UNBUILT ENVIRONMENTS:
UNREALIZED GEOGRAPHIES
OF ENERGY AND ENTERPRISE IN THE STIKINE

by

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Abstract

This research examines the environmental history of development megaprojects in the Stikine River watershed in northwest British Columbia. Beginning in the late 1890s, this project analyses a series of infrastructure initiatives that were brought to the Stikine by the state, by entrepreneurs and by multinational corporations. Envisioned roads, railways, hydroelectric dams and mining ventures were never begun, never completed or left abandoned. In order to understand the impacts and outcomes of these projects, I develop the concept of unbuilt environments, a term which signals the environmental and social side-effects of planned but unrealized megaprojects that were conceived as development schemes, lucrative extractive economies or smaller-scale sustainable resource economies. Through an analysis of economies and megaprojects that did not or only partially materialized, this dissertation contributes to an understanding of the historical, geographical and economic development of an understudied area of northern Canada. I examine various phases of development in the region over a one hundred year period and ask what happens when plans go awry? What are the unintended outcomes? And how do the remains of one development process or project influence later schemes? Answers to these questions highlight the conflicts, tensions and contestations that follow the ambitions, calculations, assessments and failures of developers.

I follow six case studies in my analysis of the unbuilt environment in the Stikine. The first two chapters are focused on the growth of economies around human-animal relationships and deal with the incipient development era preceding the Second World War. While not megaprojects, these development economies still left remains and are an important precursor to the modern era of infrastructure development and extractive economies. The discussion then moves to examine a range of cases in time and space ranging from railroad construction to hydroelectric development to mining projects and transmission line construction. To examine the Stikine with an eye to outcomes and side-effects is to raise questions about the particular legacies of development in a peripheral environment where extractive economies have been enormously important and where sustaining them has been difficult.
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Jonathan Wynne Peyton conducted all of the research and writing for this dissertation.

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Chapter One: Introduction – The Stikine Watershed and the Unbuilt Environment

It starts with the river. The Stikine headwaters begin in a glacial trickle in the corner of the Spatsizi plateau, wedged between the Cassiar and Coastal mountains. The area goes by several different names; to the state it is the Spatsizi Plateau Wilderness Park; to many local residents it is the Sacred Headwaters or Klabona; to resource companies it is the Klappan tenure. From its source the river descends 640 kilometres to the Pacific Ocean, picking up power, volume and sediments from the innumerable creeks and tributaries along its winding route. The Stikine watershed covers 52,000 square kilometres of diverse northern landscape from subarctic alpine tundra to coastal rainforest, from jagged mountains and placid volcanoes to flat plateaus that nourish the region’s abundant wildlife. The river is also the focus of human endeavour in the region. It supports 19 species of fish (including all five Pacific salmon species); it remains an important transportation conduit and communications corridor. In so many ways it frames the culture and life of the area (see figure 1.1).

Some contend that the Stikine is actually three rivers. The first section flows clear and shallow through broad valleys where black and grizzly bears, moose, caribou and wolves compete for food and forage. The Stikine is slowly energized by tributaries, including the Spatsizi, Pitman, Klappan, Chicachida, and McBride. After 250 meandering kilometres, the river abruptly becomes a fierce torrent, pinched by the walls of the Grand Canyon of the Stikine, dropping precipitously in elevation in the process. Spawning salmon stop their migrations before hitting the Grand Canyon where the crush of the river becomes overwhelming. Only specially
designed jet boats, a scant few breathless kayakers and surefooted mountain goats have navigated the Canyon. The Tanzilla, Tahltan and Tuya tributaries add force to the river as it continues westward. Just east of Telegraph Creek, the only town on the Stikine and the head of navigation, the angry grasp of the Grand Canyon suddenly widens into a silty track favoured by canoeists looking for something off the beaten path. As it passes through the climatic and cultural barrier of the Coastal Mountains, visitors to the Lower Stikine witness glaciers and alpine summits once described by environmentalist John Muir as “a Yosemite 100 miles long.”1 The Iskut, the Chutine, the Scud, the Porcupine and the Choquette broaden the river in its final stretch before it crosses the international border into Alaska. The Stikine River finally fans into a wide and always changing delta near the small fishing outpost of Wrangell.

The watershed is equally disparate. Broad plateaus to the north were famous as prime hunting grounds, both for recreationists and local indigenous peoples, the Tahltan, the Tlingit and the Kaska. To the south and east, small itinerant seasonal settlements have given way to protected areas that seek to delimit state conservation authority as well as industrial ventures. The same phenomenon characterizes the western watershed, where Alaskan officials have imposed strict guidelines on land and river use. Yet still, the watershed is under immense development pressure from mineral and energy companies. These tensions are not new but they have exacerbated ambivalences in local communities that try to balance the thrill of new economic opportunities with the risk of attendant

environmental harm and social burdens. Tensions are further amplified because the Stikine is geographically marginal, situated in a remote corner of British Columbia and, for much of the twentieth century, was removed from provincial economic, political and cultural currents due to confounding issues of access, infrastructure and investment. Generally, opportunities within industrial capitalist economies were circumscribed and lifeways were partially defined through a set of pre-determined environmental possibilities. This marginality is a marker of distinction for many; it draws entrepreneurs with visions of opportunity and allows residents to maintain a place apart.

Viewed from the metropolitan centre, the Stikine, like many places at the margins, has routinely been identified with the romance and nostalgia of places left behind. The allure of an authentic ‘wilderness,’ the pristine beauty of a rugged, unforgiving landscape, the possibilities of untapped resources and the curious habits of residents have drawn adventurers, prospectors, ethnographers and settlers to the region. From John Muir scrabbling over its glaciers in the 1870s to Edward Hoagland’s journey upriver to meet the “Old Men of Telegraph Creek” in the late 1960s, from Warburton Pike’s ambitious rail and mining schemes at the turn of the century to Royal Dutch Shell’s present attempts to harness coal bed methane concealed underneath the ‘sacred headwaters,’ the Stikine has played host to numerous interlopers all searching for a particular experience or enterprise they felt was embodied in the river and its surrounding plateau.² In this way, the Stikine

has always been a place-in-the-making, constructed by the various discourses and practices brought to it from outside its shifting boundaries.

But how, exactly, was the Stikine ‘made’ in relation to other places? How did the harnessing and exploitation of resources shape both the way the Stikine was developed and the intimate ways it was connected to ‘elsewheres’ across other scales? What was the character of individual, corporate, bureaucratic and state actors in forming the unique relationship between abstract notions of nature and environment and the practical work of mining, conservation, hydro-power development and road-building? How did these differing geographies interact with the cultural understandings held by the original inhabitants of the area?

I present the Stikine as a blend of a biophysical reality shaped in an evolving relationship with human societies and a cultural concept that grows out of a desire to represent, understand and use an out-of-the-way area increasingly open to outside influences. Aside from some contact through prospecting and surveying, the area was mostly unfamiliar to the state until it assumed importance with the discovery of gold in the Yukon in 1896. In the popular reckoning, it has remained in the shadows, a backward region subject to waves of development that followed the vagaries of market forces and historical circumstances. Yet, like any other place, the Stikine is complicated by the process of memory and deeply indebted to the sets of meaning and representation that people use to describe it. Place-making here was a crucial site of political contest and of the production of cultural meaning. The

Gentleman (Poole, Dorset: Gwen Hayball, 1994); Shell Canada, “Klappan Coalbed Methane Project History” 9 Sept. 2008 http://www.shell.ca/home/content/ca-en/about_shell/what_we_do/exploration_production/klappan/klappan_history.htm]
interconnections between the complex concerns of colonialism, ecology and the movements of capital make the Stikine an important site of historical and environmental inquiry. The historical record is rich, but there have been few major academic studies of resource use, ecology and the politics of place in northwest BC. This project fills several gaps. It is a historical geography of the failure of infrastructure development in the Stikine and it aims to make important contributions to the incorporation of questions of place in a broader literature focused on environment. I look at railway projects, conservation schemes, hydro-electric development, mining, and energy transmission to interrogate the altered meanings of nature and place and to understand changes to the relationships among nature, local societies and outside forces.
Figure 1.1 – The Stikine River. All original cartography by Eric Leinberger

The Unbuilt Environment

Visions of a northern landscape punctuated by dams, railroads, transmission lines and mineral projects have inspired industrial entrepreneurs to conceive countless schemes for the extraction, harnessing and transport of goods and energy
from the north. The environments, economies and social lives of northerners have been transformed in the process. But for every successful megaproject, there are dozens that have been left as paper remains, partially completed, or operated only for a short time. These can be conceptualized as unbuilt environment, a term which signals the environmental and social side-effects of planned but unrealized megaprojects that were conceived as development schemes, lucrative extractive economies or smaller-scale sustainable resource economies. This term was originally coined by Kathryn Oberdeck to interrogate the planning histories of the company town of Kohler, Wisconsin.\(^3\) Her study highlights the lost opportunities attached to particular visions of community development. Planning history here is necessarily discursive: the polyvalent histories are evident only in their intangible, archival presence. Although these planned spaces never materialized, Oberdeck claims their two-dimensional archival presence can illuminate a collective imagination of what might have been. My aim is to push Oberdeck’s central idea further. I develop the unbuilt environment concept to interrogate the social meaning and environmental effects of failure in the Stikine watershed.

Unbuilt environments can be recovered through archival evidence, material remains and a careful appraisal of both altered perspectives of nature and the shifting boundaries of human-nature relationships. Most scholars focus on the projects that have been built; however, we need to look again at those projects that have been put aside, rejected, and cancelled. By doing so, we gain a deeper

understanding of the relationship between development ideas, nature and the north in Canada. Unrealized projects produce lasting effects on the society and economy of the north, on regional ecologies and on the infrastructures connecting north and south. Through an analysis of extractive economies and megaprojects that did not or only partially materialized, this dissertation contributes to an understanding of the historical, geographical and economic development of an understudied area of northern Canada. On a broader scale, I contribute to the re-evaluation of nature and the built environment by putting forth a programme to study the planning and debate about, as well as the scientific engagement with, northern geographies. By doing so, I hope to understand better how the material and discursive side-effects of unbuilt environments have altered the ways that newcomers and residents know nature in the Stikine. In many ways the Stikine’s present economies, environments and social relations are influenced by the legacy of unbuilt or incomplete infrastructure megaproject dreams brought to the area in the name of progress, improvement and industrial profit. Megaprojects were brought to the region in the second half of the twentieth century. The first two chapters, which are focused on the growth of economies around human-animal relationships, deal with the incipient development era preceding the Second World War. While not megaprojects, these development economies still left remains and are an important precursor to the modern era of infrastructure development and extractive economies. In this dissertation, I examine various phases of development in the region over a one hundred year period and ask what happens when plans go awry? What are the unintended outcomes? And how do the remains of one development
process or project influence later schemes? Answers to these questions highlight the conflicts, tensions and contestations that follow the ambitions, calculations, assessments and failures of developers.

In pushing Oberdeck’s original ideas further and developing my own conceptualization of the unbuilt environment I draw on a number of larger frameworks, though I also differ from these analyses in marked ways. It is useful to distinguish my use of unbuilt environment from related frameworks. There is a large economic historical literature on the state and northern development in Canada that emphasizes the historical particularities of individual development episodes and the uneven geographical development that follows the resource cycle of boom and bust. In general, this literature highlights the economic exposure of northern resources peripheries to the changing patterns and processes of supply and demand in southern metropolitan economies and the role of the state and corporations in framing development decisions. While the unbuilt environment idea broadly parallels these concerns, it focuses less on regional economic development than on phases of transportation infrastructure development, energy and mining – cases which in the Stikine do not represent uneven development so much as un realized corporate and state projects.

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Other economic historians have mobilized the notion of path dependence in discussions of development at the margins. The path dependence framework suggests that development is circumscribed by previous decisions that structure and limit path possibilities. The concept is useful for thinking about how the artifacts and material traces of previous development regimes influence the next iteration of development.\(^5\) The unbuilt environment concept borrows from the iterative notion at the center of this historical analysis. However, the concept examines the possibilities and potentials that follow from consecutive efforts to develop the Stikine instead of focusing on dependencies that may or may not be created by those same development efforts. By focusing on the expertise, knowledge and management brought to and generated in the Stikine, unbuilt environments broadens the claims of the path dependence framework to suggest the need for focus on the capacities that are created by failed schemes. “Material traces,” a term employed by William Turkel to show how people read the past in historical landscapes through artifacts, does much of the same work, providing a way to read the environment as an archive of historical change.\(^6\) Unbuilt environment widens this analytical framework to include a study of the discourses that can be tracked from the things left behind unsuccessful development efforts.


I employ the unbuilt environment concept to examine a range of cases in time and space in case studies ranging from hunting and conservation to railroad construction to hydro-electric development and mining projects. These points of focus are in many ways distinct from one another. Nevertheless they share a history of incompleteness, partial completion or abandonment. The unbuilt environment concept thus provides a way to think about how the processes of unfulfilled development schemes bear effects. There are no doubt other ways to approach the historical geography of the Stikine. For example, a serious examination of the historical geography of settlement and resettlement of the region awaits its author. Nevertheless the pattern of development in the Stikine suggests the importance of the present focus. In this region, development projects have been often unrealized, partially built or operated within relatively short time-horizons. Because the historical geography in the Stikine has exemplified constrained ambitions and frustrated developments, side-effects and outcomes take on additional importance in a study of social relations and the environment. To examine the Stikine with an eye to outcomes and side-effects is to raise questions about the particular legacies of development in a peripheral environment where extractive economies have been enormously important and where sustaining them has been difficult. The unbuilt environments idea is thus not a predictive theory or a literal description, it is a suggestive concept that offers a different angle of vision on economic development and its social and environmental effects. My goal is to develop a useful and non-reductive heuristic device for thinking about what happens in the aftermath of development.
It is worth underlining that the word unbuilt is not synonymous with failure. Not all of these projects I examine failed in the conventional sense. Some experienced periods of industrial and economic success before their ultimate collapse. Nor should unbuilt be confused with artificial. Unbuilt is meant to embody the rich legacy of human-environment interactions in the Stikine in the twentieth century. Most crucially, I insist that the term unbuilt is not meant to signify any indication of absence of Tahltan social, cultural or economic presence throughout the Stikine watershed. Unbuilt should not be taken to suggest a blank space. Any mobilization of this research to suggest that the Tahltan did not occupy and use the land and resources of the Stikine watershed is disingenuous and wrong. The term unbuilt allows the analytical focus to be maintained on the conditions of possibility that emerge from each development scheme. I focus equally on the technical and scientific data produced to justify resource development as on the altered perceptions of the environment that result from the interactions among newcomers, Stikine residents and the natural world that holds the resources at the heart of the ambitious development dreams.

Environment, History and Politics

The chief analytical contribution of this dissertation is the development of the concept of ‘unbuilt environments’. An examination of the unbuilt environment in the Stikine contains two equally important objects of analysis. I pay close attention to the discursive effects of megaproject and infrastructure development in the Stikine by showing how interested parties engaged with and invoked the river and the natural environment as they debated the terms of progress and industrial
improvement. I focus equally on the material traces left by the work on the ground such as road construction, transmission lines and the knock-on effects of rapidly accelerating scientific engagement. My notion of unbuilt environments contends that the discourse around development not only changed environmental perception in the Stikine but also impacted the physical environment by increasing human, scientific and technological engagement in the region.

In framing the analysis around the concept of unbuilt environments, I have been influenced by broadly related literatures in environmental history, geography and political ecology that aim to understand the impacts, interactions and modes of resistance between peoples and the natural environment they inhabit and use. Additionally, I borrow from narrative strategies of some recent ethnographic literature to reframe these relationships as they change through the inputs of inhabitants, tourists, advocates, corporations, bureaucrats, scientists and engineers, lobbyists and entrepreneurs.

Much of the following work deals explicitly with emerging energy geographies, especially those tied to the mining sector and its intended transportation infrastructure. However, a differing mode of energy, embodied in animals and human endeavour, also plays a central role in the analysis of the unbuilt environment, primarily in early chapters when the industrial capacity of modernity could less effectively administer to the subsistence needs of northerners. Movement and mobility are also primary concerns. I follow the movements of energy, of goods and services, of capital and infrastructure ambitions, of environmental dislocations and of people and animals across the landscape in the Stikine. Additionally, in some cases I
am able to follow the movements of these things to places and centres outside the Stikine. Usually, the Stikine materializes as a place and as an administrative concept in governmental circles in Victoria and Ottawa. Often, particularly in later chapters, the Stikine is present in the work of government-sponsored though still private engineering, geological and techno-scientific enterprises. Throughout, private interests are concerned with movements within, and outside of, the Stikine.

This raises questions of scale. The unbuilt environment analysis is framed within the somewhat arbitrary confines of the Stikine watershed. The watershed can be defined as a distinctive geographical location according to biophysical realities of place and environment but it is far more difficult to capture a self-contained cultural, social or economic reality within its boundaries. The watershed functions as a convenient indication of difference. *Unbuilt Environments* is a study of environmental change in a particular region of northern Canada. In some respects, I follow a long tradition in North American geographical scholarship that seeks to represent a place through fine-grained analysis of its salient features. This method of regional analysis in historical geography has fallen out of favour in recent decades, but, in Canada, it has been supplemented by a new body of scholarship in environmental history which incorporates new analytical techniques to complicate the natural histories of particular regions. A new interpretation of material history looms large in this work.7

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Scale is theorized in various ways in these works but it is always an analytical object of concern. Study and area boundaries are developed in different ways but this new group of regional environmental scholars promotes the view that a place is continually remade, contested and negotiated. These negotiations render the traditional metrics of geographical inquiry – scale, nature, landscape, environment, place – into malleable concepts acquiescent to history, politics and environmental dislocation. Places such as the Stikine – much like Bill Turkel’s Chilcotin or Claire Campbell’s Georgian Bay – are perpetually reimagined as historically contingent but ultimately new places formed and reformed.

Further, when places are reimagined, material changes follow. I draw inspiration here from a broad cross-disciplinary literature grouped under the banner of political ecology that analyses “local conflicts over access to resources that originate with colonialism and the expansion of global capital.”\footnote{Arn Keeling and John Sandlos, “Environmental Justice Goes Underground? Historical Notes from Canada’s Northern Mining Frontier” \textit{Environmental Justice} 2.3 (2009), 117-125.} The major themes of political ecology are useful for dealing with questions of resource politics. Although political ecological work is diverse and varied, it generally focuses on problems of access to and conflict over resources, corresponding issues of marginalization and degradation, the multiscalar economic and social contexts of environmental conflict, the connections between environmental production and consumption, the place of the state in conservation and management, the authoritative role of science, notions of environmental identity and environmental

justice and their intimate connections to social movements. Political ecology has forged important analytical connections to post-colonial literatures and to the environmental justice movement more generally. Work in this field provides an ambitious outline for work on environmental change and conflict.

Given their analytical and normative concern with the negative legacies of colonialism, political ecologists were originally focused on social and environmental inequities in “Third World” countries where unequal economic and social relations were inured. There is some commonality between political ecology and literature on improvement and the push to progress that might be grouped together as critical development studies. Much of this work treats the ‘friction’ of post-colonial interaction. As conceived by Anna Tsing, friction enrolls the messy, unrelenting dynamism of power, knowledge and hegemonic arrangements and exhibits these in

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the distance between the state, its subjects and a historicized nature.\textsuperscript{12} These analyses of development in action show the compromises and contestations that often undermine the benevolent intentions of those international practitioners who would improve the lives and lifeways of those in the global south. Development is not taken as a pre-determined analytical construct but rather as an object of inquiry. Places are unbounded, fragmentary and fluid. The multiple meanings accrued to nature within this loose structure are further complicated as objects of new emerging power relations. The most compelling work, like that of Tania Li, shows that the “will to improve” has a long history and often functions as a project of rule while simultaneously working to build infrastructure, human capital and economic capacities.\textsuperscript{13} All of these works engage directly with the state as an agent and arbiter of power. In \textit{Unbuilt Environments}, I invoke the state to analyse a complex of agencies, institutions, government ministries and crown corporations (and the people that worked for them) that sought to develop and mobilize the resources of the Stikine and that, as a result, governed possibilities for the improvement of the area.

For some commentators, this long history is conceived of as a “sedimented history” that incorporates both the “geographical imaginations” of newcomers as they visit and return to a region but also as a “natural history” that exists in landscape formations and the changing ecologies of rivers, people and animals. Hugh Raffles writes this layered “natural history” which he sees as an “articulation of natures and histories that works across and against spatial and temporal scale to bring people,

\textsuperscript{13} Tania Li, \textit{The Will to Improve: Governmentality, Development and the Practice of Politics} (Chapel Hill, NC: Duke University Press, 2007).
places, and the non-human into ‘our space’ of the present. This is less a history of
nature than a way of writing the present as a condensation of multiple natures and
their differences.”

Over the last hundred years, as we will see, the idea and practice of
development has worked as an important concept and reality in the Stikine.
Results have been decidedly mixed, both for inhabitants and the development dreams.
Through six case studies, I touch on the multiple natures evident in the Stikine during
a long twentieth century of contest and conflict over resources.

Political ecology destabilizes bounded notions of place but it is always
indebted to specific geographies of difference. It is usually situated in ‘Third World’
geographies: Anna Tsing writes about the rainforest of Sarawak, Tania Li about the
Central Highlands of Sulawesi, Hugh Raffles about the northern Amazon River Basin
to name a few. But over the last decade there has been a concerted effort to bring
the analytical mandate of political ecology to the ‘First World,’ in particular, to focus
on the environmental dislocations experienced by marginalized peoples and spaces
in more industrialized societies.

