University
Interview Protocol

EVALUATING THE YUKON'S REGIONAL LAND USE PLANNING FRAMEWORK AS A TOOL FOR MANAGING CUMULATIVE EFFECTS IN THE KLUANE REGION

BRANDON A. PIKE
Master's Candidate & Principal Investigator
Department of Geography and Environmental Studies, 1.226.748.8119, pike7420@mylaurier.ca

DR. D. SCOTT SLOCOMBE
Advisor & Professor
Department of Geography and Environmental Studies, 1.519.884.0710 x2781, sslocomb@wlu.ca

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Introductory Protocol

To facilitate this research, this interview will be recorded on a digital device. Details regarding confidentiality are outlined in the informed consent form provided. Only the principal investigator and the advisor to this research will have access to the audio files. Interviews will not be transcribed. The informed consent form, in which a signature is required prior to beginning to interview, essentially states the following: 1) anonymity is guaranteed, 2) your participation is voluntary and you retain the right to not answer particular questions should you choose or cease the interview at any time and, 3) this research is not intended to put participants at any risk. Your participation in this interview will take about one hour, during this time a number of questions and/or broader topics relating to the research will be discussed. If time is running short, it may be necessary to interrupt you in order to complete the interview.

Introduction

You are invited to participate in a research study evaluating the Yukon's regional land use planning framework as a governance tool for managing regional landscape change in the Kluane region. The purpose of this study is to:

i. Investigate the feasibility and effectiveness of land use planning as a tool for managing cumulative effects through a literature review of the Yukon context and elsewhere;
ii. Develop a framework for assessing the policy and implementation context for the integrated management of land use planning and cumulative effects assessment;
iii. Apply the framework to the case of land use planning and environmental assessment in Yukon, including the special issues of First Nations participation and capacity in the planning process with respect to governance;

iv. Recommend policy and implementation actions, and identification of general lessons for greater integration of the land use planning and environmental assessment processes in Yukon and elsewhere.

Interview Section A: Land use planning and environmental assessment regimes in the Yukon

1. Please describe your organization's role in relation to EA and LUP.

2. Describe the nature and extent of your involvement in the regional land use planning or environmental assessment processes?

3. Overall, what are your thoughts regarding the effectiveness of land use planning and environmental assessment as separate approaches to environmental management?

4. Under section 12.17.1 of the Umbrella Final Agreement, it is stated than when an application for proposed development is received in a region where an approved land use plan exists, YESAB shall request the respective regional land use planning commission to determine if the proposed development is in conformity with the land use plan or not. Do you feel this relationship between land use planning and environmental assessment in the Yukon is effective and utilized? Why or why not?

Interview Section B: Integration of cumulative effects assessment into land use planning

1. Are you familiar with the concept of cumulative effects? How does the concept of cumulative effects influence your organization's participation in the land use planning and environmental assessment processes in the Yukon?

2. It is often stated in the literature, including the YESAA five-year review, that land use planning is one, if not the most effective management tool for managing cumulative effects at the regional level. Does your organization agree with this sentiment? Why or why not?

3. If not, or not enough, what regional management tools, if any, exist that could more effectively mitigate potential cumulative effects? Do you think that Yukon has the capacity and resources to...

    a. ...establish more rigorous cumulative effects assessment requirements within the existing YESAA framework?

    b. ...delegate the responsibility of cumulative effects management to a third party, such as Environment Canada?

    c. ...establish an entirely separate cumulative effect management regimes, complete with its unique mandate, approaches, processes, evaluation criteria, etc.?

i. In that regard, would more aggressive strategic environmental assessment of government policies, such as land use plans, be more effective?

4. In that regard, is the issue of cumulative effects management solely a territorial issue in the Yukon? Given that regional land use planning is already being undertaken and there exists some consensus regarding its ability to management cumulative effects at the regional level, would the implementation of cumulative effects management via land use planning be feasible in the Yukon with respect to issues surrounding territorial governance, capacity, and resources?

Interview Section C: Recommendations and next-steps

1. In your opinion, what steps would stakeholders and decision-makers be required to make in order to facilitate regional land use planning as a tool for managing cumulative effects in the Yukon? This could take the form of stricter legislation/regulation, improved policy formulation and processes, increased physical and financial resources, more clearly defined goals and objectives, etc.

2. With respect to the Kluane region, what implications does the presence of one unsettled land claim have for conducting land use planning processes? Given the ambiguous definition and application of cumulative effects in environmental management, is it realistic that perceived failure on behalf of government to mitigate potential cumulative effects is also a failure to uphold the intent of the UFA? If so, what implications might this have for the potential of land use planning to mitigate cumulative effects in the region?

3. Without approved land use plans, the relationship between land use planning and environmental assessment processes as outlined in the UFA is essentially undermined. Given the disparity in timelines and progress on both processes, what is required of stakeholders and decision-makers in the meantime in order to facilitate effective cumulative effects management?

4. What does the future of cumulative effects, cumulative effects assessment, and regional land use planning mean to the Yukon as a whole?

Closing Remarks

That concludes the questioning portion of this interview. Before we finish, is there anything you would like to add that was not covered during the questioning, general comments, or concerns?

Thank you for your time.

This concludes the interview.