Canadian scholars have been less explicit with

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14 Hugh Raffles, In Amazonia: A Natural History (Princeton, NJ: Princeton University
15 For example, James McCarthy, “First World Political Ecology: Lessons From the
Prudham, Poisoning the Well: Neo-liberalism and the Contamination of Municipal
Water in Walkerton, Ontario” Geoforum 35 (2004), 343-359; Bruce Braun, The
Intemperate Rainforest: Nature, Culture and Power on Canada’s West Coast
(Minneapolis: University of Minnesota Press, 2002). Much of this material is
concerned with neoliberalism and governmentality. See the contents of Nik Heynen,
James McCarthy, Scott Prudham and Paul Robbins (eds.), Neoliberal Environments: False Promises and Unnatural Consequences (London and New York: Routledge,
2007).
these connections. However, a recent programmatic statement about the potential for a historical political ecology in Canada suggests possibilities:

As with many commercial colonies in the Third World, the designation of the [Northern Canada] region as an industrial resource frontier fostered rapid economic and environmental change that, historically, provided few benefits for the region’s aboriginal inhabitants. Understood from a political ecology perspective, the landscapes produced by industrial development in the North—resource towns, transportation networks, and disturbed local environments—became material expressions of the power and priorities of southern Canadian institutions, technologies, and ideologies.\(^\text{17}\)

I aim to import this sensibility to my analysis of environment and resource conflict in the Stikine while being mindful of the multiplicity of natures, porous boundaries and human histories of use and industrial enterprise. Nature in the Stikine is historical and political and I borrow from the potential for a historical political ecology to represent the history of human-environment relations since the late 1890s.\(^\text{18}\)

Arn Keeling has begun the work of bringing the concerns of political ecology and environmental history literature to an analysis of development in the Canadian north. Keeling explores the environmental changes that follow the pattern of

\(^{16}\) For a prominent Canadian example, see Keeling and Sandlos, “Environmental Justice Goes Underground”. As Keeling and Sandlos note, the work of Caroline Desbiens may be an important exception to this trend. See, in particular, Caroline Desbiens, “Producing North and South: A Political Geography of Hydro Development in Quebec,” \textit{The Canadian Geographer} 48 (2004), 101–118.


“cyclonic development” at Uranium City in northern Saskatchewan. In this case, as in the Stikine, state-led efforts to transplant a landscape of industrial modernity and open the north led first to problems of path dependency and ultimately to the breakdown of uranium production in the region. Keeling draws on a large historical literature on northern development in Canada that places the ‘staples’ resource economy at the heart of environmental change. The wild, frenetic swings in resource economies, particularly mining, can be explained by the cyclonic development patterns that push industrial enterprise into peripheral regions without much concern for economic dislocation, social deprivation or environmental degradation. Development in this sense is myopic and has consequences far beyond the immediate burdens and possibilities on the move at the resource frontier. Moreover, the storm at the centre of industrial development exposes peripheries to international market fluctuations and the shifting conditions of state and corporate institutions. This framework is helpful in the elaboration of the unbuilt environment concept, especially in thinking about the many effects of extractive economies and their long histories in the Canadian north. However, while focusing on ‘staples’ economies, the concept takes a longer-term view of development. Further, it shows the contingencies that connect one failed development project to both the next proposed development possibility and to preceding schemes.

Ambition underpins development dreams. In the Stikine, the notion that ambitions have been mostly frustrated has been reinforced by popular commentators looking for a narrative hook and embraced by developers eager to imply that their projects would be the one to turn the tide of progress. Yet these dreams remained unfulfilled. There is an emerging literature on ‘failure’ that can offer some insights into unrealized development aspirations. Failure is perhaps a flawed term to employ to characterize this work. The cases under consideration are never about a failure of imagination, but rather, about breakdowns and disjunctures in execution. Following scholars at the leading edge of this research at the intersection of innovation, enterprise and failure, I want to ask questions about how failures influence the growth of geographical knowledge.21 This is crucial for the Stikine, where industrial, scientific and state-sponsored professionals, eager to accumulate and disseminate knowledge, entered the region alongside and as part of the failed development schemes that form the case studies of this project.

Research that questions the social meaning of failure is prominent in three overlapping areas: the history of technology, urban and planning studies, and design and architectural history.22 The explanatory notion of ‘unbuilt’ has been recently

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prominent in urban histories, with (failed) planning assessments of Toronto, Houston, Detroit, Venice and Edinburgh as well as a recent exhibit of unbuilt plans for Washington D.C. at the National Building Museum. These studies reflect a desire to understand the built environment of modern cities through excavations of imagined alternative cities that might have been constructed under different conditions. They should also be seen as part of a wider interest in the built environment, or the study of the interactions between people, buildings and infrastructures that comprise urban settings. Architects, landscape architects, urban planners and historians working in these fields examine the design, management and use of human-made structures and the urban social, economic and environmental contexts that follow.

Generally, in my work, this literature is of secondary analytical concern, although I aim to combine an environmental focus with its more explicitly social exploration of failure. Here, several works that combine development studies with interrogations of failed initiatives yield some crucial insights. In Seeing Like a State, James Scott’s instrumental study of high-modernist planning failure and state enterprise, large-scale projects are unsuccessful because they fail to recognize local

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knowledge.\textsuperscript{25} For James Ferguson, writing about the work of non-governmental aid organizations in Lesotho, the side effects and repercussions of failure were key. Ferguson’s critique shows how expertise is reified through development projects and how the effects produced by development initiatives perform the work of strengthening, even in failure, the presence of the state in far-flung regions.\textsuperscript{26}

Similarly, for Matthew Schnurr, the imposition of cotton production on pastoral peoples in South Africa showed the continuities between failed colonial geographies of land use and post-independence conceptions of proper agricultural practices.\textsuperscript{27} For both, the failure of development programmes did not coincide with a failure of governance. In fact, failure reinforced state incursions and population management techniques that followed from the reorganization of land use regimes. I consider similar problems in the Stikine by asking what was leftover, on the land and in the minds of inhabitants, after development dreams faded. However, my focus is not on failure or the reasons it occurred, but rather, I focus on the aftermath of failure to trace how the effects of the development enterprise persist following efforts to improve the environment as well as the people living in it.

The conceptual outlines traced above – historical political ecology, unbuilt environments, failure, environmental assessment – are applied through a series of empirical case studies that should also be seen within particular contexts in the literature. To varying degrees, the chapters engage with a relatively new literature


on megaprojects, super-sized development projects measured by the scale of investment, construction time, and human endeavour. Joy Parr’s work is the most prominent Canadian example to use this terminology but work on large-scale infrastructure and engineering projects has long been a conspicuous concern of scholars in Canada and elsewhere. Work on megaprojects overlaps with an expansive literature on mining and resource economies and is often implicated in emerging energy geographies, particularly in northern regions. In many cases, transportation, communication and service delivery megaprojects are prerequisites for development schemes. In places like the Stikine, development cannot occur without the infrastructure that is often taken for granted in metropolitan contexts. It was this simple fact that inspired the improvement goals of succeeding entrepreneurs, engineers and bureaucrats at work in northwest BC.

Having outlined the conceptual apparatus of this dissertation and pointed to the literatures that motivate my analysis, it is well to turn briefly to some potential limitations of the unbuilt environment idea. First, there may be perceived


limitations within the conceptualization itself. There are real questions about how portable it is. Can the unbuilt environment idea be applied elsewhere, particularly across other northern landscapes where development is often elusive? There is a danger that the concept becomes so broad as to encompass everything that was dreamed or planned but failed. If it becomes too broad, it loses some of its analytical purchase, ironing out particularities that make these case studies compelling.

This point about the danger of ubiquity leads to a second potential limitation. In using the unbuilt environment I must be careful to avoid an overemphasis or even an over-determination of failure. My hope is to emphasize the process of development and its side effects. The study of process effectively makes the distinction between failure and success somewhat trivial. At a basic level, failure is another person’s success and the outcomes of the cases under consideration reveal elements of this simple binary. However, I maintain that the stories I tell about the use of nature in the Stikine are far too complex to be rendered finite. Indeed, part of the point is that they bleed into each other and leave traces in the historical imagination of the region, which can be read in the projects that follow. Failure and success do much of the same work – they both require the entanglements of similar processes – scientists and surveyors still come north to enumerate, bureaucrats still project ideal scenarios, locals, advocates and opponents still mobilize debate and opinion on matters of development and the environment is still the object of transformation.

There are possible limitations connected to the historical method, particularly when considering the partial, restricted and exclusive nature of the
sources available. A study grounded more directly in ethnographic methods would certainly have yielded different insights in many chapters, especially the more contemporary cases. However, because my study is focused on the ideas and institutions that outsiders brought to the Stikine, I chose to engage directly with the source materials generated and collected by those outsiders. Furthermore, these sources are held within university and provincial archives, sites that signal their own architecture of power and their own politics of memory. The sources available allowed me to focus on the forces and impacts brought to the Stikine by entrepreneurs, interlopers, the state in its many guises and by corporate entities.

There are slippages that emerge out of this approach – I try to impede them when I am able to access and assess local perspectives. In a sense, these slippages/silences, when they exist, speak to the power and persistence of the unbuilt environment and encourage reflection on problems of marginality and scale in historical geographical analyses. Marginality in this sense is as much a geographical phenomenon, resulting from the conditioned spatial separation of the Stikine from the metropolitan centres of power, as it is a result of the particular economic, social and cultural dislocations faced by residents in the Stikine.

30 There is a very large literature at the intersection of archives, the state, power and memory. The work of Ann Laura Stoler is critical. See, Ann Laura Stoler, Carnal Knowledge and Imperial Power: Race and the Intimate in Colonial Rule (Berkeley: University of California Press, 2002), and, Ann Laura Stoler, Along the Archival Grain: Epistemic Anxieties and Colonial Common Sense (Princeton: Princeton University Press, 2010). See also two special issues edited by Joan Schwartz and Terry Cook of Archival Science that explore the theme of “archives, records, power.” Joan Schwartz and Terry Cook, eds. “Special Issue on Archives, Records, Power” Archival Science 2.1-2, 3-4 (2002), 1-358.
An archival approach has limits but is irreplaceable and can importantly inform related but different work in ethnography that does not appeal to textual or archival evidence to the same extent. Indeed, ethnographers have often collected histories as a way of reconstructing and recirculating storied environments. Much of this work has been essential in showing how First Nations in Canada and Indigenous Peoples across the colonial world have been constructed through weighted terms like marginality, both geographical and cultural. Marginality becomes a narrative text to position Indigenous Peoples as outside, inferior, strange or absent. The shifting and unstable terrain of the term marginality requires focused attention so as not to reify the very categorization (of absence, of inferiority, etc.) that I argue against.31

**People and Place**

The Stikine watershed is the ancestral homeland of the Tahltan, Athapaskan-speaking peoples who have lived and used the watershed “since time immemorial,” a term adopted by many First Nations to invoke the uncertain breadth of pre-contact history in British Columbia, beyond the reach of conventional memory. Early ethnographers described the Tahltan as a semi-nomadic hunting and fishing people, travelling between temporary settlements as the pursuit of resources and subsistence dictated. Tahltan families would gather in the summer near the Stikine

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to fish, feast and trade with neighbouring groups: the Tlingit to the west, the Kaska and Carrier-Sekani peoples to the east and south. Animosity, periodically resulting in conflict, characterized relations with the Taku Tlingit to the north and the Nisga’a to the south. Relationships were fluid and borders overlapped. Summer abundance gave way to fall and winter privations where small family units would disperse to hunt on the plateaus and grasslands above the river. Allegiance to these family groups, divided broadly into Wolf and Raven/Crow phratries, determined who had the right to hunt, fish and live in what area of the watershed.32

In general, Tahltan ethnographers suggest that the first contacts with Europeans in the vicinity of the Stikine were with Russian traders in 1799, although British explorers James Cook and George Vancouver and French explorer Jean-Francois de La Pérouse all sailed near the mouth of the river before the close of the

eighteenth century.\textsuperscript{33} The Russians founded a trading post on the site of present-day Wrangell in the 1830s, which was beset by a series of closures, hardships and territorial disputes over the following decades. Uncertainty around property and ownership continued until the border was firmly settled in 1903. But it was not only newcomers who quarreled over ownership. The Stikine Tlingit were important trading partners of the Tahltna but periodic wars over territory and river-related resources also characterized their inter-tribal histories. Interestingly, Tahltna scholar Candis Callison notes that the official Canada-US border roughly calibrates to the non-state border established between the Tahltna and the Tlingit of southeast Alaska.\textsuperscript{34}

Further inland, contact was less frequent though trade also facilitated it. The Tahltna often acted as intermediaries between European traders and their neighbours. In 1838, Robert Campbell, an agent of the Hudson’s Bay Company, met a group of Tahltna at present day Telegraph Creek. The HBC wanted to set up a post on the Stikine and the Tahltna brokered a deal between Campbell and the Tlingit who were also present at the meeting.\textsuperscript{35} Fearing for his safety, Campbell soon left Tahltna territory. As a result, a full-time HBC post was not established until gold was discovered on the banks of the Lower Stikine in 1861. Another small rush ensued in 1874 when gold was discovered near Dease Lake. Drawn by potential riches, for the first time, a small population of non-Tahltna newcomers lived year-

\begin{itemize}
\item \textsuperscript{34} Candis L. Callison, \textit{A Digital Assemblage: Diagramming the Social Realities of the Stikine River Watershed}, M.A. Thesis, MIT, 2002, 36.
\item \textsuperscript{35} Albright, \textit{Tahltna Ethnoarchaeology}, 15-16.
\end{itemize}
round in the Stikine watershed.\textsuperscript{36} Representatives of state and church institutions would follow during these years, and merchants arrived to supply the material needs of itinerant miners, overburdened bureaucrats, missionaries and, increasingly, the Tahltan themselves.

Traditional trading networks were frayed by the influx of goods and new markets around manufactured goods. More permanent villages were established around trading posts. The introduction of new diseases caused great hardships and deepened the cultural dislocation that emerged out of the new trade relationships. Smallpox in 1832, another outbreak in 1847-49, typhus in 1918-1919, measles in 1920 and several outbreaks in the 1940s, reduced populations and harmed Tahltan economic, cultural and social stability.\textsuperscript{37} The entry of miners and goods also brought new techniques of opening up the watershed. Steamboat service began in the 1860s and lasted, in one form or another, until 1969 when floatplanes and helicopters finally displaced river traffic as the primary means of delivery.\textsuperscript{38} Modern communication technology also left its mark. The Western Union Telegraph Co. failed in its attempt to lay a cable from San Francisco to Moscow, over land across western North America, across the Bering Strait and through Siberia.


Engineers working on the Collins Overland Telegraph, as the project was known, raced to be the first to lay cable across the Pacific Ocean. The bold project was abandoned after a competing company outdid them by laying an underwater cable between Newfoundland and Ireland, but the episode did give the only settlement on the river its unique name when they left several hundred tonnes of telegraph cable on the banks at what is now Telegraph Creek. Another gold rush, far beyond the borders of the Stikine in the Yukon Territory, inspired the successful construction of another ambitious telegraph scheme. The Yukon Telegraph, completed in the early years of the twentieth century, ran through the Stikine until it was closed before the Second World War. All of these events, just like more recent moments discussed in the following chapters, reconfigured Tahltan social relationships, ushered in new economic opportunities and inaugurated competing notions of land use and resources.

A small body of scholarship has drawn broad outlines of the physical geography of the region. George Mercer Dawson of the Geological Survey of Canada catalogued the resources and described the topography of the region when he passed through in the late 1880s while on his trek across northern Canada. A small body of scholarship has drawn broad outlines of the physical geography of the region. George Mercer Dawson of the Geological Survey of Canada catalogued the resources and described the topography of the region when he passed through in the late 1880s while on his trek across northern Canada. A

small army of state-affiliated surveyors and geologists followed in subsequent decades. They would fill in the geological blanks, estimate potential resource value and finish re-naming the landscape. For example, one of these men, Forrest Kerr, surveyed for several summers in the 1920s and 1940s throughout the area between the Stikine and Iskut Rivers. His name now adorns the major run-of-river hydro project in the area but his efforts were equally notable for the resource catalogue, geological archive and maps that emerged from his work.42

But the greatest contribution to knowledge about the Stikine has come from a body of popular writing by locals and visitors. Much of this deals with exploration and travel and is mostly of a general character. There are narrative accounts of steamboat voyages up the river.43 There are some published diaries from Hudson's Bay Co. personnel sent to examine the economic potential of the region.44 There is a sizable contemporary literature on the early years of the hunting industry.45 Most of

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Jason Grek Martin, “Making Settler Space: George Dawson, the Geological Survey of Canada and the Colonization of the Canadian West in the Late 19th Century” PhD Dissertation, Queen’s University, 2009, especially pages 136-153.
45 J. R. Bradley, Hunting big game in far northwestern British Columbia (New York, Mail and Express Job Print), 1904.; Daniel J. Singer, Big game fields of America, North
this is aimed at popular audiences and combines the education and entertainment of
the greenhorn with a desire to show the author's expertise and acumen.

Ethnographic material is mainly from James Teit though there is other
contemporary material from George Emmons and John Swanton and some more
recent work of merit. Additionally, there are useful secondary materials on the
gold rushes and on the activities associated with the Yukon Telegraph. Two
popular but very useful travelogues stemmed from mid-century voyages, one
designed to remove a social misfit from his metropolitan malaise and another to
retrace the steps of one of the first explorers. Together they provide keen insights

and South (London: Hodder and Stoughton, 1916); Frantz Rosenberg, Big Game
Shooting in British Columbia (London: Hopkinson & Co., 1928); A. Bryan Williams,
Game Trails of British Columbia. (London: John Murray, 1925); Charles Alsopp
Hindlip, 3rd Baron. “Hunting in British Columbia,” In Travel and Exploration, Vol 1,
No. 3, (March 1909), 177-187; R. R. M. Carpenter, Game trails from Alaska to Africa
([New York ?]: R.R.M. Carpenter, c1938); Warburton Pike, Through the Subarctic
Forest (Orig. Pub. 1896, reprinted NY; Arno Press, 1967.)

Teit, 1906, 1909, 1912, 1915, 1917, 1921, 1956 (see footnote 4); George Emmons,
The Tahlitan Indians, 1911; Georgiana Ball, ”Medicinal leaves of the Tahlitans” Alaska

Burnaby, B.C.: Simon Fraser University, Dept. of Archaeology, 1984. Bruce B.
MacLachlan, ”Notes on Some Tahlitan Oral Literature,” Anthropologica, No. 4, 1957,
p. 1-9; Judy Thompson, Recording Their Story: James Teit and the Tahlitan (Seattle:

Clarence Andrews, Wrangell and the Gold of the Cassiar (Seattle: Luke Tinker,
1937); Hamlin Garland, Trail of the Goldseekers (New York: MacMillan, 1899);
Norman Lee, Klondike Cattle Drive: The journal of Norman Lee (Vancouver: Mitchell
Press, 1960); W. D. MacBride, ”From Montana to the Klondyke,” Caribou and
Northwest Digest 7 (April 1951) 8-9, 16a-19 & (May 1951), 6-9, 19-28 & (June
1951), 20-35; Richard Landry, ”Telegraph Trail,” Alaska Vol 35 no. 11, Nov 1969
and Vol 36 No. 1, Jan 1970; Guy Lawrence, Forty Years on the Yukon Telegraph
(Vancouver: Mitchell Press, 1965); Larry Pynn, The Forgotten Trail: One Man’s
Adventures on the Canadian Route to the Klondike (Toronto: Doubleday Canada

Edward Hoagland, Notes from the Century Before (New York: Ballantine Books,
1972);
into an area being rapidly transformed by the influx of mining interests and resource exploration. There is quite a range of material detailing the BC Hydro bid to dam the river. More recent journalistic materials have brought contemporary mining economies and resources politics to a larger public audience. Lastly, there is a very small academic literature that deals with the area. Ian Jackson has examined the early boundary questions, Georgiana Ball has looked at policing matters and, more recently, Tina Loo has dealt with a particular moment in the hunting and conservation movement. There are a number of theses on the area concerning initial resource development, dams and environmentalism, early


colonial trade conflicts and demographics and settlement patterns. More recent graduate work on mining assessments, ethnographies of hunting and, especially, on “mapping social realities” in the Stikine have furthered material knowledge and broadened the conceptual apparatus brought to the watershed. This body of work is invaluable as secondary contextual material but the Stikine still awaits a full scholarly treatment.

Much of the popular literature trades on the rhetorical use of ‘failure’ and ‘marginality’ that are often tied to problems with and prospects for development. Visitors to the region have a tendency, much like American journalist Joel Connelly, to describe the Stikine as “a land of big dreams, and at times, big failure.” Equally, many locals employ the same trope to explain the Stikine as a place apart. In a much-cited popular periodical from the late 1970s, we learn that,


The story of the Stikine has essentially been one of false hopes and would-be developments... of railway lines not quite constructed; grand telegraph proposals that failed (and one that succeeded if only for a few decades); gold mines that petered out; copper and coal deposits that defied development... and on and on.55

This claim of frustrated progress was based on myriad similar assertions from previous writers trying to describe why the Stikine was different. It would be repeated over the next thirty years thus consolidating ‘the story of the Stikine’ as a self-consciously failed landscape removed from modern standards of industrial progress. It is my intention in this dissertation to take these claims of failure seriously, to see what emerges from unsuccessful development projects and unrealized infrastructure programs, and to ask questions about the perceived detritus of resource use and environmental manipulation in a marginal area.

Stikine Outlines

I begin with a discussion of the place of the Stikine in the Klondike Gold Rush in the last years of the nineteenth century. With the discovery of gold in the creeks near Dawson City in the Yukon Territory in the summer of 1896, thousands went north in anticipation of striking it rich. Most travelled through southwest Alaska, over the White or Chilkoot Passes, north through Carcross and Whitehorse where they met the Yukon River which took them an additional 550 kilometres to Dawson. Travellers of better means sailed around Alaska and boarded sternwheelers at the mouth of the Yukon River for the journey south. Some novice miners, buoyed by the claims of promoters who promised a swift voyage of relative comfort, chose a route that led up the Stikine River to Glenora and then north through Teslin and the Yukon River

This was an ‘all-Canadian’ circuit that appealed to the imperial sensibilities of British and Canadian prospectors, avoided the onerous tariff burden at border crossings and, many suggested, was an easier journey than the American alternatives. Five thousand miners wintered along the banks of the Stikine in 1897-98; many thousands more travelled through the watershed on their way north.

This was the first major incursion of modernity into the Stikine; an unprecedented influx of people and money passed through the Stikine and a new state authority was established. Inevitably, vestiges were left behind and incorporated by locals through the many new interactions that took place post-Klondike. I take the events of the Klondike gold rush to analyse two related moments in the Stikine. I consider how the arrival of miners, their capital, goods and ideas affected interactions with nature. They burnt wood, used it for construction purposes, managed the river as a transportation conduit and dug into the earth in search of mineral wealth. Above all, they consumed animals and fish to sustain the physical exertions required to propel themselves northward. Following from this, my first aim is to question how human-animal relations were altered in this period. In the process, I consider how animal interactions with the Tahltan were altered as well. The human-environment interface was further impacted by an attempt to build a railroad between the Stikine River and Teslin Lake to facilitate the movement of goods and people. The story of the railroad construction scheme and its ecological effects form the second part of the chapter.

56 For an argument that suggests that European modernity the lifeways of northern Indigenous peoples were not mutually exclusive, see, Cruikshank, Do Glaciers Listen?, in particular, Chapter 2, “Constructing Life Stories: Glaciers as Social Spaces,”
I renew the focus on human-animal relationship in Chapter Three with an examination of the bourgeoning big-game hunting and guiding industry in the Stikine and the concurrent development of a state-led conservation initiative across the province. The analytical focus is on the pliable phenomenon of consumption and on the alterations to consumption practices enacted under the rubric of conservation. Beginning in the decades after the Klondike gold rush, this new conservation regime sought to manage hunting practices and protect game resources. Conservation initiatives changed the subsistence practices of indigenous peoples in BC at the same time as the big game hunting industry created new economic opportunities as guides, cooks, horse wranglers and general outfitters. In the Stikine, I argue, animal bodies attained more than a caloric or cosmological significance. As the hunting industry grew animals were also consumed within an aesthetic and ideological framework that allowed big game hunters to mediate the relationship between humans and animals and promote radical changes to other ways of knowing animals and the space in which they lived.

Big game hunting became the principal industry in the Stikine for the first half of the last century and it was tied to several corollary pursuits. Trapping was economically and socially important and I explore changes to the trapping culture of the Tahltan and other residents of the region. I also highlight the curious connections between hunting and photography. This chapter does not as engage directly as others with the concept of unbuilt environments and is not concerned with large infrastructure proposals, but it parallels them in its discussion of development and its environmental effects. Conservation efforts were meant to
improve environmental conditions in the Stikine, but in doing so, they altered
important human-animal interactions that had long been an integral component of
that environment.

In Chapter Four I turn my attention northward to the asbestos mining town
of Cassiar. Though it lies just beyond the boundaries of the Stikine watershed,
Cassiar was long the economic and service centre of the Stikine region. Opened in
the early 1950s, Cassiar was active for 40 years until shaky financial management,
fluctuating asbestos markets and engineering difficulties forced the closure of the
mine, and the adjacent company town, in 1992. This chapter visits three sites – the
abandoned townsite, tailings pile, pit and mill where the outlines of community and
industry can still be perceived; the archives at the University of Northern British
Columbia where the town’s remaining material history resides in 3000
unaccessioned boxes; and the virtual town, recreated online by former residents
whose connection to the place persists in spite of the town’s erasure – to provide
details of the mine, town and company and outline the eventual failure of the
company. The unbuilt environment is quite literal in Cassiar. The town and way of
life that was dismantled as a result of corporate decisions and consigned to a
footnote in BC’s capricious mining history. Yet, within the overarching narrative of
failure and undoing, there are smaller examples of planning, management,
calculation and corporate social responsibility that touch directly on the side effects
of unrealized development dreams. Above all, the ongoing environmental
ramifications of closure and abandonment should raise questions about the
connections between nature in a marginal place and the far-reaching impacts of
global cultural and economic forces.

Chapter Five focuses directly on transportation infrastructure. The movement
of goods, commodities and people was a vexed question in the Stikine in the twentieth
century, given the sparse and poorly maintained road (and rail) infrastructure.
Successive BC government’s built the Dease Lake Extension to ‘open up’ the region to
mineral development by providing a link to the BC Rail network and to an open-water
sea port at Stewart. During the 1970s, BC Rail contractors laid a gravel rail bed from
Fort St. John to Dease Lake, a distance of over 500 kilometres. Spiraling cost over-
runs, poor environmental stewardship and lax engineering and assessment standards
produced a maelstrom of criticism. By 1977, the Dease Lake Extension was in real
jeopardy, and, after recommendations by the Royal Commission on the British
Columbia Railway, the project was abandoned by BC Rail and the provincial
government. The rail bed remains as a legacy of the failure. My aim here is to further
an interrogation of environmental assessment initiatives, engineering and planning
mechanisms while paying particular attention to the environmental legacies of failure.

As the Dease Lake Extension was pushed north through the Klappan and
Spatsizi plateaus, BC Hydro moved forward with an ambitious hydroelectric
generation programme. Chapter Six highlights the tensions surrounding the Stikine-
Iskut Project which would have created five dams on the Stikine and Iskut Rivers,
markedly improving the grid capacity of BC Hydro while creating large
impoundments, disrupting riparian ecosystems and interrupting fisheries practices.
To demonstrate the environmental, economic and social feasibility of the damming
project, BC Hydro embarked on an ambitious assessment programme designed to catalogue, enumerate and evaluate natural and human resources in the watershed. I analyse the assessment apparatus to look at how the collection of new scientific, technological and ecological data affected perceptions of nature in the Stikine. Additionally, I consider the effects on peoples’ relationships with nature by analysing responses to the new categorization of the environment, the assessment of attributes of nature and how nature might be valued by communities and the implementation of research strategies around the dams. The episode marked the first real emergence of a ‘corporate ecology’ in the Stikine, where corporate interests mediated the tensions around resource use and local livelihoods were subject to technocratic decision-making processes at BC Hydro.

The final chapter analyses a contemporary resource and infrastructure initiative. The Northwest Transmission Line (NTL) will bring power from the provincial grid to the Stikine. While it has been proposed under the ‘green energy’ banner, the NTL is meant to serve an eager mining sector that needs access to cheap power to proceed with operations. In particular, northwest BC is home to several very large copper properties in various advanced stages of the environmental impact assessment process. All of these mineral properties need infrastructure assurances to be actionable resources. I consider the provincial government rationale and BC Environmental Assessment Office evaluation of the NTL and make connections to the social and environmental lives of Stikine residents and the mining companies that seek to operate in their midst. This chapter presents its own methodological difficulties given that sources are very recent, culled mainly from the popular press
and from malleable and constantly updated government and industry documents. Like chapters five and six, this work on the NTL offers a critique of the process of environmental impact assessment and its role in prioritizing description and approval over protection and oversight. The chapter is the culmination of several case studies into the unbuilt environment and acts as a contemporary bellwether of environmental assessment protocol in northwest BC.

In an essay about a mostly forgotten mining settlement in central Alaska, William Cronon unearths “the paths in and out of town” as a way of highlighting how seemingly marginal places are intimately connected to the outside world through industrial networks, consumption practices and changing relationships with nature. Cronon’s discussion of Kennecott, copper mine and boomtown, rationalizes the movements of goods, capital and energy through developing corporate agendas and human-nature interactions. In an oblique way, Cronon deals with the unbuilt environment in his discussion of the growth of Kennecott and its subsequent demise following the collapse of world copper markets in the 1930s. Like many historians and geographers concerned with questions of nature and the complex politics and histories that complicate its meanings, I am influenced by Cronon’s ideas and narrative strategies. The Stikine is currently at the heart of the next great mining boom in the north. The search for and extraction of copper, gold and coal will drive the resource politics of the region for the foreseeable future and will connect the Stikine to the rest of the world through commodity markets, consumption patterns, economic growth and increased development.

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resource highways and electrification schemes that give power to mineral extraction projects, making them possible and hugely profitable. By following the paths in and out of the Stikine – the roads, railways and transmission lines – and showing how they connect to both the towns and mines of the Stikine as well as the minds of Stikine residents, I hope to shed light on the history and politics of resource use in northwest BC. And by showing how these envisioned paths helped to move things through the Stikine I hope to illuminate the role that the side effects of movement and failure have on the environment and its inhabitants.
Chapter 2 - Rushing to Market: Commodification, Marginality and the Place of the Stikine in the Klondike Gold Rush

This is the grave the poor man fills,
After he died from fever and chills,
Caught while tramping the Stikine Hills,
Leaving his wife to pay the bills.¹

And of all the mad, senseless, unreasoning and hopeless rushes I doubt if the world has ever seen the equal. Day after day crowds of men of all classes and conditions, hauling their sleighs, struggling, cursing, and sweating, thrashing their horses mules and dogs, all filled with the mad hopeless idea that if they could get as far as Telegraph Creek they would be in good shape for the Klondike... Some gave up on the river, sold their outfits and went back. Thousands arrived at Glenora and Telegraph Creek and started over the Teslin Trail but by this time it was April or May, and the snow was beginning to go off the trail leaving pools of water and swamps through which it was almost impossible to transport their outfits... Hundreds stopped at Glenora until the river steamers started to run in the spring, and they went home poorer and wiser.²

The legendary history of the Klondike gold rush is well-documented. In August, 1896, a discovery of placer gold was made on Rabbit Creek (later renamed Bonanza) in the Yukon River Valley. By mid-summer of the following year gold fever was in full bloom in the United States and, to a lesser extent, Canada. This was exacerbated by a series of financial crises in the United States related to anxieties about the gold-centric monetary policy.³ The coming winter saw an estimated 40,000 miners en route to the area around Dawson, the booming new town at the epicentre of mining activity. Wealthy participants took the all-water route by steamships around Alaska and south to Dawson along the Yukon River. Most,

² City of Vancouver Archives, (CVA), PAM 1943-46, George Kirkendale, The Stikine Trail, 1898: A narrative of Glenora, Telegraph Creek, Cassiar Central Railway, Teslin and Dease Lakes, 1943.
however, took steamships north to Dyea or Skagway, where they embarked on the harrowing trek over the Chilkoot and White Passes before sailing across Bennett Lake and up the Yukon River. The treacherous conditions of the trails and unrelenting force of the environment have become the stuff of legend. There were other, less publicized and less popular routes: the Edmonton route with its long portages, the Dalton route with plenty of grazing land in summer, the Taku River route, the ultimately impassable Copper River route and the Stikine route.\(^4\)

Information on all routes was sketchy and largely compromised by the self-interest of promoters. Infrastructure was bleak and haphazard and, at the outset at least, travellers were forced to rely on their own ingenuity and flexible expertise to survive and succeed. Many abandoned the effort before reaching Dawson, many died while trying and many returned home hopeless and bankrupt. But, because a few did succeed, men of all possible fittings kept venturing north.\(^5\)

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\(^4\) April 1, 1898 issue of *The Klondike News* (Vol. 1, No. 1). Dawson City.

Figure 2.1 – “Sketch Map Showing the Different Routes to the Yukon Gold Fields.” Source: Canada. High Commissioner. The Yukon District of Canada. London. Printed by McQuorodale and Co., Limited, 1897.

The Stikine route had several legs. The first was a simple, though increasingly expensive steamboat journey from the metropolitan centres of the Pacific Northwest (Seattle or Tacoma) or from Vancouver or Victoria to Wrangell, Alaska, a mostly-Tlingit community located on Wrangell Island in the silt-laden Stikine Delta. From there, miners had several options. Those who reached Wrangell in the summer and fall could wait to secure passage on one of the intermittent and sometimes reliable steamboats brought north to the Stikine. Wrangell had a new sawmill and men wishing to avoid the substantial steerage and goods transport cost of the steamboat often opted to build their own rudimentary rafts. Most of these men fared poorly, as the notoriously fickle tidal shallows of the delta rarely let inexperienced pilots through dry and unscathed. A better option was to hire Tlingit
guides and their canoes, though many judged the escalating price of expert knowledge and marine technology too dear. Choices dwindled when the ice froze in winter. The only real option then was to haul goods and grub on the ice and snow approximately 300 kilometres to Glenora and Telegraph Creek. Still others, perhaps even worse off, eschewed the river completely, preferring the overland route over the derelict Ashcroft Trail, cut thirty years earlier during the abandoned attempt to construct a transatlantic cable across the Bering Strait. From Glenora and Telegraph Creek, aspiring miners and their animal workers packed their loads directly north to Teslin Lake, 200 kilometres distant where they met the Hootalinqua River and the Yukon River system. Fiercely cold and exposed in winter and a soupy mess in summer, The Teslin Trail was given many other names: Telegraph Trail, The Bughouse Trail, The Devil’s Trail, The Cold March...
The need to order this new northern landscape allowed the institutions of the state to press their imprint on land and resources that had formerly been managed by the Tahltan and other indigenous peoples of the area. The Royal Canadian Mounted Police arrived to manage the transient population and to collect duty on goods crossing the international border, missionaries came to minister to wayward souls, a Gold Commissioner organized the traffic in minerals and a small army of merchants supplied the material needs of miners. These institutions of the state and
civil society established a more concrete and pervasive presence in the Stikine. They had been there previously but to a much smaller extent. This was an ideological as much as an institutional change. Land and nature were reordered within new conceptions promoted by state enterprises, their agents and movements of capital they enabled.

The massive increase in population numbers and the formalization of state conceptions of land in the Stikine had an immediate impact on human relations with the natural world. Increased exploitation resulting from demographic pressures is one element of this tension, but this chapter is equally concerned with how itinerant miners and locals experienced nature differently in the wake of the rush. Simply put, reflexivity between the use of nature and the perception of nature informed and altered natural-cultural interrelationships during and after the rushers had swept through the Stikine. Kathryn Morse’s work on the commodification of nature during the Klondike gold rush is the obvious starting point for Klondike related work with an environmental focus. She follows earlier work by Donald Worster, Richard White and William Cronon to claim that the proper way to interrogate the complex natural and social history of the Klondike is by looking at how participants came to know nature and how they forged connections to others through labour and experience. Morse sees gold as an abstraction which allowed the commodification of “knowledge, experience, and connections to nature” of the rushers and the area’s indigenous peoples.\footnote{Kathryn Morse, \textit{The Nature of Gold}, 68; cf, William Cronon, “Kennecott Journey: The Paths Out of Town,” In \textit{Under an Open Sky: Rethinking America’s Western Past}, eds, William Cronon, George Miles and Jay Gitlin, New York: W.W. Norton, 1992.} The incursion of an international commodity market with
spiralling connections to cities and foreign markets encouraged nature and wildlife to be consumed in different ways. Valuable for more than subsistence, animals and their habitat were consumed not only on dinner tables, but as art on walls, through gun sights in photographs and as fodder for the great narratives of hunting and ‘frontier’ travel. The commodification of nature, which became a space to consume as much as a place to sustain, interacted with new ‘unnatural’ preserved foodstuffs. This, in turn, altered indigenous peoples’ relationships to the environment: “The gold rush affected how, where, and why Native peoples hunted, fished and marketed their catch, but it also changed the Indians’ own connection to nature through the foods they themselves consumed.”

Morse has little about the Stikine, as her work focuses on an American perspective, but her more general comments about the nature of the gold rush are instructive. Like Morse, I see resources as cultural concepts, imbued with meaning by miners and others moving into the north. In contrast to Morse, I focus on movement and energy, on how miners moved into and through the Stikine and how they sustained themselves when they were there. I pay close attention to the dynamic relationship between miners and animals and to the different conceptualizations of energy enacted by both. I make some gestures towards the spiralling connections to outside markets but my primary concern is how the movements of miners affected the status and perception of nature in the Stikine.

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This chapter deals with the motivations and effects of one particular historical moment – the attempt by the federal Liberal government, contracted multi-nationals and a state-sanctioned network of engineers and bureaucrats to construct an ‘All-Canadian’ railway from the Stikine River to Teslin Lake during the heady days of the Klondike gold rush in the late 19th century. Construction of the railway and accompanying wagon road began but was quickly undercut by a combination of politics, bureaucratic failure and competing engineering success on other routes. The project, and the feasibility of the Teslin Trail route to the Klondike, ultimately failed and the events of the railway failure provides context for the environmental changes set in motion in the Stikine. The political economy of those events is important but I focus rather on new constructed bodies of knowledge that accompanied railway and can be traced in reports and surveys, debates and lobbying, embellishments and expertise. I ask how this knowledge and experience affected the interactions that locals, newcomers, government agents and a new breed of bureaucratic engineers had with a shifting nature around them. The railway scheme resulted in unbuilt environments, but was an important catalyst for new valuations and understandings of nature on the plateaus north of Glenora and Telegraph Creek.

This chapter also focuses on the use and abuse of animals and how the social and economic changes introduced by the gold rush altered earlier relationships between animals and humans. Animals were integral to the miners as they travelled

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8 There was a competing ‘All-Canadian’ route heading northwest from Edmonton which received significant institutional and legislative support from local MP Frank Oliver, though the term was primarily a promotional designation appealing to patriotic and/or imperial sensibilities.
on the rivers and over the Teslin Trail. Miners consumed them as food. Animals were calories needed for the often superhuman exertions of travel and packing over ice and slush or through muck and rain. The influx of miners into the Stikine meant that animals faced greater hunting pressures, on top of the regular seasonal pressures of hunting by the Tahltan and their neighbours. Animals were also brought into the Stikine where they performed two functions: vital roles of pack animals and, later, when their locomotive value was exhausted, as imported meat and by-products to be sold at market. Taken together, these inquiries into a fledgling transportation network and changing human-animal relations illuminate the complex politics of nature that emerged as the first major flush of colonial and metropolitan ideas, peoples and hardware entered the region.

The Failure of the Railway and the Stikine Route to the Klondike

The Stikine route was advertised with a certain nationalist bombast as the beginning of an ‘All-Canadian route’ to the Klondike. It was promoted as a simpler route, longer but far less taxing. Promoters in Vancouver and Victoria (and throughout the Empire) exaggerated the emerging transportation infrastructure: they wrote of an armada of steamboats to transport people and increasingly precious goods up the Stikine River from Wrangell, Alaska; or, in winter, dog-teams to haul brand new outfits to the boom towns of Glenora and Telegraph Creek. From the north banks of the Stikine, promoters claimed it was a quick 150 mile overland journey on a good trail to Teslin Lake and the headwaters of the Yukon River system.
But the Stikine route rested on the back of an infrastructure initiative conceived by the federal government and its potential commercial partners. The federal Minister of the Interior, Clifford Sifton, seeking both to appease coastal merchants eager for trade and a public critical of lost revenue and territorial influence, toured the Stikine and Taku River deltas on October of 1897 with a view to establishing a route to the Klondike through Canadian territory. Impressed with the possibilities he saw in the Stikine, Sifton eventually signed an untendered bid with the engineering firm of Mackenzie & Mann in January of the following year to build a wagon road and short gauge railway between Glenora and Teslin Lake. The contract stipulated that the road would be finished in six weeks while the railway would be operational by September. Sir William Mackenzie and Donald Mann experienced railway entrepreneurs, enjoyed a favoured business relationship with Sifton, having already constructed of several railways in the prairie provinces (which together would become the Canadian Northern Railway (CNR)).

This simple explanation obscures the complicated politicking from multiple interests that preceded the unilateral announcement of the Mackenzie and Mann contract, particularly within British Columbia. There were multiple groups who sought the contract directly through the provincial government. In December of 1896, prominent Victoria journalist Alexander Begg wrote to B.C. Premier John Herbert Turner on behalf of the “MERCHANTS and BUSINESS MEN” of Victoria,

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asking that a survey be undertaken in the Stikine with a view to having a
“convenient and practicable route” constructed to win back the Yukon trade from
“UNITED STATES DEALERS.” The country had been neither surveyed nor explored,
he assured Turner, although he claimed that he had been informed by “Dr. G. W.
Dawson, Head of the Geological Survey of Canada, that a very favourable route,
entirely within British territory, can... be made available.”

10 In April, Begg, acting as President of a newly formed Stickeen and Teslin Railway Company, amended the petition to request an exclusive charter (and potential assistance) for the construction of a line between Glenora and Teslin Lake. By May, Begg was anxious to begin work while the Railway Bill was being debated in the Legislative Assembly. Undoubtedly aware of competition and the fleeting nature of the opportunity, he pressed Turner to grant the charter because he was “very anxious to proceed to Ottawa, to deal with the Dominion Government as to further aid for the Construction of the Railway.”

12 Begg’s company won the charter from the province and later from the federal government but his Stickeen and Teslin Railway never began construction, suffering a series of financial and organizational difficulties before sputtering to a halt.

As often happened in an age of railway speculation,

10 Provincial Archives of British Columbia (hereinafter PABC), GR 0441, Premier’s Records, Box 5 File 1, Alexander Begg, Memorial To the Honourable the Executive Council of the Province of British Columbia, Victoria, December, 1896. Begg claimed similar Memorials had been submitted by Vancouver and Nanaimo merchants.

11 PABC, GR 0441, Premier’s Records, Box 5 File 1, Alexander Begg to J.H. Turner, April 10, 1897.

12 PABC, GR 0441, Premier’s Records, Box 5 File 1, Begg to Turner, May 4, 1897.

13 PABC, GR 0444, British Columbia, Executive Council Records, Alexander Begg to The Honourable the Executive of British Columbia, July 28, 1897.
Begg’s charter was eventually purchased by Mackenzie and Mann for $50,000, forming the legal basis for their construction plans.14

Other groups filled the competitive void when Begg’s efforts lagged. The Victoria Board of Trade took up the lobbying mantle, insisting on information and access that Turner was holding close to the vest.15 In spite of his economic and political interest in the railway scheme, Turner was careful not to overextend provincial interest and (both geographical and constitutional) jurisdiction. Sifton and Turner maintained contact after Sifton’s tour of the Stikine and by mid-November Turner was pressing for a firm commitment from the Minister of the Interior: “Very numerous and earnest representations are being made from all quarters... [but] it would be manifestly a waste of energy for the Dominion and Provincial Governments to proceed on independent lines of action to secure what is really a common object, and therefore it is highly desirable that there should be unison and co-operation of effort.”16

Three other groups emerged with serious intentions in the lead up to the announcement of the Mackenzie and Mann contract. J. T. Bethune, a local real estate agent in Victoria, wrote to Turner in November on behalf of “a strong London Company” to announce the group’s intention to build a “sleigh road” between the Stikine River and Teslin Lake and to inquire about the possibility of public outlay in that enterprise. Turner’s reply was apparently unsatisfactory for Bethune’s

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15 PABC, GR 0441, Premier’s Records, Box 5 File 3, F. Elworthy to J.H. Turner, November 18, 1897.
16 PABC, GR 0441, Premier’s Records, Box 5 File 3, J. H. Turner to Clifford Sifton, November 20, 1897.
backers: the government intended to build the road itself anyway, but would consider supplying one-third of the cost to a maximum of $3,000 if the company would guarantee that the finished route would be made public upon completion.\textsuperscript{17}

A body of correspondence between Turner and the H. Maitland Kersey Syndicate, also of London, detailed the attempt by the group to secure funding and/or permission to build on the still theoretical Teslin Lake route. Represented alternately by Lord Charles Montague, R. T. Elliott and F. M. Yorke, the Syndicate had more substantial financial backing than the Bethune group. The Syndicate’s proposal ultimately failed because of commitments that both levels of government had made to Mackenzie and Mann and because they failed to demonstrate sufficient financial means.\textsuperscript{18} It is unclear how much overlap existed between Mackenzie and Mann’s separate negotiations with the federal and provincial governments. The firm had secured significant enticements from Turner’s government by the signing of the contract with Sifton in late January 1898, including a subsidy of $2,250 per mile of railway constructed and a grant of free lands required for the right of way and terminal facilities.\textsuperscript{19}

But the provincial concessions were minor when compared to those granted by the federal government. In Clifford Sifton’s northern vision, the railway would

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\textsuperscript{17} PABC, GR 0441, Premier’s Records, Box 5 File 3, J. T. Bethune to J. H. Turner, November 12, 1897; PABC, GR 0441, Premier’s Records, Box 5 File 3, Bethune and Charles Lugrin to Turner, November 26, 1897; PABC, GR 0441, Premier’s Records, Box 5 File 3, Turner to Bethune, November 30, 1897.

\textsuperscript{18} PABC, GR 0441, Premier’s Records, Box 7 File 3, J. H. Turner to R. L. Elliott, January 7, 1898.

\textsuperscript{19} PABC, GR 0441, Premier’s Records, Box 7 File 5, Mackenzie, Mann & Co. to J. H. Turner, December 28, 1897; PABC, GR 0441, Premier’s Records, Box 7 File 5, J. H. Turner to Donald Mann, December 30, 1897.
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lead to Canadian control of the Klondike and was therefore necessary at all costs.\textsuperscript{20}

In exchange for construction of the Canadian Yukon Railway, as the line came to be known, which was estimated at $22,000 per mile of track, Mackenzie and Mann received lucrative concessions: a limited monopoly over further railway construction (possibly south to the Portland Canal, North to Dawson, west to Edmonton), a land grant of 3,750,000 acres (based on 25,000 per mile of track) with all mineral rights tax-free for five years. Gold produced from any of this land would be taxed at 1\% while the toll on the railway would be fixed by the government for seven years.\textsuperscript{21} These allowances would prove to be too grand for Sifton’s political opponents, especially Sir Charles Tupper, Leader of the Opposition Conservatives, who opposed the terms of the railway contract.\textsuperscript{22}

Meanwhile Warburton Pike led a secondary railway scheme in the Stikine. Pike was a well-known writer-sportsman whose wilderness acumen had furnished the basis for two popular accounts of northern adventuring exploits, but who would later become known for a series of business failures in the Stikine and elsewhere.\textsuperscript{23}

Curiously, Pike was not keen to build north, but rather, to head northeast from Glenora to somewhere near the head of Dease Lake. He eschewed the gold of the

\textsuperscript{20} Library and Archives Canada (hereinafter LAC), Clifford Sifton Papers, vol. 224, Clifford Sifton to William Van Horne, January 11, 1898.
\textsuperscript{22} The debate about the Yukon-Canadian occupied Parliament between February 22 and March 17, 1898, with Sifton and Tupper each playing prominent roles. See, Canada. Official report of the debates of the House of Commons of the Dominion of Canada : third session, eighth Parliament ... comprising the period from the third day of February to the twenty-first day of April inclusive (Ottawa: S. E. Dawson, 1898)
Klondike, preferring to focus on what he felt were the longer term prospects of mineral wealth in the remote Cassiar district. Pike operated as a kind of lobbyist/contractor for his Cassiar Central Railway Company, both in the provincial capital, Victoria, and in Ottawa. Pike’s endeavours did not conflict with the operations of Mackenzie and Mann, as they were intent on building in different directions with different purposes. Indeed, there may have been some professional overlap; there is some evidence that Pike was also involved in the planning and promoting operations of Mackenzie and Mann. Once the Cassiar Central contract was secured, Pike organized the transportation of railway building materials and workers from Victoria and Vancouver to the Stikine. He secured the cooperation of the provincial government through his connections to J.H. Turner, the B.C. Premier and Minister of Finance. Pike’s letters and requests foregrounded the potential of “opening up the Cassiar District” for capital investment, exploration and settlement (and its accompanying revenue) through infrastructure initiatives, because, in his words, “that part of the country is at present a deserted waste.” He needed no formal monetary outlay from the government but would be willing to conduct all business through B.C. merchants and suppliers, use local construction materials where they could and hire only B.C. labour.

Pike won the charter in May of 1897 but he sold it days later to an ambiguous consortium of British financiers associated with the Transvaal Goldfields Company. They quickly formed a subsidiary, the Africa British Columbia Company, which hired

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24 PABC, GR 0441 Box 5 File 3, Premier’s Records, 1883-1933, Warburton Pike to J.H. Turner, January 13, 1897; PABC, GR 0441 Box 5 File 3, Premier’s Records, Pike to Turner, April 5, 1897.

25 PABC, GR 0441 Box 5 File 3, Premier’s Records, Pike to Turner, April 5, 1897.
Pike to oversee operations in the Stikine. Large warehouses were built at Glenora, surveys were conducted, mining lots were chosen along the corridor and animals, equipment and supply materials were brought north. Construction for the Railway would start at both ends, Glenora and Dease Lake. Employing 2000 men, Pike planned to have the line finished in a year and had already begun surveying and planning for a proposed wagon road between Dease and Teslin lakes. But construction suffered a series of setbacks, including the sinking of a tractor and shipment of rails after the transport scows ran aground on a sandbar. Pike and his associates persevered until late spring of 1899, but were forced to give up the project after the Boer War weakened the financial capabilities and interest of the parent company.26

The railway dreams were built on surveys completed in the years before the gold rush by the Geological Survey of Canada (GSC).27 William Ogilvie was sent to briefly survey the area during the winter of 1894-95 as part of his duties as Yukon Commissioner. Writing in November of 1897 (though his findings were not published until 1898), Ogilvie claimed that with suitable infrastructure investment the northern portion of the Stikine plateau could develop into a “the richest gold field the world has ever seen.”28 Ogilvie had originally accompanied George M.

26 Murray, Home From the Hill, 31-42.
28 William Ogilvie, “Extracts From the Report of an Exploration Made in 1896-1897” in The Yukon Territory (London: Downer & Co. Ltd, 1898), 383-423. Ogilvie suggested that there was great mining potential in the Teslin-Hootalinqua area. His prospects for the northern part of the Stikine plateau were even greater: “… from Telegraph Creek northward to the boundary line we have in the Dominion and in
Dawson on his northern survey in 1887, an endeavour which included a
reconnaissance of the Stikine watershed and which first pointed to the mining
potential of the region. Another party led by GSC civil engineer William Tyndale
Jennings was in the plateau north of the river when gold fever hit. Jennings, A.S.
Ross, Arthur St. Cyr, Edmund J. Duchesnay and Morley Ogilvie were already looking
for the most practicable route for the railway. Failing that, they sought the best
route for a ‘highway,’ an ambitious term for the wagon road. Jennings’ report,
released in February 1897, was positive about construction prospects. His ideal
route began at Little Canyon, some 50 miles downstream from Glenora, for an
estimated cost of almost $4 million dollars, slightly higher than the estimate
eventually provided by Mackenzie & Mann.

More importantly, Jennings and company began to construct an inventory of
the landscape with construction hazards and assets in mind. St. Cyr and Ogilvie
reported more specifically on the possible rail and road route north to Teslin Lake,
mapping out potential avenues and proposing construction methods to overcome
the perceived climatic and geologic obstructions. These state-based surveys began a
process of institutional knowledge creation that would have far-reaching
consequences for the way the people related to the Stikine environment. Jennings

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29 George Mercer Dawson, Report on an Exploration made in the Yukon District,
N.W.T. and Adjacent Portion of British Columbia, 1887 (Ottawa: Geological Survey of
Canada, 1898).
30 William Jennings, “Report on Routes to the Yukon” (Ottawa: Queen’s Printer,
1898).
and company mapped the watershed topographically, but he also commented directly on the ‘resources’ that could be useful in railway construction (ie. timber, rock, animals). The simple act of knowledge creation presaged the new valuation of nature. They also commented directly on anticipated costs. Edmund Duchesnay, a junior member of the party, believed the railway could be constructed for $1,575,925, while Jennings estimated the cost at $2,850,000, warning that construction would be difficult through terrain that was “covered in moss and occasionally mire and unpleasant to travel over in unseasonal weather.” Even building the wagon road would be expensive and would require unconventional construction methods. The moss would have to be cut out and the tree canopy removed and the soil underneath left to dry. Ditches would have to be dug the whole length of the road and coarse gravel would have to be laid to protect the intractably mushy ground. This would take two months and cost between 100 and 250 dollars per mile. He recognized that there was little forage for pack animals and recommended government caches to lessen the hardship of the many anticipated travellers. His recommendations were not taken up; little was done to improve the trail and Jennings’ comments on forage proved true.

In spite of all the stated political will, economic rationale and geological scaffolding, only 10 km of track and 30 km of wagon road were built before party

31 Jennings, “Report on Routes to the Yukon”.
32 Jennings, “Report on Routes to the Yukon”; Edmund Duchesnay, “Field Notes of E.J. Duchesnay on survey trip to Telegraph Creek, Stikine River, Sept. 1897,” PABC, MS-0051
33 Jennings, “Report on Routes to the Yukon”.

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politics scuppered the Stikine Route completely. Railway construction was abandoned when the Conservative Party-controlled Senate balked at the terms and abruptly voted down the contract just as the large second wave of miners poured into Glenora. The Tories were concerned about the lack of competition in the award of a possible trade, land and transport monopoly for Mackenzie and Mann and possible taxation difficulties at the transhipment point at Wrangel, aside from the usual partisan bickering and self-interest that often accompanied massive government expenditure.34

In the end, none of the grand railway plans materialized. In their stead, a sodden, muddy ‘wagon road’ was cut. At least that was the official position. In actuality, some corduroy was laid north of Telegraph Creek but miners were largely left to fend for themselves on the poorly marked trail to Teslin. The promises of easy access to the gold fields rang hollow. An informal infrastructure of caches, grazing areas, campsites and one Hudson’s Bay Co. outpost provided some semblance of infrastructure, but in reality, miners went only as far as their own luck and perseverance took them. Many of the men who came through Glenora turned back without attempting the run to Dawson; many others (and their animals) died on the ice of the river or on the exposed plateau that bounded the Teslin Trail.

The Teslin Trail was an awful mess of muddy confusion and disorder. Aspiring miner Thomas Frederick Seldon offered increasingly vivid descriptions of the deteriorating trail in his diary, in a style emblematic of what other chroniclers saw and represented. In the beginning of July, after a winter of waiting in Glenora

34 Hall, Clifford Sifton, Volume One: The Young Napoleon, 1861-1900, 177-182.
and a profitable dip into the horse market, Seldon’s group began the trek north where they encountered “a decent trail for some miles and then it was a terror. Horses were sinking down in mud between trees and roots of trees. It makes one shake expecting a broken leg every minute.” The next days brought no respite: “the trail has been dreadful, swamps and fallen timber, had several [horses] down but no limbs broken – passed several dead horses... People have no idea what it is like & people who have spoken so highly of it ought to be made to pack a train of mules and then be hauled up for cruelty to animals.”

Travel in winter was easier but posed its own set of problems. Diarist O.T. Switzer noted that “the extreme cold has also caused us a lot of trouble in travelling along these creeks. The ice freezes so thick that it does not leave water way sufficient, and it forces the water out over the ice, along the edge of the stream and it overflows.”

This was made even more slippery when an early thaw and subsequent freeze reformed ice on the creeks and the Trail itself. After two months on the Trail in winter, Hunter Fitzhugh told his sister in a letter, “I wish I could tell you all of my strange and ridiculous experiences, but it would take acres of paper, oceans of ink, and horse powers of work to do it up in style.”

In general, the Trail was passable in winter, though most miners attempted it in spring and summer when it was essentially impassable even with healthy animals, an adequate outfit and a sterling constitution. A particularly

35 Yukon Archives (YA), MSS361 (2006/163), Thomas Frederick Seldon fonds, 1898-1899.
36 YA, MSS207 (90/48), O.T. Switzer fonds, 1897-1900, February 20th, 1898. Switzer diary and letters home to his parents were serially published in the Philipsburg Ledger. It appears this arrangement was made before Switzer came north.
difficult section of the Trail encountered during a second trip, in the summer, inspired Fitzhugh to complain, “The strain on our minds and bodies during the five days it took to get through that water was maddening. Our lives and possessions were both in the greatest danger, and the work was fearful, for we had to put one sled on top of the other in order to keep our stuff dry.” Everybody who passed over the Trail had similar tails of wetness and woe.

Figure 2.3 – Freighting by Wheelbarrow, Teslin Lake Trail

Image courtesy of Royal BC Museum, BC Archives.

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38 YA, MSS169 (81/101), Robert Hunter Fitzhugh, May 5, 1898.
Travel on the river, either in a boat or in a sled over the ice, was equally
dangerous and posed a unique set of hardships. Steamboats and hired Tlingit
canoes made the trip simply and without much difficulty, but self-constructed boats
and sleds faced considerable natural obstacles. Scows and rafts built at Wrangel or
on Cottonwood Island in the Stikine Delta often sank because they were overloaded,
or poorly built or overcome by the currents and migrating sandbars of the river.
Sleds could travel quickly, but, for the leader of the impromptu convoys at least, they
posed considerable risk from patchy ice. Dog teams often plunged through the ice,
leaving the driver to scramble first for his own safety, then for the safety of his cargo
and then to rescue his freezing dogs. The everyday labour of sledding (packing the
sleds correctly, righting tipped sleds, tending to dogs and equipment, lighting fires
and sleeping on top of snow and ice, keeping relatively dry) provided routine but
hardly reduced the risk encountered on the ice.

Glenora was the staging ground for the Teslin Trail. 5000 miners wintered at
Glenora in 1897-98, waiting for the opportunity to head north.\textsuperscript{39} It was essentially
an ephemeral city of tents and improvised shacks, built hastily to house miners,
working animals and the goods and services required by a transient population.
The town had a favourable reputation as a lawful and vice-averse place, probably a
result of the presence of civil authority in the Gold Commissioner, post-master and
police. New markets developed for meat, timber, knowledge and assistance of
varying stripes. There were new opportunities for both indigenous peoples and

\textsuperscript{39} Estimates vary from 5000 to over 10000 people which is likely too large. The
plateau at Glenora is small and miners’ shacks and tents were squeezed into a very
confined space. Diarists describe seeing tents and shacks along the banks of the
river for several miles each way from Glenora.
neophyte miners open or resigned to the possibility of working in a trade or trading. A solid trail of fourteen kilometres connected Glenora to Telegraph Creek, nominally the head of navigation on the river. Telegraph Creek was a smaller settlement, with a larger permanent population and the site of a considerable Tahltan camp. Many preferred 'Telegraph' because of its reputation for hospitality extended to nervous newcomers.

Miners who reached Glenora and Telegraph Creek had already passed through Wrangel, the Alaskan/Tlingit town in the Stikine delta. Wrangel was widely derided as an unscrupulous place full of potential hustles and the iniquity that often flourished in itinerant rush towns. Indeed, there was clearly a market for the kind of behaviour that made most chroniclers blush. Apart from the constant danger of victimization from the swindle, Wrangel was the only transshipment point, posing many economic difficulties for British and Canadian miners intending to bring goods purchased elsewhere into the transboundary waters of the Stikine. For a time, American customs inspectors ignored the guarantee of free shipment and navigation established in the International Waters Act of 1871, charging duty on goods coming through town on steamers from the south. This provided Clifford Sifton with one of his main motivations for the established of an 'all-Canadian' route.

In the middle of the delta was Cottonwood Island which served the multiple functions of campsite, boatbuilding site and staging ground for the assault on the river itself. Mackenzie and Mann used the island to establish a camp for workers and to assemble machinery and materials for their constructions projects. The island proved to be a telling metaphor for the Stikine route to the Klondike. It was
flooded and essentially disappeared during the spring break-up of 1898. The rising waters consumed miners’ camps, destroyed half-finished rafts and drowned animals not evacuated by the residents of Wrangel.  

At the end of the Teslin Trail was Teslin Lake, an itinerant community adjacent to a First Nations settlement and the lake itself, a long, narrow body and the beginning of the water-bound portion of the journey to Dawson. In the imaginations of many miners, Teslin became a focal point, the anticipated end of the difficult part of the journey. But by the summer of 1898, Teslin was no more than a transit stop for the few who made it over the Trail: “Things are dead in Teslin. No railroad made it so some log huts partly built are stopped. Men clear out as soon as they build their boats.”  

O.T. Switzer arrived in Teslin in February 1898 and saw it change from a promising business outpost and supply center to a place essentially devoid of economic activity in less than six months. It was an exceptionally expensive place to live largely because of the exorbitant packing rates from Glenora that reached $800 per tonne by June.  

By then, “living in Teslin Lake [was] an expensive luxury.”

The men who used the Trail were often confronted with the stark contrast between the rumour and the reality of travel on the Trail itself. News of the construction added to the excitement already bubbling about the Stikine route. Guy Lawrence and his father, who sailed to the Pacific from Blackpool, England, chose the Stikine route because they had been told by promoters in London that the

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41 YA, MSS361 (2006/163), Thomas Frederick Seldon
42 YA, MSS207 (90/48), O.T. Switzer, June 23, 1898.
43 YA, MSS207 (90/48), O.T. Switzer, July 16, 1898.
Yukon-Canadian Railway was virtually ready. Merchants and Boards of Trade in Vancouver and Victoria claimed the railway was as good as finished, and, with its ‘invaluable help’ in transporting goods, the trip to the goldfields could be completed in six weeks. Promoters in Eastern Canada promised a similarly easy, though invigorating, journey. The rhetoric used by the 'Dunsmores' [sic: read Dunsmuir] was typical: “The only easy way to the Klondike. Five hundred dollars from Victoria to Dawson, with 500 pounds of baggage; first-class steamer to Wrangel; newly-equipped handsomely furnished river steamer up the Stickeen to Telegraph Creek; there pack trains will be waiting to take you to Teslin lake over a fine grass country beautiful scenery, beautiful lakes and fine trout fishing; on arriving at [Teslin] lake the steamer Dunsmore, just finished at tremendous cost, will carry you down the lake to the Hootlinqua river; passengers can lead anywhere, take out a million or two and go home before wintering-down in the Yukon, on which river there will be plenty of steamers.” It was to be a lovely holiday with the added bonus of a pot of gold at the end.

Others came north to the Stikine via the Ashcroft Trail which began in the Chilcotin country and followed an overgrown route originally and rapidly laid out by the Collins Overland Telegraph Expedition sponsored by Western Union as they

44 Guy Lawrence, *Forty Years on the Yukon Telegraph* Quesnel: Caryall Books Ltd., 1965. The line was also sometimes referred to as the Yukon-Teslin.
46 YA, MSS207 (90/48), O.T. Switzer, April 6th, 1898.
were rushing to construct a transatlantic cable across Bering Strait.  
Norman was actually impressed by the Ashcroft Trail for the first weeks of his journey. But that happiness quickly faded. Soon he wrote: “we were in the thick of the misery – as regards mud and shortness of feed... Every day one of our horses had to be left beside the trail, and not ours alone, as it was scarce possible to travel a hundred yards without finding dead or abandoned horses; I have seen in one place, two dead horses on each side of the trail.” The trail was littered with jettisoned goods and eventually became “one succession of mud and swamps from one end to the other.” The Trail was even a disappointment from a literary point of view. American Essayist Hamlin Garland, seeking the sublime landscape of wilderness adventure, was disappointed, “not because it was long and crossed mountains, but because it ran through a barren, monotonous, silent, gloomy, and rainy country, It ceased to interest me. It had almost no animal life, which I love to hear and see. Its lakes and rivers were for the most part cold and sullen, and its forests sombre and depressing.” It was a foolish route to the goldfields of the Yukon, Garland claimed,

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47 The Collins Overland Telegraph was an ambitious scheme to connect San Francisco to Moscow by telegraph. The route came directly north through Oregon, Washington and British Columbia than skirted west through the Yukon Territory and Alaska. Another party from the company was working in Siberia. As discussed in the introduction, the line and trail were abandoned in 1867 (after $3000000 had already been spent) after a competing company successfully laid an underground cable between Newfoundland and Ireland.
and unless mining was developed in the Stikine region, the Ashcroft Trail should be “given back to the Indians and their dogs.”

The experience of nature in the Stikine was complicated by the vagaries of weather and climate. Obviously, rain, snow and cold made the difficult experience of travel a profoundly visceral one. But it was the capriciousness of climate that most greatly affected the movements of miners, the distances they were able to transcend and the caloric and emotional energy that was required of them. It was an unseasonably mild winter in the Stikine in 1897-87: this caused variations in the seasonality of the river and the surrounding plateau and on the new trail that transected it. The river froze and thawed quickly, often forcing dog-sleds to travel through smaller ice-top creeks of slush and ice. The ice was unstable, forcing the first sled in the team, and its driver and animal engines, into dangerous positions. The Teslin trail changed almost instantly from a passable snow-covered route to a sloppy, sticky mess of thawed mud and snow. Storms and blizzards imperilled miners, particularly when they were travelling. Hunter Fitzhugh recounted a story of a Japanese chemist and his group who, “when about three miles from Wrangel... were struck by a squall and to save their lives had to throw nearly everything over board.”

Pervasive rain and wetness compounded the difficulty of the journey, but the unexpected had more profound psychological implications.


50 YA, MSS169 (81/101), Hunter Fitzhugh, November 7, 1897.
In order to demonstrate the viability of the Stikine Route, the Royal Canadian Dragoons were sent through the Stikine in May 1898 on their way to the Klondike. Over two hundred scarlet-clad soldiers came through Glenora with 100 tonnes of stores just as rumours surrounding the failure of the Yukon-Canadian Railway were reaching the town. This increased confusion and speculation. But the sudden appearance of the Yukon Field Force (YFF), as the unit was known, had a more immediate and tangible effect; it further reduced the already small supply of animals. Likely because of scarcity and value, their local contractor had failed to provide the agreed upon number of animals. Lt-Col. T. D. B. Evans, the commanding officer of the YFF, was forced to delay troop movement so that he could raise an adequate animal convoy to take supplies and food north on the Teslin Trail. The YFF eventually bought or commandeered the majority of serviceable horses in the area, over 300 in total, including many employed on existing pack trains. This further drove up already exorbitant packing rates and further demoralized camp residents.\footnote{Arthur L. Disher, “The Long March of the Yukon Field Force”, \textit{The Beaver} (August 1962), 4-15.} The institutional presence of the state, exemplified by the regimented conduct of the army, was meant to reassure the populace of the mining camps. Instead, the army destabilized existing economies and transportation networks, raised the price of animals and unwittingly fomented the anti-government feeling that was taking hold in camp and gaining traction through the failure of the railway scheme.
While journeying to the unexpected and unknown, miners were confronted with the hardship and toil of their experience. This exertion forced a new reckoning with the nature around them. Many expressed profound ambivalence at the contrast between the modernity of the urban environment in metropolitan centres and the virility and immediacy of nature in the Stikine. The transportation of goods through the Stikine forced miners to contemplate the contradiction embedded in the consumption and production of a new nature that was at once familiar yet profoundly discomfiting. Henry Franklin wrote to his father in New York about the absurdity of taking “20 tons of machinery and 36 horses [in an] outfit that weighs about 100 tons” all for the purpose of acquiring some “yellow dust.” He could not believe he was about to “climb over 4 ft of snow for 300 miles then build boats and steam for another 1000 miles even the hay and oats for the horses we have to carry with us it is a tough proposition.”

Miners often expressed an uneasy and indeterminate feeling about the perception of the unreality of the Klondike experience. For many, the practice and toil of trudging tonnes of grub and supplies through an ostensibly barren landscape was akin to dreaming. It was otherworldly. Not only were they confronted with an entirely new nature, but they were also faced with the intimate changes that their involvement with nature produced.

The Changing Politics of Nature and the Commodification of Experience and Animals

In the visceral and crowded circumstance of the Teslin Trail and the booming towns, markets emerged around animals. Animals were vital to the movement of miners and goods for two reasons: they provided the locomotive energy to move the

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52 YA, MSS169 (81/145), Henry W. Franklin.
material goods of mining and sustenance from one place to another; and they provided the food and caloric energy that miners needed on the trek north. But this obscured the more complex relations that developed as people interacted with animals and with the nature through which they travelled.

If animals were commodities during the gold rush years in the Stikine, then their most basic value was as meat. But it was not only local fish and fauna, primarily moose, caribou and salmon that were desired as food. The tastes of miners provided opportunities for entrepreneurs to bring in other types of meat from the south. Norman Lee, an enterprising rancher from the Chilcotin, described his attempt to drive several hundred head of cattle through the Stikine on the way to Dawson. It was an arduous journey of 1500 kilometres that ultimately ended early on the shores of Teslin Lake, when his newly built scows sank in a windstorm, dumping his freshly slaughtered cargo to the shallow lake bottom. His cattle were units of profit, disembodied and mobile units of capital. He lamented one day, “[c]rossing a crazy bridge broke the leg of one fine steer. Had to leave him without taking a bite.” Two weeks later he “had to kill a three year old steer that was lame. Was able to carry off a quarter of it, gave half away, and traded the other quarter for half a bag of flour.”53

Lee’s ranch manager, E. D. Sheringham, claimed that Lee’s drive was fuelled by much the same economic imperative that motivated the miners. Sheringham was head of the group that brought the cattle north along the Teslin Trail “where rumour stated beef sold at a dollar per pound. What an objective, five hundred to six

hundred dollars for a steer, compared to twenty-five to thirty [in the Chilcotin], and a hard sell at that.”\textsuperscript{54} However, Lee was a late arrival to the Stikine: the railway had already been cancelled and most miners had pressed north or had retreated in a solemn trek south. Moreover, another drover, Jim Cornell, had already established a butcher shop at Telegraph Creek, which Lee described as a “miserable, one horse town.”\textsuperscript{55} The market for beef in the Stikine faded almost overnight due to uncontrollable, external factors. But Lee noted that corollary markets had emerged. He met two men at the Klappan River who had gotten “tired of the bad trails [and] were now selling out their flour and bacon at enormous prices to people who came along.”\textsuperscript{56} Across the Stikine River from Telegraph Creek a man had set up a ferry service and was charging $2.50 per head for safe transport across the river.\textsuperscript{57} Acquiring adequate ‘grub’ was a constant source of concern for Lee and his companions. In a curious elision, he described how “food was getting scarce” as they approached Telegraph Creek.\textsuperscript{58} Of course, he was actually bringing ‘food’ to Telegraph Creek, but his association to the market may have confused his stomach. Food for the cattle was equally meagre once they left the grasslands of the Chilcotin. Grass, meadow, mud and swamp took on new meanings as packtrains (and the odd cattle rancher) travelled north, and doubly so when the railway project collapsed and rushers added themselves to the packtrain.

\textsuperscript{54} BCA, MS 0947, Edward Durban Sheringham, “Beef for Klondyke,” n.d.
\textsuperscript{55} Lee, \textit{Klondike Cattle Drive}, 24.
\textsuperscript{56} Lee, \textit{Klondike Cattle Drive}, 23.
\textsuperscript{57} Lee, \textit{Klondike Cattle Drive}, 24.
\textsuperscript{58} Lee, \textit{Klondike Cattle Drive}, 22.
Hunting continued to be the most substantial and, in the short term at least, sustainable method of food procurement.\(^{59}\) Obviously, this increased pressures on local fauna, especially moose, caribou and mountain goat. Smaller game animals and birds were also subjected to increased hunting pressures. At certain times of the year, particularly fall and early spring, hunting was a simple enterprise due to the famous abundance of game in areas north of the river. O. T. Switzer commented that he “would like to do some hunting, but game is so plenty [sic] that we get all we can use by simply carrying our gun with us when we are working.”\(^{60}\) Miners did a great deal of killing, as there were no regulations or conventional conservation measures on things like kill numbers or hunting seasons to prevent them from taking whatever they were able to find. Tahltan hunters were also quick to benefit from the new markets for animals. The Tahltan sold and traded meat to the miners, both directly and through intermediaries. The Tahltan had been participating in a fledgling big-game hunting and guiding industry for 10 or so years as guides, cooks and horse-wranglers, but the scale of consumption increased greatly with the new peripatetic residents of the watershed. We can only speculate about the consequence of the involvement in market hunting on Tahltan food procurement practices. Animals were also valued for more than their meat. Caribou, in particular, were sought after for their skins. Warburton Pike claimed that caribou “made the best coat that has ever been invented to resist extreme cold with sufficient lightness to enable to wearer to walk long distance in comfort.” By the


\(^{60}\) YA, MSS207 (90/48), O.T. Switzer, February 20, 1898.
second winter on the Trail miners had mostly ditched the heavy conventional clothing and were “all clad alike in the local parka made of caribou skins.”

As Kathryn Morse points out, imported food played an important role in sustaining the itinerant populations and in changing local understandings of diet and food. The Tahltan were acquainted with western foodstuffs through the fur-trade, the importation of things like canned ham and baked beans surely altered what food meant to the Tahltan. This food was brought by miners from the metropolitan outfitting centres but was also imported by a growing class of merchants in Glenora, and to a lesser extent, Telegraph Creek. The HBC had a post at Glenora and a much smaller, and often empty, outpost along the Teslin Trail. The two most prominent independent merchants in the Stikine were John C. Callbreath and John Hyland, both long term residents of the area whose descendents still live there. Victoria merchant Joseph Clearihue established several temporary satellite stores in the Stikine, including the largest store in Telegraph Creek. These merchants supplied many of the foodstuffs and material goods that miners needed, though comparatively very high prices forced many to rely on hunting/fishing or on black market transactions and informal trade.

The animals that were not going to be food, that were being used for a different type of energy as locomotion, faired just as poorly in the Stikine because of the harrowing conditions of travel up the river and on the Teslin Trail. In many cases, animals became disembodied entities, analogous to machines. Norman Lee, writing

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61 Warburton Pike, “Big Game Shooting” 193.
in the same anguished vein of countless chroniclers on the Stikine route, described
the journey up the river:

... the ice was extremely unsafe. The best time to travel was before the
sun got up and after dark. Imagine pulling a hand sleigh loaded with grub
through a foot or more of slush, temperature of said slush being at
freezing point, often up to the middle in ice cold water, and a keen
Northeast wind rushing down the river to meet you... A man would be
driving his team with all his worldly possessions on a sleigh. Without any
warning team, sleigh and load would drop through the rotten ice, and the
man would be left. Sometimes the man dropped through and the team
would be left.62

If they survived the ice, conditions and treatment while on the Trail rendered the
lives of these animals nightmares of abuse and toil. Stratford Tollemache
remembered his dogs with remorse: “The wretched animals were beaten and urged
till they dropped in their tracks from sheer exhaustion, and were then killed and
boiled and given to other dogs. When our sleigh journey terminated, out of twelve
dogs which had started with us up the Stickene river only two survived; the
remainder, often succumbing to fatigue, had been eaten by survivors.” 63 Horses,
donkeys, oxen and the odd goat faced similar fates.

Some animals were better suited to packing duties. Dogs, in particular, were
highly valuable because they could haul a great deal of weight but required
comparatively little food and maintenance. They could be used as individual
packers or as parts of teams on sleds. Local sled dogs (now known as Tahltan Bear
Dogs) were especially prized. O. T. Switzer wrote, “[a]n Indian’s pride is his dog
team. A good specimen of this kind of dog will weigh about sixty pounds and three
of them will pull as much as a horse (a British Columbia horse). I would like to have

63 Stratford Tollemache, Reminiscences of the Yukon, (Toronto: W. Briggs, 1912), 34.
a dog team, but you can't buy a good dog for less than $50, and I don't know of any
for sale at that price."\textsuperscript{64} They were not too large and were renowned for hauling
more than their own body weight, although their constant howling was often the
cause of much complaint. In February at Teslin, after all of his dogs had died on the
Trail, Seldon was thrilled to purchase a team of five healthy dogs for 75 dollars.\textsuperscript{65}
Dogs had little market value as food, although they were sometimes fed to other
dogs if they died on the trail. However, they certainly held value as companions.
For O. T. Switzer, rising feed costs meant it was “an awful expense to own a dog in
this country, but they are invaluable.”\textsuperscript{66} His dog Jumbo was his constant companion
on the trail. Goats were also often mentioned as a great spring packing success,
pulling as much as dogs, though they faired poorly in winter. They were also notable
for the omnivorous havoc they wreaked in towns, where they ate anything they
could chew. Goats were especially infamous in Glenora, where a group waiting on
the docks ate through canvas and rope to get at stores of goods, which they
promptly devoured.\textsuperscript{67}

Some animals were less adaptable to work as packers. They were often
undone by the mud and/or snow. Donkeys were obdurate workers that softened
under the long-term conditions of the trail. Yet they were still useful for a time as

\textsuperscript{64} YA, MSS207 (90/48), O.T. Switzer, December 15, 1897.
\textsuperscript{65} YA, MSS361 (2006/163), Thomas Frederick Seldon, February 17, 1898.
\textsuperscript{66} YA, MSS207 (90/48), O.T. Switzer. He described seeing “Esquimo dogs, Sewash
dogs, curs mongrel and high bred dogs, puppy dogd, pointers and setters, the mastiff
and the Newfoundland, the bull and the coach dog, the spaniel and the watery-eyed
terrier, all snapping and snarling, biting and howling, urged along by a ten-foot dog
whip in the hands of a cruel driver, who with each whack of the instrument let out
an oath.”
\textsuperscript{67} Tollemache, Reminiscences of the Yukon.
packers. Seldon described meeting a man named Durant who was running a mule train on the Trail. He claimed, “they had a hard time of it, average weight on each mule 350 lbs., some had 400 & many of the mules were awfully skinned. He has 166 and I asked him how many would be with them in the fall & and he said he did not think he would have many left.”68 There are many descriptions of the fantastic outfits brought north by miners, all notable for ridiculousness and undoubted failure. O.T. Switzer described “hundreds of people... scattered all along the trail with all kinds of contrivances and animal power to haul their outfits.” This included a recent American immigrant who “had a pack ox, a pack on his back, and pushed a big one-wheeled vehicle. The wheel was 6 feet and had a platform built around it supported by a shaft in the centre of the wheel. The man pushed from behind in a pair of shafts and his two boys, about 14 and 16, pulled from the front, hitched tandem. He sold his outfit on arriving and is going back.”69 Miners were almost completely reliant on sturdy work animals to get their goods and themselves north.

Horses were particularly valued for their ability to travel long distances and to carry significant weight. Miners went to great lengths to bring them into the Stikine and to procure more of them when they were there. Rich markets developed around horses and some enterprising miners found it more profitable bring horses for resale than to contemplate the Teslin Trail itself. Frederick Seldon left Glenora in late-May to purchase horses from ranchers in Washington State with the intention of bringing them to the Stikine to sell or to build a packtrain. He bought 25 horses for between six and 13 dollars, although he wanted 40. On arriving at

68 YA, MSS361 (2006/163), Thomas Frederick Seldon, July 5, 1898.
69 YA, MSS207 (90/48), O.T. Switzer, August 5, 1898.
Wrangel with his cargo in tow having incurred $15 per head freight rates, he found the town full of Mackenzie and Mann horses that would be used in construction and then on the planned wagon road. By the time he returned to Glenora, Seldon was unable to get the price he anticipated for the imported horses; nobody had money and pervasive depression had set in as miners learned about the fate of the railroad.

Despite their value horses lived and died as much as most imported animals. O.T. Switzer, after a long stint in Teslin, wrote, “I pity the horses. They keep pegging along until they fall dead. I have seen them stagger in with their packs and before they could be unloaded they would give a shiver and fall over dead.” In October 1898, the Hudson's Bay Co. packtrain arrived with only 28 horses left from the 68 that started. Those that made it were covered with sores and desperately hungry because there was hardly any feed on the trail. Horses held value when they were imported into the Stikine. But they rarely held that value on the Trail and rarely left the Stikine as they entered it.

Salmon were also valuable. It was in the salmon market that the Tahltan made their biggest impression. At the end of a particularly gruelling day, Hunter Fitzhugh was so tired he would have “eaten raw dog,” but settled for “a small and partly spoiled salmon” that he bought from an “old Indian” who was transporting his load of dried salmon into Telegraph Creek. Salmon were cheap and excellent sources of food for pack animals. Englishman Guy Lawrence, a long-term telegraph operator who originally came to the Stikine as a teenager during the gold rush, remembered

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70 YA, MSS361 (2006/163), Thomas Frederick Seldon. Mackenzie and Mann may also have been pulling out at this point.
71 YA, MSS207 (90/48), O.T. Switzer, Oct 9, 1898.
72 YA, MSS169 (81/101), Hunter Fitzhugh, September 25, 1897.
spring days by the river with a makeshift fishing net. He sold each sockeye salmon he caught for $1 to miners and traded them to tent restaurants for unlimited pie. Food could fetch a premium in the bloated gold rush market but, for Lawrence, luxury foodstuffs like pie provided the real motivation for his entrepreneurial spirit. The market for fish was less strong during the spring and summer months when miners could easily catch trout in the lakes north of Telegraph Creek and Glenora. In Teslin in the summer of 1898, salmon could be bought for 25 cents each. Switzer, in a lengthy description of Stikine game, claimed that every stream was full of salmon, weighing an average of eight pounds. So, in preparation for the winter trek north, he bought 75 dried salmon for 30 cents each and cached them up the trail to be used as dog feed.

Several miners objected to the blurring of traditional lines that separated animals from humans. These species demarcations faded as more and more animals died from exhaustion or were consumed to stave off human exhaustion and miners were forced to replace their energy and function. Frederick Seldon remembered an encounter with Poor Jim Honeyman who grumbled about hand-sleighing but, having lost all of his animals, was compelled to pull his loaded sleigh himself. Honeyman told him that “he does not like being made a dog.” Massive human exertion was part of the gold rush experience, but human-animal divisions of labour helped to preserve the humanity that was constantly threatened by the experience of the

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73 Guy Lawrence, *Forty Years on the Yukon Telegraph*, 11.
74 YA, MSS207 (90/48), O.T. Switzer, Dec 26, 1897.
75 YA, MSS361 (2006/163), Thomas Frederick Seldon, January 31, 1898.
Trail. Miners were confronted when these established divisions were disrupted. When O.T. Switzer claimed that the exertions of work made his “hands feel like stuffed toads,” he was not only complaining about the physical toll of the journey but also expressing a deep-rooted concern about the liminal space occupied by human and animal bodies on the Trail and ice.76

The social context of eating carried great importance for miners, especially when faced with the lonely inertia of a snowbound winter. Eating served an extremely important social function within the homosocial life of the camps at Glenora and Telegraph Creek. The everyday meals took on important roles centered on comradeship and sharing of information and sociability. Hospitality gained real social currency. Norman Lee recounted that he likely would not have made it out of the Stikine without the charity of others in the form of blankets, bread and beans. The celebratory aspects of holidays were heightened by the experience of the Trail and luxury foodstuffs became the centre of those events. Guy Lawrence and his father wintered on the Teslin Trail near the Sheslay summit. The “New York” outfit had a camp near them and the two groups joined together for a seasonal celebration involving poetry readings, choral singing and an impromptu Christmas pantomime which cast Guy, as the youngest member of the party, as Baby Jesus. But it was the menu, featuring moose, ptarmigan and “various cakes” that garnered the most attention.77 Christmas was a time to flout the deprivation of life in the mining camps. In December 1898, Seldon invited compatriots to enjoy tinned lobster,

76 YA, MSS207 (90/48), O.T. Switzer, October 5, 1897.
77 Lawrence, Forty Years on the Yukon Telegraph, 13.
apples and the last tins of honey and butter while his neighbours enjoyed a five
course meal.\textsuperscript{78}

BOX 1 – MENU OF CHRISTMAS DINNER AT TELEGRAPH CREEK
Soup a la bean. Salmon a la can.
Codfish Balls (cream dressing).
Roast Caribou with Pork Strips.
Moose steak smothered in Onions.
Mashed Potatoes. Sweet Corn.
Roast Turkey (Americano).
Hot Rolls.
Reach Ice Cream. Ginger Cookies.
Nuts. Raisins. Candy
Coffee with Cow’s Milk
O. T. S.\textsuperscript{79}

In contrast to the abundance of holiday meals, the absence of food prompted
darker reflections from miners. Hunger was a grave concern for travellers as they
neared their destination, particularly as they approached Teslin Lake after almost
300 kilometres on the Trail. Packers were faced with the curious contradiction
embedded in the need to carry goods which necessitated huge expenditures of
energy which required massive food-energy inputs. The overwhelming appetite
resulting from trail work was a constant referent for all miners. Everybody
commented on the amount of food required to sustain the effort on the Trail.
Although Hunter Fitzhugh's hands were raw and stiff, he told his mother not to
worry because his “appetite is something frightful, and the way I get away with
broiled venison, fried flounder and clams would give you the gim-jams.”\textsuperscript{80} At the
beginning of his trek, O.T. Switzer claimed he was “eating like a horse.”\textsuperscript{81} He was

\textsuperscript{78} YA, MSS361 (2006/163), Thomas Frederick Seldon, December 25, 1898
\textsuperscript{79} YA, MSS207 (90/48), O.T. Switzer, December 26, 1897.
\textsuperscript{80} YA, MSS169 (81/101), Hunter Fitzhugh, September 25, 1898.
\textsuperscript{81} YA, MSS207 (90/48), O.T. Switzer, September 26, 1898.
unaware of the ironies looming as the conditions of travel became more sparse for horse and human alike.

There was a more sinister presence lurking in the minds of miners as they contemplated the hunger, illness and injury that threatened their treks north. Fear and physical pain had pervasive psychological power in the Stikine. These were amplified by the physical and emotional exhaustion that were the necessary outcomes of the constant effort required in mines’ daily lives. The constant spectre of danger clearly impacted miners’ relations with the nature surrounding them. Risk and safety were in constant tension. Nerves and temper were always on a razor’s edge. Lumbering home after the failure of his beef scheme, Norman Lee stated the obvious succinctly: “It was by no means pleasant to plod along down the river through unbroken snow, hitched onto a sleigh, knowing that at any second one may tread on rotten ice, and disappear.” Yet danger, risk and illness were accepted as matters of course. The transcendence of these obstacles was part of the romantic allure of the gold rush in the first place. Hunter Fitzhugh described getting caught in the current as they canoed their outfit up the river. They were caught clinging to a crack in the cliff as an eddy gripped their boat and tried to pull them free. They were “stuck fast, afraid to let go, but unable to go further.” Eventually, they were rescued by an elderly Tahltan couple, but the experience left a deep imprint on Fitzhugh as he continued on the trek.

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83 Lee, Klondike Cattle Drive, 45.
84 YA, MSS169 (81/101), Hunter Fitzhugh, Sept ember 25, 1898.
Death was a constant presence on the trail and on the ice. Human deaths were relatively rare, at least when compared to the frequency of animal deaths. Accidents did claim some victims, especially when the ice was thinning out. The threat of death was everywhere and there were enough passings, both by accident and intention, to place the prospect firmly in the mind of all who came through the Stikine. Switzer claimed there were “a lot of lonely graves in this country... men die of heart failure, so they say; broken-hearted and discouraged would be better. They lose their nerve, give up the struggle, and then they are done for.” Several suicides were reported (“Bury me right here where I failed, here on the bank of the river,” read a left note) and a fairly sensational murder, reported in the urban press, occurred in Glenora. Guy Lawrence found two frozen corpses in an abandoned shack while seeking shelter from a blizzard. Of course, animal death and decay was everywhere. Horses on the Trail were “living corpses.” The destruction and waste of animal bodies was omnipresent, forcing a visceral and sensory interaction with the physical consequences of the push north. By October 1898, miners reported the gruesome sight of an eight mile section of the Trail lined continuously with rotting corpses. Dessicated animal bodies, motionless in the sinking mud, became a common part of the changing experience of nature in the Stikine.

The flip side of the forced encounter with death, fear and decay was the intense appreciation of the sublime beauty of the landscape surrounding them. For

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86 Lawrence, Forty Years on the Yukon Telegraph, 15.
87 Lee, Klondike Cattle Drive, 19.
88 YA, MSS207 (90/48), O.T. Switzer, October 5, 1897.
Fitzhugh, the “wildness of the country is enchanting. A man can climb almost any mountain and feel sure that no man has ever set foot there before, as there is no reason for going there.” In spite of, or perhaps partly a result of, the real physical and emotional hardship faced by miners, some were able to appreciate the intangible aesthetic qualities and of the landscape around them. The “most remarkable country” identified by Switzer allowed miners fleeting moments of escape from the the deprivations of the Trail.

A curious and possibly aliberal conception of private property emerged out the social milieu of the camps and the informal networks established through the sharing of food. Everyday relations in the camps were largely marked by collegiality and hospitality. The sick and infirm were tended to without remuneration or reward. A man never went hungry if he asked for food. He could simply walk into a camp, sit down at a campfire and expect to share in whatever was being cooked. Tools were common property: if a man wanted something from a compatriot he simply took it and it was the responsibility of the ‘owner’ to get it back. Tents were pitched wherever one could find a clear spot, often precariously on the banks of the river if no spot could be found in town.

However, liberal notions of the primacy of private property still held sway outside of the camps. In particular, prospecting claims were inviolate. Or, at the very least, it was a serious offence when they were violated. Fitzhugh and his party were disconsolate when they returned from Teslin Lake to find that local merchant

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89 YA, MSS169 (81/101), Hunter Fitzhugh, October 17, 1897
90 YA, MSS207 (90/48), O.T. Switzer, February 20, 1898.
J. C. Callbreath had ‘jumped’ their claim on a technicality. Norman Lee complained bitterly about fenced pastures along the Telegraph Trail south of the Stikine. In his reckoning, these pastures were common property and the Indians who fenced them in were operating against the entrenched rules of commons. On several separate occasions he was aggrieved to find good pasture land under fence and ostensibly inaccessible. On the first occasion he cut the fence when he found nobody guarding it. On another, he settled the property dispute like a good cowboy: “We were annoyed slightly at times by Indians, who would put a useless fence round a little piece of hay ground, and then want to charge us much money because the cattle broke through the fence. 'Mac' settled all difficulties however one day by giving an Indian a business-like kick on the usual place, so that they bothered us no more.”

Travelling north involved a sizable outlay of capital for most miners. The acquisition, accumulation and shipment of goods were preliminary but essential and often frustrating parts of the mining experience. In his diary, Frederick Seldon itemized the goods that he and his three companions acquired in Victoria to supplement his already considerable outfit [Tables 1, 2 and 3]. However, this was not enough for Seldon’s needs. He was constantly trading within a barter economy and purchasing flour and other necessities within the bloated economy of the Teslin Trail. Most miners heading through the Stikine outfitted themselves in Victoria and Vancouver though there were some connections to American cities as well. These places operated in competition with each other. Vancouver was generally regarded

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91 YA, MSS169 (81/101), Hunter Fitzhugh, May 5, 1898.
92 Lee, Klondike Cattle Drive, 10-11.
93 YA, MSS361 (2006/163), Thomas Frederick Seldon, May 3, 1898.
as the preferable place to outfit because of selection and prices. Victoria was seen as a sleepy backwater and prices were slightly higher there. Seldon wrote that by May of 1898 all merchants in Victoria were given over to outfitting. He and his companions spent their first three days shopping at various places. Comparing prices, they visited five grocers, four outfitters and four ironmongers (and had been touted by many others) before deciding where to outfit. Victoria held the advantage of being the starting point of more steamers. A small fleet of steamers headed north to Glenora, either run privately or through the HBC. Freight rates were steep and they were raised as demand grew. But there were ways to circumvent the rising prices. Seldon and his mates were originally quoted prices they deemed too high for the steamer to Glenora: $35 per passenger, $47 per tonne of freight and $42 per horse or cow. With other interested parties they determined to form the Stickeen Miners Association, an informal lobby group. Working in concert, they eventually managed to secure passage under more favourable terms: $29 per passenger, $32 per tonne of freight and $29 per animal. Even the markets of the gold rush could be manipulated.

Table 2.1 – Frederick Seldon's new outfit purchased in Vancouver and Victoria.

<table>
<thead>
<tr>
<th>Item</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 suit oilskins</td>
<td>$1.75</td>
</tr>
<tr>
<td>1 Sou/Wester</td>
<td>.35</td>
</tr>
<tr>
<td>1 pr. arctic stocking</td>
<td>1.00</td>
</tr>
<tr>
<td>wool mitts</td>
<td>.50</td>
</tr>
<tr>
<td>sleeping robe</td>
<td>17.00</td>
</tr>
<tr>
<td>cowboy hat</td>
<td>2.50</td>
</tr>
<tr>
<td>2 pr. thick drawers</td>
<td>4.50</td>
</tr>
<tr>
<td>1 mosquito net (face)</td>
<td>.50</td>
</tr>
<tr>
<td>1 pair “ gloves</td>
<td>.50</td>
</tr>
<tr>
<td>eye shields</td>
<td>.50</td>
</tr>
<tr>
<td>mosquito netting</td>
<td>1.25</td>
</tr>
<tr>
<td>fur cap</td>
<td>3.00</td>
</tr>
<tr>
<td>chamois underwear</td>
<td>7.00</td>
</tr>
<tr>
<td>Overalls</td>
<td>1.00</td>
</tr>
</tbody>
</table>

94 YA, MSS361 (2006/163), Thomas Frederick Seldon, May 1 and May 3, 1898.
<table>
<thead>
<tr>
<th>2 pr. buckskin moccasins 4.00</th>
<th>hip rubber boots 5.50</th>
</tr>
</thead>
<tbody>
<tr>
<td>shoe packs 4.50</td>
<td>1 good tent 8 x 12 13.00 (for company)</td>
</tr>
<tr>
<td>small tent 2.50</td>
<td></td>
</tr>
</tbody>
</table>

**Table 2.2 – Items purchased by Frederick Seldon at Hardware store**

<table>
<thead>
<tr>
<th>Item</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 lb. oakum</td>
<td>$1.00</td>
</tr>
<tr>
<td>5 lb. pitch</td>
<td>.25</td>
</tr>
<tr>
<td>90 ft. of rope</td>
<td>.75</td>
</tr>
<tr>
<td>hand saw</td>
<td>1.25</td>
</tr>
<tr>
<td>stew pan</td>
<td>2.25</td>
</tr>
<tr>
<td>3 sheets of mica</td>
<td>.75</td>
</tr>
<tr>
<td>hatchet</td>
<td>.60</td>
</tr>
<tr>
<td>4 gold pans</td>
<td>1.80</td>
</tr>
<tr>
<td>1 stove (37 lbs.)</td>
<td>7.00</td>
</tr>
<tr>
<td>2 lb. quicksilver &amp; gold scales</td>
<td>1.50</td>
</tr>
</tbody>
</table>

**Table 2.3 – Food stores purchased by Frederick Seldon and his partners**

<table>
<thead>
<tr>
<th>Item</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000 lbs. flour</td>
<td>$30.50</td>
</tr>
<tr>
<td>50 &quot; Sea biscuits</td>
<td>1.75</td>
</tr>
<tr>
<td>200 &quot; pink beans</td>
<td>5.00</td>
</tr>
<tr>
<td>300 &quot; smoked bacon</td>
<td>39.00</td>
</tr>
<tr>
<td>83 &quot; hams</td>
<td>10.25</td>
</tr>
<tr>
<td>40 &quot; dried apricots</td>
<td>2.80</td>
</tr>
<tr>
<td>30 &quot; prunes</td>
<td>1.80</td>
</tr>
<tr>
<td>80 dried potatoes</td>
<td>11.20</td>
</tr>
<tr>
<td>16 &quot; dried green peas</td>
<td>.56</td>
</tr>
<tr>
<td>150 &quot; dried rolled oats</td>
<td>4.50</td>
</tr>
<tr>
<td>60 &quot; rice</td>
<td>3.00</td>
</tr>
<tr>
<td>60 &quot; salt</td>
<td>.60</td>
</tr>
<tr>
<td>10 &quot; Coffee</td>
<td>3.00</td>
</tr>
<tr>
<td>31 &quot; cheese</td>
<td>4.00</td>
</tr>
<tr>
<td>1 dz. saxina (sweetest sugar) sacharin</td>
<td>8.00</td>
</tr>
<tr>
<td>2 lbs bi-carb. soda</td>
<td>.16</td>
</tr>
<tr>
<td>1 lb. white pepper</td>
<td>.35</td>
</tr>
<tr>
<td>1 lb. grnd. ginger</td>
<td>.30</td>
</tr>
<tr>
<td>8 lbs. sultanas</td>
<td>.80</td>
</tr>
<tr>
<td>Item</td>
<td>Price</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------</td>
</tr>
<tr>
<td>1 lb. mustard</td>
<td>.40</td>
</tr>
<tr>
<td>16 lbs. can salmon</td>
<td>2.00</td>
</tr>
<tr>
<td>20 lbs. candles</td>
<td>1.70</td>
</tr>
<tr>
<td>1 lb acetic acid</td>
<td>.75</td>
</tr>
<tr>
<td>5 lb raisins</td>
<td>.40</td>
</tr>
<tr>
<td>5 lbs. tobacco</td>
<td>3.75</td>
</tr>
<tr>
<td>15 lbs. lard</td>
<td>1.50</td>
</tr>
</tbody>
</table>

All manner of steamer also plied the route between Wrangel and the two settlements at the head of navigation on the Stikine. The Hudson's Bay Co. ran several steamers between Victoria/Vancouver and Wrangel and sent four boats to the Stikine in 1898. These were often too laden with material freight to carry any passengers. One voyage by the *Monte Cristo* that had no passengers was full to bursting with 30 tonnes of liquor. Even full ships often made stops to rescue (for a price) miners whose makeshift rafts had succumbed to the current or to cracked confidence. Some miners travelling on the river supplemented their often meagre wages from mining by cutting cordwood for the ships. One company had a standing contract which paid four dollars per cord to anyone who cut wood and left it in piles along the river.

Fluctuating costs was a constant topic of debate and consternation. If goods in Vancouver and Victoria were expensive, miners were faced with the exponentially increasing costs of goods in Glenora and Telegraph Creek, at least before the railway deal collapsed. Hunter Fitzhugh wrote to his sister in October, 1897, “It would alarm you to see the prices of things here. Brooms $1.00, wash tubs

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95 Lawrence, *Forty Years on the Yukon Telegraph*, 7-8.
96 CVA, PAM 1943-46, Kirkendale, *The Stikine Trail, 1898*.
97 YA, MSS207 (90/48), O.T. Switzer, January 21, 1898.
$2.50, flour 20 cents per pound, bacon 50 cents, chocolate drops $1.50 a pound."  

Obviously, high prices directly impacted miners’ ability to sustain themselves. Goods were even more expensive at Teslin Lake.

Figure 2.4 – Glenora; J. Clearihue General Merchant. Source: BCA E-03771. Image courtesy of Royal BC Museum, BC Archives.

Packing rates on the Teslin Trail were a major cause of delay and abandonment of the push north. After the appearance of the Yukon Field Force, rates reached 47 cents per pound.\(^99\) Simple calculations rendered this too expensive.

\(^98\) YA, MSS169 (81/101), Hunter Fitzhugh, October 22, 1897.

for all but the most wealthy (or desperate) miners. This no doubt was one of the major causes of the epidemic of quitting that swept through the two camps during the spring and summer. It also led to the proliferation of strange and wonderful contraptions put into use on the trail. High packing rates definitely encouraged some miners to change tack and move into the packing industry themselves. Roger Hicks Hays told his family, “[w]e have been talking about working on the waggon road that is being made to Teslin & I fancy that we shall try it, one gets $40 a month & food so it is better than nothing.” By the middle of June, when he said that the news of the failure of the wagon and railroad went through the camps, those wages would have been much higher. These men were almost invariably more successful economically than those who persisted in the push north. The animals thrust into service on the pack trains bore the brunt of the collateral physical costs of this exchange of value. In real terms, the deterioration of their bodies had economic value. Wasted flesh was exchanged for capital in the process of moving goods and food from Glenora to Teslin. Often, animals were pushed to exhaustion and then left to die on the side of the Trail or fed to dogs. But their increased value as packers inversely affected their value as food. Animals spent their flesh while using massive amounts of energy. They brought sugar and oats north but had less to offer of themselves when they arrived to the market at Teslin Lake.

Animals were not the only thing left by the side of the Trail by miners as they pushed forth. Miners were constantly trying to lighten their loads on the trip, both to prolong the working lives of their animals and to ease the burden on themselves.

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100 BCA, MS 2167, Roger C. Hays Hicks, June 1 and June 16, 1898.
Many also simply abandoned what they had left in their dejected haste to return home. The Tahltan, as the only permanent residents of the Stikine, were the primary beneficiaries of this unintended largesse.\textsuperscript{101} They acquired the detritus of the gold rush by simply scanning the banks of the river and the sides of the Trail. Paradoxically, the free acquisition of material goods further lured the Tahltan into the market economy which gained a foothold in the Stikine during the gold rush years. The incorporation of western foodstuffs changed Tahltan consumption patterns. Similarly, the social integration of western material goods promoted exchange within existing external markets and further acquisition in the years after the gold rush faded.

This chapter has focused on the new valuations of disparate elements of nature in the Stikine. Similarly, ways of knowing nature, its patterns and processes, gained economic value as well. Information acquired through years of interaction with nature became valuable to the people who needed it as they moved through. The Tahltan benefited economically from this, particularly from the commodification of their intimate knowledge of animal behaviour and location and also the seasonal variations in river behaviour and management. Tahltan certainly facilitated hunting through guiding. They brought miners to specific locations for the taking of game meat. Their knowledge of animal behaviour also led to their integral participation in the large market for meat. As miners poured into Glenora and Telegraph Creek

\textsuperscript{101} Tollemache, \textit{Reminiscences of the Yukon}, 31.
they wanted meat and Tahltan could provide it for them, but for a price that was actually different and conceptually different than previous methods of exchange.

Knowledge about the Stikine itself became commodified. In particular, knowledge about the Stikine route and the railway was highly sought after. Unsurprisingly, rumour and innuendo played a large role here. Apocryphal information exchanged between miners fuelled the appetites of those headed north in the early months and demoralised miners even further in the waning months. News about the railway or the wagon road was impossible to pin down. In many cases the ‘urban press’ was vilified for the ‘lies’ they spread regarding route progress and infrastructure developments.102 The ‘government’ was often blamed (perhaps correctly) for their failure to organize adequate infrastructure and for the failure of promised transportation opportunities.103 This extended to state-sanctioned information purveyors. Frederick Seldon wrote a scathing rebuke of Morley Ogilvie, the engineering assistant to William Jennings during the GSC survey of 1897. After several terrible days on the Trail in June and July of 1898, Seldon wrote, “…lots of soft places, it is a wonder horses don’t injure their limbs more. Ogilvie [sic] ought to be hammered for writing such reports on this country or trail. It is very hard, the bog holes are shocking and instead of the good waggon road I read of, when I was in the Old Country, it is almost impossible to call it a horse trail.” Notions of distance were another seemingly malleable stock of information. Nobody knew how long the Teslin Trail actually was. The further away from the site of the

102 BCA, MS 2167, Roger C. Hays Hicks, June 1, 1898.
103 YA, MSS361 (2006/163), Thomas Frederick Seldon, July 3, 1898; BCA, MS 2167, Roger C. Hicks Hays, June 1, 1898.
Trail, the shorter it was apparently. As Seldon claimed, “the distance has grown from 140 miles to 180. It is astonishing how things grow in this country.”

Hunter Fitzhugh guessed the Teslin Trail was 75 miles when at Wrangel and 100 when at Glenora, only to learn it was almost 200 miles when he had completed the trek to Teslin. O.T. Switzer, while on the steamer from Victoria, estimated the Teslin Trail at 115 miles. Nobody really knew.

News from outside was equally precious. Miners sought connection with home and family through the mail most of all. The arrival of the steamer known to bring in mail was always greeted with real enthusiasm, or abject disappointment if no mail came. A rumour in April 1898 about the loss of mail was a horrifying prospect for miners aching for attachment to their former lives. The value of information and connections with home was made particularly evident in an episode involving the postmaster at Glenora. Faced with a massive backlog of mail in his office and more coming in on every steamer, the postmaster burned an immense pile of letters. Miners were apoplectic. They would not receive news from home, would not have already written letters sent out and would not receive any potential moneys sent from outside. This had obviously emotional consequences but had even more immediately dire economic consequences as many men were anticipating additional funds in order to continue on the Trail. The postmaster had to be spirited out of town on a departing steamer to avoid being seriously harmed.

104 YA, MSS361 (2006/163), Thomas Frederick Seldon, August 2, 1898.
105 YA, MSS169 (81/101), Hunter Fitzhugh, September 18 and October 22, 1897.
106 YA, MSS207 (90/48), O.T. Switzer, September 15, 1897.
by the organizing mob of irate miners. News from outside media in the form of newspapers was also highly valued. Americans were particularly keen for information on the Spanish-American War, an event famous for the inauguration of a new type of sensational journalism that prized circulation over dissemination. When Hunter Fitzhugh returned to Telegraph Creek in February 1898, he was bombarded with questions. As they entered town, “[p]eople congratulated us and wanted to ‘treat’, and asked what about Cuba, and whether we had Hawaii yet, had Corbett succeeded in making Fitzsimmons fight, and all sorts of conditions and questions. Some we answered, some we lied about, some we told the truth about. It all squares up in the end.” Information was prized, but so was a good story.

Hunter Fitzhugh wrote about the prizing of information gleaned from the experience of the Trail. He had been on both the ice and the Trail by mid-winter 1897-98 and was subsequently sought out by new miners who saw his limited, ad hoc experience as a form of expertise, a way of knowing the nature of the Trail directly contrasted with the circumscribed knowledge circulating in southern cities and in the mining camps. There was a kind of informal, experiential network of information exchange on the Trail. There were shorthand notes carved into trees. Norman Lee wrote of a crude map nailed to the inside of an abandoned shack by a nameless government surveyor and produced a replica in his journal. The map contained nothing on topography or direction, but rather, concentrated exclusively on Trail conditions and feed sites for horses. Lee reported that some miners

108 YA, MSS169 (81/101), Hunter Fitzhugh, February 24, 1898.
109 YA, MSS169 (81/101), Hunter Fitzhugh, January 7, 1898.
abandoned the trip on studying the sketch; prospects were simply too bleak to bother continuing. Others thought the map must be a lie.\footnote{Lee, \textit{Klondike Cattle Drive}, 16.} Frederick Seldon reluctantly advocated learning the hard way. While waiting at Wrangel for a steamer in May 1898, Seldon lamented, “it was the old story of the Stikine River, “How is the trail, & and what are the rates for packing?” It has been the same thing for a month & it is the strangest experience of my life as regards reports, what you hear, & what you don’t hear is astonishing, for rarely can you hear one thing confirmed by another person. The only way to find out is by going yourself and that is time and money, but that is what we are doing, although lots of times I have tried to put two & two together, & now and again I have made it four!”\footnote{YA, MSS361 (2006/163), Thomas Frederick Seldon, May 12, 1898.} In the curious logic of the Stikine Route, the only way to get the numbers to line up was to do the math yourself.

The experience of the gold rush in the Stikine opened up the area to the outside world. This externalization occurred through the movements of people, animals and material goods and through the operation of markets. These new connections - economic, epistolary, cultural, media, gastro, material, emotional – were mediated through the profoundly changing experience of nature as men moved into and through the Stikine. The commodification of that nature yielded new networks of exchange that accelerated the process of bringing the Stikine into the cultural, economic and political orbit of the metropolitan centre of the province. Economic connections were the most concrete and likely the most pervasive of these connections. John C. Callbreath and his partners, Cook and Grant, were able to
maintain and expand their trading enterprise because of their connections to merchants in Seattle, Portland and San Francisco on top of their smaller-scale exchanges with Vancouver and Victoria merchants. They kept meticulous records for their general merchandise business centered in Wrangell, from which they supplied their stores at Telegraph Creek and Dease Creek.112 Kathryn Morse has underlined how merchants like Callbreath perpetuated connections to urban centres though economic ties. Callbreath had a long-standing business relationship with the Schwabacher Brothers grocer business in San Francisco for foodstuffs, drugs, firearms and other hardware. He made repeated trips between Seattle and Victoria, comparing prices at trusted vendors and haggling for best cost.113

Some of these new economic connections resulted, at least on the surface, from development geographically removed from the Stikine. A large motivation for Norman Lee’s cattle scheme was the drying up of Chilcotin beef markets in the wake of the completion of the Canadian Pacific Railroad, whose construction workers no longer readily consumed all the beef produced by Chilcotin ranhers.114 The influx of miners from metropolitan centres had economic effects on the Stikine plateau as a whole. While most of the economic activity associated with the gold rush was concentrated in Glenora, Telegraph Creek and on the Teslin Trail, many miners, frustrated with the difficulties of moving north, branched out and began prospecting in other far-flung areas of the plateau. Several small strikes attracted gatherings of

112 UBC Archives, Callbreath, Grant and Cook, “Letterpress book kept at Fort Wrangel, 5 Apr 1895 to 22 Jly 1898”.
113 Morse, The Nature of Gold, 180-182.
miners who had given up the Stikine route but still lusted for wealth in gold. The biggest strike was at Discovery Creek near Atlin, though there were several in the Stikine area, primarily around Dease Lake. Substantial communities grew up around the gold bearing creeks, and Atlin showed more resilience that the Stikine towns did. Apart from the relatively small lodes, the main reason that the smaller strikes in the Stikine did not persevere was the difficulty of getting goods as it was even further removed form metropolitan markets. This was both an issue of distance and cost. The failure of the Stikine route meant that fewer goods came into the area. Those that were imported were mostly serviced out of Glenora.

Transportation into the Dease Lake area and beyond was prohibitively expensive. Few goods and little food at high prices made mining success a daunting task filled with deprivation and cold. Nevertheless, the outlying areas of the Stikine were opened up and, at least administratively, became ordered within the purview of the state. In the Stikine, there was an administrative legacy to the Klondike gold rush. It was the beginnings of a somewhat arbitrary process of planning and prodding, searching for and organizing title over the resources that drew capital, people and ideas into the Stikine.

By the spring of 1898, markets in both Glenora and Telegraph Creek had yielded to the rapid economic downturn wrought from the cancellation of the railway and the increasingly frail economies of the goldrush. American essayist

115 BCA, GR 1095, BC Department of Mines, James Porter, “Gold Commissioner Records,” Box 1 File 1.
Hamlin Garland, arriving in mid-summer after an overland trek over the Ashcroft Trail, described Telegraph Creek as a desultory, hard-scrabble place with

Men camped all along the bank, out of food like ourselves, and ragged and worn... Instead of being the hustling, rushing gold camp we had expected to find, it came to light as a little town of tents and shanties, filled with men who had practically given up the Teslin Lake Route as a bad job. A couple of months before our arrival nearly 5,000 people had been camped on the river flat; but our one disappointment had followed another, the government ‘rail’ road had been abandoned, the pack trail had proved a menace and as a result the camp had thinned away and when we of the Long Trail began to drop into town, Glenora contained less than 500 people, including tradesmen and mechanics.¹¹⁶

The gold rush changed embodiments of nature in the Stikine. This new understanding superseded previous conceptions of animals and threatened indigenous lifeways in which animals were important participants. New people, ideas and state institutions established strongholds in the area. Animals were increasingly commodified, disconnected from nature and experience by new technologies and new social regulations mediating their use. My hope is to use these ephemeral notions about animals and the ‘unbuilt environment’ to demonstrate how environmental historians might follow how ideas about animals played an increasingly vital role in how place was formed, reformed and challenged within environmental discourse. The unbuilt environment is most evident in the aftermath of Yukon-Canadian Railway – the first major failed experiment in the region – and other railways/roads that people sought to build. But it can be seen up the Teslin Trail as well, as promises about an easy conduit to the gold fields were broken and people were forced to engage more directly with the new nature around them to propel themselves north.

On a more conceptual level, I hope to continue to broaden a discussion about unbuilt environments and how they might interact with notions of marginality, materiality and problems of scale. In places like the Stikine watershed, so long at the margins, yet connected intimately to other places through the enlarging circles of markets and enterprise, empire and embodied nature, the scale of inequality intertwined with complicated geographies of dispossession. The re-orientation of interactions with animal bodies – commodities which were increasingly fungible and fluid – fundamentally altered the cultural politics of nature embodied, in this chapter, in the new ordering of consumption that emerged out of the gold rush and the failed railway. The next chapter, on the subsequent growth of a hunting and guiding industry and the concurrent expression of conservation principles, continues this line of inquiry on animals and nature in the Stikine. The Stikine would remain largely unbuilt in the coming decades but these two chapters frame early development efforts which were essential because they set up the possibility of improvement and sanctioned the Stikine as a place where progress could be achieved through development and the growth of extractive economies.
Chapter Three - Imbricated Geographies of Conservation and Consumption in the Stikine Plateau

And I think I have shown that this animal is too valuable to be killed simply and solely because a man wants fresh meat.¹

In 1905, Arthur Bryan Williams, the newly appointed Provincial Game Warden, implemented a new regime of control over landscape, animals and ecology in British Columbia. Newly imposed hunting seasons, kill limits, an enforcement network and a careful system of accounting rescripted what animals meant in the province and fundamentally changed the interactions among people, nature and the state (see Appendix I for a list of hunting related laws and regulations enacted between 1905 and 1934). My aim in this chapter is to show how hunting, conservation and the changes to consumption worked to shift understandings of nature in the Stikine. The geographies of conservation and consumption, operating across multiple scales, were a fundamental component of place-making in the Stikine in the first decades of the twentieth century.

Much of the ‘making’ of the Stikine in the early twentieth century reflected the changing relationship between people and animals. After the flurry of the gold rush abated, big game hunting became the principal industry in the Stikine. It flourished at the same time as the project of conservation was gaining widespread acceptance as a necessary state intervention in the daily lives of British Columbians. In distant places like the Stikine, conservation and statecraft operated in concert to organize land and resources. Or, put differently, conservation was a mechanism of statecraft used to make inimitable places legible, to re-order land into tangible,

coherent units of analysis; it was an administrative apparatus backed by a new legal architecture and growing juridical authority. To understand how the discourse and practice of conservation was imprinted on both the physical landscape and in the cultural identities of all interested parties, I ask how the use, perception and relationality of nature changed in the Stikine with the promotion of conservation initiatives. Although Williams and the state he represented held a utilitarian view of conservation, the outcomes of conservation policies and practices also produced imaginative geographies, constantly shifting and always formative in the way inhabitants related to the environment around them. Through the reformulation of human-animal relations, conservation enabled an imaginative geography of the Stikine which marked wildlife as hybrid commodities - at once ‘meat’ and ‘game.’

The altered meanings of animals, markets and ecology converged around new patterns of consumption that emerged out of the project of conservation. This was not a coherent, deliberate programme of dispossession but it did function at the leading edge of the northward push of state institutions and the legal (and ideological) mechanisms of colonialism that had gained a foothold during the gold rush years. Animals came to be known differently both in an abstract sense and also in terms of actual differences in animal bodies and behaviour after the increase in market-driven hunting, tourism and general provisioning. Put simply, hunting and conservation caused intertwined cultural and biophysical changes. The combination of a multi-layered state-sponsored conservation initiative and the

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strengthening of a nascent hunting industry altered the ecology of the region.

Correspondingly, Tahltan lifeways changed as they were brought into the hunting industry as experts and labourers and as the state enacted new regulations for how they could interact with the environment around them.

While building on the Canadian and international historiography of conservation, this chapter seeks to shift the focus of analysis to address patterns of consumption. Following the work of George Colpitts, Greg Gillespie, Tina Loo, John Sandlos and others, I address the shift from local to state control and the range of dispossession that thereby resulted. As Sandlos, writing about game management in parks in the Northwest Territories argues, conservation served as “one of the main administrative instruments through which the state was able to reshape

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human relationships to local environments in large areas of the Canadian hinterland.”

One of the ways to understand those changes, arguably, begins with the use of animals, their consumption. “Consumption,” Matthew Klingle argues, “is inherently spatial”; “it begins with changes to the natural world and must be understood as a process and phenomenon that unfolds over time.” Of course, geographers have long-recognized that consumption is a geographical process, but recent literature tends to emphasize cultural over social dimensions and sometimes lacks a historical perspective. In what follows, I combine elements of the recent analyses of conservation and consumption to consider how the environmental history of hunting and conservation in the Stikine affected consumption practices of newcomers and long-settled inhabitants alike.

The advent of an organized conservation initiative, comprising an evolving body of law, an increasingly effective enforcement regime and a codified system of

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5 Sandlos, Hunters at the Margins, 13.
6 Matthew W.Klingle “Spaces of Consumption in Environmental History,” History and Theory 42:3 (December 2003), 95. There is a highly contested historical debate on consumption, particularly dealing with Victorian England, but environment is rarely dealt with in any detail and is not a common subject of inquiry.
8 There are several thinkers who influenced contemporary attitudes towards game management including Aldo Leopold, Gifford Pinchot and Theodore Roosevelt. William Hornaday was foremost among them. In Canada, Dominion entomologist C. Gordon Hewitt was very influential. He wrote the first monograph on game management in Canada which reconciled the economic and aesthetic value of animals. See, C. Gordon Hewitt, The Conservation of Wild Life in Canada (New York: Scribner’s Sons, 1921).
accounting, connected the Stikine to Canada and the rest of the West. At the beginning of the twentieth century, new laws on closed seasons, kill limits, bounties and licencing for guides and hunters enclosed opportunities for tourists and residents alike. These new regulations also affected long-established trapping regimes. An expanding network of Deputy Game Wardens (DGWs) stationed across the province enforced new regulations, charged violators and inaugurated a system of surveillance. This system meshed with local game associations who appointed and paid the DGWs, who in 1905 numbered sixteen. By 1914, the number of DGWs more than doubled to thirty-six, and the control over appointments and responsibility for salaries shifted to the Game Branch. These wardens, aided by an informal network of knowledgeable ‘advisers,’ helped to gather information on animal populations, environmental conditions, climatic variability and other factors related to hunting big game. There was no DGW in the Stikine until 1910 and the Game Branch struggled to find a full time employee in the north for the next ten years. Importantly, conservation regulated a burgeoning big game hunting industry, and, in many parts of the province, contributed to maintaining threatened wildlife population numbers. In the Stikine, the hunting industry was essential to the local economy, both to the outfitters and to the Tahltan who worked as guides and cooks. Hunting brought people, goods and ideas into the region. As state conservation emerged, and with it the promotion of hunting opportunities, these

numbers increased dramatically.\textsuperscript{11} The new human-animal relationships that resulted altered consumption patterns, which were already in a state of flux in the aftermath of the Klondike gold rush.

With the enactment of the Game Amendment Act (1905), the provincial government imposed a regime onto varied local hunting practices and developed regulations into a coherent and enforceable body of law.\textsuperscript{12} The Act was designed to prevent poaching, control the hunting practices of out-of-province residents (especially Indigenous peoples), restore vulnerable game herds, maintain the economic return from trapping and guiding of non-residents, and provide recreation from hunting and fishing. Under Arthur Bryan Williams, the first Provincial Game Warden, the conservation programme’s ostensible goals were the regimentation of hunting practices and the protection of game. This challenged the established meat procurement practices of rural and indigenous peoples. Yet it also developed new economic opportunities in transportation, guiding, cooking, horse wrangling and general outfitting. The consumption of animals as objects of conservation through eating, hunting, photography and narrative can be linked to their production as huntable objects of a tourist consumer culture.\textsuperscript{13}


\textsuperscript{12} British Columbia, 1905 Game Amendment Act (Victoria: King’s Printer, 1905).

Transitions

The Stikine watershed is the homeland of the Tahltan and has been an important hunting ground for the neighbouring coastal Tlingit and Kaska peoples. Hunting, fishing and trapping formed the material basis of Tahltan economies, social lives and cosmologies. As George Emmons, the first Tahltan ethnographer put it, “[f]rom environment and through necessity the Tahltan have always been trappers and hunters.”\textsuperscript{14} Over the last two centuries, this spiritual and geographical dominion had been challenged by Russian traders, American surveyors, Canadian surveyors, British capital and an international assembly of gold rushers who all laid claim to resources and land in the watershed.\textsuperscript{15} Although Tahltan hunting ways were therefore altered through contact and encounter over the long-term, the gold rush precipitated another shift.


The Stikine was the geographical crux of the ‘all-Canadian’ route to the Klondike. Metropolitan promoters claimed it was easier, cheaper and better than its Alaskan counterparts. A mostly impassable wagon-road was cut north through the watershed across the plateau, tracing the planned route of the failed railway endeavour. Miners barely stopped in their scramble north, but they left an indelible imprint on the natural environment as they consumed animals, trees and other resources. The 5,000 men who spent the winter at Glenora in 1897-98 changed the
way nature was used and created new markets around desirable commodities. As discussed in the previous chapter, the influx of men enabled the intervention of the state into the landscape of the Stikine and the behaviour of its residents.

In the space of a little over a decade, perceptions of animals transmuted from “other-than-human-persons,” to borrow Richard White’s phrase, to entities that were managed by the far more instrumental views of European newcomers.\(^\text{16}\) The transition was abrupt in some respects, but not total, and the tensions which emerged arose in part from the overlap of widely different understandings of and uses for animals. When the hunting industry replaced gold as the primary economic connection with the south, it also changed animals as objects of desire. For the state, animals became ‘game’ or ‘wildlife’ and were presented in terms of economic exploitation and hinterland development. New conceptions of animals supplanted previous ideas, exposed the vulnerability of indigenous lifeways and threatened established relationships with animals in the watershed.

Provincial Game Warden Williams made this point explicitly at the beginning of his first Annual Report for 1905. In a section entitled “Game a Valuable Asset to the Province,” Williams asserted that British Columbia afforded “the best all-round country for sport on the continent,” but lamented the underexploited revenue opportunities.\(^\text{17}\) Big game hunters spent $1500 or more to make their authentic wilderness experiences possible. But, more importantly for Williams, “it is quite a frequent occurrence that a man who comes here simply and solely to shoot, while he


\(^{17}\) Williams, “Provincial Game Warden Report 1905,” D7.
is here sees the commercial advantages of the country, and not only invests money himself, but advises his friends to do likewise, and generally advertises the country.”

Williams consistently appealed to similar logic as a justification for why provincial legislators must appropriate funds for the protection of game. In 1907, a poetic Williams envisioned a system of game management in the Stikine that operated like a private capitalist enterprise. “Suppose the Province were to lease the Cassiar District to a private company," he asked, “look what could be done!” In an evangelizing spirit, he claimed,

A reliable game warden would be put on, whose salary and expenses might come to $1,800 per annum; a [hunting] licence of $150 would be charged to non-residents, and probably for a year or two, the number limited to 25. This would mean a profit of close on to $2,000 in licences alone. Then in a few years, when they had a regular system of protecting their game and distributing their tourists throughout their vast country, the number of visitors could be gradually increased until at least 100 could find sport without any decrease to the game. Of course, such a company would make enormous profits from its horse hire, sale of provisions, etc.

For Williams, the accounting was dizzying. Revealing his own aspirations, he asked, “Why cannot the Government do this as well as a private company?” Furthermore, he suggested, this arrangement would work to the benefit of the whole liberal polity: “They would have the revenue from the licences, and the people the profits

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18 Ibid.
from the trade.”20 The lines between market and management were increasingly blurred as the game department focused on economic justifications for its continued relevance.

Williams was not alone in his effort to trumpet the economic value of big game to emphasize the necessity of game protection to those who controlled provincial expenditure. C.F. French, the Hudson’s Bay Co. District Manager, saw northern economies in pre-contact terms and felt the promotion of a hunting industry could help to improve the simple living conditions of northern peoples.21 Sportsman-adventurer Warburton Pike held views remarkably similar to those of Williams, suggesting that the north was “worthless except as a shooting ground and a preserve for wild animals.”22 Conservation was integral not only to the promotion of the hunting industry but to the establishment of healthy, modern northern economies. It is worth repeating that big game was valuable to the province not as food, but rather, as trophy heads and furs. Williams’ constant refrain became a mantra for the hunting and guiding community: Northwest B.C. held potential as a “veritable hunting paradise.”23

This boosterism had real economic stimulus for settlers in the Stikine. Williams outlined the economic value of animals in real terms for the year 1915. Based on reports from outfitter John Hyland, Williams claimed that “it was possible this year to get almost an exact figure of the money left in Telegraph Creek by big-

20 Williams, “Game Warden’s Report 1907,” 1.
game hunters, and it amounted to $18,034. Of this amount, $5,140 was paid out for horse hire; $6,545 in wages to guides, packers and cooks; $2,765 in provisions; and the balance in furs, curios, hotel expenses, launch-hire, etc.”24 By his accounting, this sum “made all the difference between very hard times and prosperity.”25 Hunting had inaugurated important economic transitions.

Trapping

The Tahltan worked for wages within this economy, but it was in trapping for fur that they prospered and worked independently. Anglican missionary Frederick Inglis suggested that the “winter’s catch of fur to each man varies from a few hundred to over a thousand dollars.” He compared this lucrative work to the wages earned as cooks, sub-guides and horse-wranglers for big game hunters: “In the fall they act as guides to hunting parties... One party, consisting of two men and their guides had just returned. In less than four weeks they secured three moose, four caribou, three sheep, two goats and one bear. Guides got four dollars a day and board.”26 Trapping was economically and socially important for the Tahltan and more recent settlers. Inglis’ remarks show that, in addition to the changes wrought by hunting and conservation, forced changes to the trapping culture of the Tahltan and others destabilized economies and established social networks.

In 1913, the province passed an amendment to the Game Act that laid out a new licensing regime for hunters and trappers. Under the new regulations

25 Ibid.
26 National Archives of Canada (hereinafter NAC), Frederick Inglis files, MG31, H94, vol. 1.
conceived and written by Williams, trappers had to claim and register their lines for a fee of ten dollars. Indigenous peoples were exempted from the registration requirement. But this exemption also meant that the traplines owned by indigenous peoples not legally recognized and protected under the province-wide system of regulation. Among the Tahltn, traplines were (and still) are owned by individual families and protected by complex legal mechanisms that codify ownership and usufructory rights.  

In the 1920s and 1930s, the provincial government sought to establish a different system of ownership sanctioned by the state. The new trapline registration system, introduced in 1923, took ten years to implement and was the first of its kind in North America. An individual trapper could claim crown lands. Once registered, the trapper enjoyed exclusive rights over all traplines on that land and was responsible for maintaining a sustained yield of fur-bearing animals. In 1926, this system evolved once again as fur traders were required to pay royalties on fur transactions. At the same time, a new, more onerous, licensing system was implemented that required resident trappers to secure a twenty dollar licence; non-resident trappers paid ten times this cost, or $200. In addition, trappers who had secured particular territories were granted rights to tenure which became

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transferrable to a successor or to his estate. This new system bore few connections to the previous stewardship structure and, because many indigenous peoples were not conversant in the new arrangements, ownership of many traplines was usurped by new settlers and recent arrivals.

The Tahltan and their neighbours were often accused of ‘illegal’ trapping in the Stikine. Williams was concerned that because of negligible monitoring, “much of our fur is taken out by non-residents, whereby our own Indians’ trapping-ground is despoiled and our traders lose their trade in pelts.” The passage is remarkable for its possessives. Williams is unencumbered by a contradiction in which ‘our’ furs exist within Talhtan trapping-grounds. He is willing to recognize a measure of proprietorship of fur resources but is reluctant to submit to full ownership by the Tahltan. Even so, Williams granted several closed seasons for beaver at the request of the Stikine Indian Agent. However, in spite of vocal and protracted opposition from the Tahltan and other groups, there was a steady erosion of trapping rights through the later years of Williams’ tenure and through the 1920s and 1930s.

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32 See, for instance, NAC, Department of Indian Affairs, RG10, Vol 11293 Stikine Trapping, Harper Reed to D.M. KcKay, September 30, 1937. Reed relates a story in which a trapper named James McDonald said he was leaving the Stikine and wanted the trapline to go to the Tahltan “since it was really their own.” McDonald paid fees for 1937-8 season so the line could not be lost. The Game Branch were upset that
Much Tahltan opposition reached official channels through Indian Agent Harper Reed who advocated on their behalf and stressed the singular economic importance of trapping in the Stikine. In the Stikine, Reed claimed, trapping was vital to subsistence while elsewhere it was more supplementary.\textsuperscript{33} When game officials suggested that Tahltan individuals were undeserving of their traplines because they sometimes left the lines unattended when they took on additional work, Reed told Indian Commissioner D. M. McKay,

\begin{quote}
No Indian can make a living off a trap line – he has to get odd jobs, and why not? We have just come through a very bad period of no fur and now they are only just re-stocking rifles and tenting. Freddy Loudecker has been on rations for past years on account of losing his trap line... when he was squeezed out. Casey Jones is 20 and has been driven off his line by US citizen Ford.\textsuperscript{34}
\end{quote}

Several years earlier, Reed had asked for clarification of jurisdiction and game laws on trapping. He stressed the need for expediency, stating that at “it would seem necessary to have some final ruling as to what power... the Game department has over the rights and privileges of the game departments wards - and if they are so empowered- what is their final limit. At the present time with the stroke of a pen an Indian’s very existence can be cut short by the cutting down of his trap ground. If such authority has to be accepted the Indians will gradually lose the grounds they now have been provided with and eventually become dependent on relief for their total existence.” Reed wrote that he was writing “in view of obtaining – might it be said – ‘British Fair Play’ for the nomadic natives of this – no fur, and no revenue,” the registration had not been submitted to them first. They told Reed, "If they had been consulted it was going to a white trapper again".

\textsuperscript{33} NAC, Department of Indian Affairs, RG10, Vol. 11293 Stikine Trapping Casey Jones, Harper Reed to D.M. McKay, 18 August 1937.

\textsuperscript{34} Ibid, 15 June 1937.
upper country.” Economic factors, or lack thereof, were again essential in this conception of the Stikine and the lifeways of the Talhtan.

The new registration system of the 1920 and 30s, which required traplines to be legally registered with provincial authorities and maintained within a state-sanctioned structure of order, also caused conflict within Talhtan communities by raising questions of territory, ownership and affiliation. Joe Colburne, a hereditary chief at Telegraph Creek, attempted to organize the band against any form of trapline registration. He preferred some type of block ownership to be meted out by the Talhtan themselves. This did not sit well with the liberal individualist thrust of the move to registration. Indian Commissioner D.M. McKay complained to Game Commissioner F.R. Butler in 1938 that Colborne was operating at the head “of a number of agitators being opposed to any registration whatsoever, stating that the hunting and trapping grounds belonged to them anyhow... Colburne has claimed the authority to decide who got the traps in the block and a number of younger men who had originally followed him have now approached us for individual lines.”

Colburne led the move against registration for most of the 1930s, stating to Charles Perry, Assistant Game Commissioner, that “we are all afraid of a small area of trapping places ... I am not fighting the law and I am not trying to beat it, I only want a piece of land for our band.” By the end of the decade, Colburne’s attempts had been largely frustrated and his impetus had dwindled significantly. New technologies of trapping and administration had conspired to undermine Talhtan

37 Ibid, Johnny Taku Jack Family, Joe Colburne to Charles Perry, 23 June 1936.
38 Ibid, Harper Reed to Secretary, DIA, 25 February 1939.
control of trapping grounds in the Stikine. In contrast, trapping became an essential component of the lonely lives of settlers. Telegraph operators Richard Landry and Guy Lawrence both claimed that they made substantially more money from trapping furs than from their salaries.\textsuperscript{39}

**Hunting and Conservation: Knowledge and Regimenation**

Knowledge also became a valuable commodity when markets developed around heads and skins. Big game hunters required guidance on unfamiliar terrain. The habits and haunts of various species became important information. Useful environmental data, topographical expertise, access to established trails, knowledge of river currents and stream levels were all fixed within a market that prioritized speed and guaranteed a measure of success. From the perspective of conservation, Williams needed information about conditions across a vast expanse of territory, much of it in areas he had never visited. For the Stikine, he relied on the Government Agent J.W. Dodd and two major merchant outfitters, John Hyland and J.F. Callbreath. More importantly, Williams relied on the expertise of big game guide James A. Teit, also well-known as an ethnographer and linguist of Northwest coast and Interior Salish peoples, a long-term collaborator of New York-based anthropologist Franz Boas and an uncompromising advocate for indigenous rights in British Columbia.\textsuperscript{40} These men provided essential information that Williams, in turn, used to promote the area and inform prospective tourists.


\textsuperscript{40} Wendy Wickwire has assiduously chronicled the many facets of Teit’s remarkable life. See, Wendy Wickwire, ”We Shall Drink From the Stream and So Shall You’: James A. Teit and Native Resistance in British Columbia, 1908-22,” *Canadian...*
Williams’ correspondence with Teit is voluminous and full of both quantitative and qualitative information on animals, environment and climate. Teit provided exacting detail to questions raised about habitat, conditions, and behavioural particularities of virtually every game and fur-bearing animal in the province. The letters teem with references to game, weather, seasonal and other variable conditions that influenced hunting prospects. In a letter laying out possible routes for Austrian Prince Adolph Von Hagen, a self-styled master sportsman, Teit writes extemporaneously of game in the Stikine:

Mr. Von Hagen’s chief object is Moose, Caribou and Grisly Bear + for this reason he should go to the Cassiar as there these animals can be obtained within comparatively short range of one another as nowhere else in the Province... I am afraid however Mr. Von Hagen will find it very difficult to obtain moose heads of over sixty inch spread anywhere outside of the Kodiak or the Kenai peninsula... Mr. Von Hagen also says he would like good heads of elk, deer, goats and sheep. The last two kinds can also be got with comparative ease in Cassiar on the same trip and near the grounds that moose, Caribou and Bear frequent, but the two former animals cannot be obtained there. As you know yourself all these varieties of game cannot be obtained within close proximity of each other in any part of the Province.\footnote{PABC, Provincial Game Warden Files 1905-1922, GR 0446, James Teit to Arthur Bryan Williams, 12 February, 1906. See also, Teit to Williams, 15 November, 1907; Teit to Williams, 22 November, 1911; Williams to Teit, 29 November, 1915; Teit to Williams, 6 September, 1915; Teit to Williams, 18 November, 1916; Teit to Williams, 27 November, 1916.}

Teit’s expertise was used by Williams to draw prestigious clients to the province.

Williams was excited by the recruitment opportunities that a visit from an Austrian

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nobleman might create. In this sense, knowledge gleaned from years in the backcountry and through relationships with the Tahltan and other Stikine settlers was mobilized in an international tourist economy.

Perhaps the best example of the breadth of Teit’s knowledge can be found in an unpublished document, *British Columbia and Big Game Hunting*. Teit provides information on the physical features and climatic conditions of every major hunting district in the province and on the habitats of the most desirable big game. Teit includes a chapter, “About Hunting – Long and Short Trips,” in which he discusses potential provisioning requirements, methods for organizing excursions, relative costs, ideal trip lengths and itineraries, and traveling options. Teit saw hunting both as a means for employment and a component of a healthy regional economy and was involved in the promotion of the hunting industry. In the introduction, Teit states that:

> [w]e do not intend this pamphlet to be a treatise either on British Columbia or its game. It is simply intended to give sportsmen (in as concise a way as possible) an idea of the Country, its climate, its game both large and small and the range of different varieties.

Teit also delivered intermittent (and often unsolicited) reports from the field. In the summer of 1915, while engaged in ethnographic fieldwork in the Stikine, Teit wrote to Williams from Telegraph Creek, detailing the hunting conditions:

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43 He lists these as Vancouver Island Region, Coast Region, the Columbia, Kootenai or Mountain Region, the Northern Interior, the Lake Country. These are broad categories, encompassing most of the province. He devoted a short chapter to each of bear, elk or wapiti and dear, moose, caribou, mountain sheep and mountain goat, cougar, and antelope, buffalo and musk ox. He then has four distinct chapters given over to small game of BC, game birds of BC, water-fowl, and fish including salmon and trout.

44 Teit, *British Columbia and Big Game Hunting*, 1.
There [are] good reports of all kinds of game and especially of moose. The season it seems has been very good for horn growth, and moose are more abundant than ever. The summer has been the driest, and most free of mosquitoes and flies for many years back.\(^{45}\)

When conditions were good, especially in the Stikine, Teit volunteered information, perhaps hoping Williams would pass along the positive circumstances to prospective sportsmen deliberating on where to invest their time and capital. He had professional connections to the industry in the Stikine, and was also likely attempting to encourage more business for his guiding colleagues, both Tahltan and non-Indigenous. Teit often drew information from his Tahltan colleagues. To respond to Williams’ question about Cow Caribou horn growth and shedding in the Stikine, Teit conferred with “two old men here viz. Dandy Jim and Taku Johnny of the Tahltan tribe and they agree with all the points.”\(^{46}\) Teit often employed ethnographic information in his responses to Williams’ queries. Here we can see the beginnings of the intersections of knowledge and control over game resources in the Stikine.

When considered within this new conservation framework, the knowledge mobilized to improve game management becomes an important mechanism in the alteration of consumption. The regimentation of consumption becomes central. The “sportsman’s creed,” which stressed nobility and ethics in the pursuit of game, regulated the behaviour of the gentleman hunter. Appealing to notions of masculinity and social hierarchy, the creed dictated that hunters should not eat

\(^{45}\) PABC, Provincial Game Warden Files, Teit to Williams, 22 July, 1915.
\(^{46}\) PABC, Provincial Game Warden Files, Teit to Williams, 6 September, 1915.
what they shot except when faced with hunger on the game fields.\textsuperscript{47} To do so would sully the pure spirit of sport. Various uses of animals were compartmentalized and these separations became socially coded. As noted above, those who did consume game meat within established subsistence economies were judged a different class of hunter. Claims of ‘excessive killing’ or ‘wanton slaughter’ were common complaints of sportsmen who saw animals within the economic terms expressed by Williams. For example, Williams cites an anonymous English hunter writing from Telegraph Creek:

\begin{quote}
The day I returned to Telegraph Creek, I saw an Indian going out to fetch in three moose he had killed. He only brought in four quarters of it all; I heard him say so; the rest of the meat was wasted... the Indians, I am sure, kill a very large amount of game during the winter... I heard one, when speaking on a certain mountain, say that he had killed six sheep there last winter... they kill a number of moose in winter, their dogs, I am told, being fed on it. You really must have a live Game Warden up there... Anyhow, you will have to do something to keep the Cassiar a good game country.\textsuperscript{48}
\end{quote}

For men like the anonymous English sportsman, the flaunting of game regulations and the social expectations of the hunting industry were particularly egregious. The racial dimensions of the critique are obvious but were understood by the English sportsman as a matter of course. But it was particularly galling to witness game being taken as food for other, less valuable animals. Williams sought to “make it plain to everybody that big game... is too valuable to the country to be ruthlessly destroyed by Indians, prospectors and market hunters.”\textsuperscript{49} The programme of

\textsuperscript{47} Loo, \textit{States of Nature}, 26.
\textsuperscript{48} Williams, “Provincial Game Warden Report 1907,” 7.
\textsuperscript{49} Williams, “Provincial Game Warden Report 1905,” D9.
conservation allowed him to regulate how everybody, not just hunters, engaged with animals.

To this end, the creation of hunting and guiding licences, bag limits, seasonal restrictions and bounties (in short, the common conventions of conservation) can be considered essential to the regimentation of consumption of animals in British Columbia. Subsistence patterns were forcibly modified by the imposition of a new code of conduct around hunting. Ideally, the provisioning of food would become secondary to the perpetuation of a secure game population. The licensing system really took root in 1913 with an amendment to the Game Act that required big game hunters, guides and trappers to register with the province annually for the right to take animals. Hunters could buy a $2.50 Ordinary Firearms Licence to hunt birds and deer, or a $5 General Licence to hunt all game birds and animals. Guides were forced to buy a General Guiding Licence for $5, although no proof of aptitude or experience was required to secure licencing. Cooks, horse wranglers and outfitters also needed licences. It became the responsibility of the guide to ensure that his whole party carried the required hunting licences. After the trip was completed, he submitted a statement to the Game Branch that detailed the number of hunters he guided, the number of hunting days, and the number and species of animals killed.50

The imposition of open and closed seasons was a more complicated process. Open seasons were fluid, with time frames specific to each species and region. Generally, open season lasted for around four months from mid-summer to late-fall.

They were sometimes accompanied by restrictions on the sex of the animals that could be taken. They were meant to ensure that healthy, self-perpetuating populations were maintained in each region. Importantly, it was Williams who decided on the specifics of each open and closed season. He took input from DGWs and from people like James Teit, but he was the ultimate arbiter of hunting and conservation-related decisions in the province during his tenure.

The regimentation of consumption can be seen in the new system of accounting adopted by Williams which foregrounded the perceived success of tourism over the more mundane elements of subsistence. The hunting economy in the Stikine could be rendered into numbers through Williams’ contact with outfitters. He played on the remoteness of the area in claiming that, in the Stikine, there were “still to be found miles and miles of country, some of it splendid sheep ground, and all of it abounding in moose, caribou, goat and bear, yet the greater part of it had hardly been visited save for an odd trapper or Indian.”\(^\text{51}\) Yet he asked the readers of his Annual Report for 1906 (mostly legislators deciding on appropriations) to “Take what has been done in Cassiar this season by the 21 people who hunted in that district, and their guides; the total bag included 17 moose, 63 sheep, 29 caribou, 17 goats, 6 grizzly bear, 11 black bear, 1 black fox, 1 cross fox, and number of red foxes.”\(^\text{52}\) The following year he again shows that “In the Cassiar District there were 27 non-residents hunting, and the bag made by 24 of these people were as follows: 17 moose, 56 caribou, 52 sheep, 34 goats, 6 grizzly bear, 7

\(^{51}\) Williams, “Provincial Game Warden Report 1906,” 5.

\(^{52}\) Williams, “Provincial Game Warden Report 1906,” 6.
black bear – averaging 7.5 animals to each person who actually shot.” In this instance, Williams used this enumeration to justify his request for a permanent Deputy Game Warden for the Stikine. Animals were rendered calculable not according to population numbers or densities but rather in terms of their economic value as commodities of the hunt and as a way of justifying the expansion of a province-wide economy based on the bureaucracy of conservation.

Yet, despite the increasing rationalization of hunting and conservation, animals often proved intractable partners. In particular, wolves were constructed as a menace to game. In the Stikine, it was sometimes stated that wolves caused more destruction to game than the supposed depredations of the Tahltan. Williams praised the Tahltan for their decision to hunt wolves during the winter of 1908. However, his praise likely had more to do with the collection of bounties than with a simple desire to protect wintering moose populations. Bounties were a substantial source of income for many rural peoples. During Williams’ first tenure (1905-1918), hunters could collect fifteen dollars per pair of ears brought to local magistrates. The consumption of wolves, or at least destruction of wolves, was a function of a market created by conservation. “The destruction of these pests has cost the Government a lot of money,” warned Williams in 1911, “but it has been money well spent.”

56 Arthur Bryan Williams, “Provincial Game Warden Report 1911,” BC Sessional Papers 1912, Kings Printer, I10. This is part of a wider ideology and scientific
Connections were made between conservation and the creation of ‘poaching’ and other illegal activities. This was the creation of a new category of illegal behaviour as consumption became regimented and knowledge about animals was commodified. Common, contemporary and historical practices were turned into acts that transgressed the new prerogative of the state as embodied in the practice of conservation. In his new role as provincial gamekeeper, Williams buttressed his complaints by offering examples of letters from disgruntled sportsmen. In 1905 he cited an English gentleman, Mr. Goldaming who claimed that “in the Stikine country, from which I have just returned, Indians and others make no secret of the fact that they are hunting beaver in the winter, although the sale of skins in this case is also prohibited. They can sell them in Alaska and do so.” Williams sought to eradicate activities like this and he pushed forward an entire legal apparatus to prevent ‘waste’ and ‘destruction.’ But peoples at the margins were also reluctant to relinquish long-held practices to the new regime of game management. They failed to fit into the compartments created for use.

Poaching and cross-border hunting were the most egregious violations of the game laws according to Williams. Many of these hunters were following established patterns of resource use. New laws and political boundaries enforced legal mechanisms that superseded old boundaries and borders between resource procurement areas. Early in his tenure, Williams claimed success in the battle along

worldview about the management of animal populations. See, Aldo Leopold, Game Management

57 For an example of this phenomenon in Canada, see, John Sandlos, Hunters at the Margins, 165: for an American example, see, Karl Jacoby, Crimes Against Nature.

the border between south-eastern Alaska and north-western BC where “Indians from the United States have been poaching on our trapping and hunting.” These were likely Tlingit who were accustomed to yearly journeys up the Stikine, Iskut and Taku Rivers to hunt, fish salmon and collect berries. The idea of poaching would have been understood much differently within Tlingit and Tahltan cultural worlds. Borders between groups were fluid and often overlapped seasonally. Williams’ comments appear to be another appeal for permanent deputies as he suggests that success “has been largely due to the courtesy of the United States Consul in Vancouver and the Governor of Alaska, whose assistance was asked and wilfully given.”

The situation had worsened again by 1911. “Time after time,” Williams bemoaned, “at considerable expense, attempts were made to arrest [American poachers], and that these attempts failed is simply due to the residents of that district, after asking for action to be taken, failing to give a little help when most needed, and even, it is feared, going so far as to warn the offenders.”

By 1916, with dwindling allocations and a negligible stable of deputies due to wartime enlistment, Williams claimed the situation was dire. From his position in Victoria, Williams knew he was unable to dissuade or punish “trappers and hunters [who] come in up the Taku River from the United States regularly and take a heavy toll on game- and fur-bearing animals [or] the Indians [who] continue to slaughter game whenever

59 Williams, “Provincial Game Warden Report 1906,” 3. In a 1908 letter to Teit, Williams stated “I am of the opinion that the Government should spare no expense to put a stop to it.” See, PABC, Provincial Game Warden Files, Williams to Teit, 24 Jan 1908.
60 Williams, “Provincial Game Warden Report, 1911,” 18.
they feel like it.”61 ‘Poaching’ may have been a new state encroachment on the actions of locals that alienated a common resource. But, as a practice and as a new object of law, the illegal capture of animals were very real infringements of state conservation goals. After Williams was replaced in 1918 by a five-member panel headed by Provincial Chief Constable William G. McMynn, prosecution replaced protection as the central focus of the Provincial Game Warden’s office. “A stricter enforcement of the law,” was deemed necessary to curtail illegal behaviour and protect game. In Telegraph Creek, where many of the abuses occurred, McMynn sent a Special Constable who was congratulated for securing convictions for possessing moose meat out of season (certainly a well-established Tahltan practice) and for the exportation of big-game trophies.62

The export of trophies (particularly heads) was a recurring concern for game officials. These heads often left the Stikine (and the tax revenue of the province) through the permeable Alaska border. Williams was continually wary of the excessive killing of game “for market purposes.”63 These infractions were equally contraventions of the criminal code and the sportsmen’s code. Hunting with dogs, a preferred method of bear hunting in the Stikine, was outlawed. Pit-lamping, or night hunting with the aid of torches, was also forbidden.64 The hunting of elk for their teeth was particularly galling for Williams. It offended his sense of ‘fair play,’ his multivariate notion of the purpose of sport and his understanding of the value of

animals in moral, economic and aesthetic contexts. He sought increasingly punitive measures to combat these practices.

In the later years of Williams’ tenure, punishments, convictions, prosecutions and jail terms became a measure of the success and public acceptance of game laws. In 1905, Williams reported that there were 23 convictions in British Columbia for violations of the Game Act, rising to 54 in 1910. By 1914, the number of convictions had risen to 256. His later reports are filled with tables confirming the number of prosecutions, length of jail terms secured and revenue derived from fines. In 1915, during a time when restrictions were relaxed due to wartime material deprivations, Williams stated that, in BC as a whole, out of “258 cases, there were twenty-one dismissed, twenty-eight suspended sentences, fifteen gaol sentences and fines amounting to $4,097.50.”65 The fines and sentences are individually enumerated. Williams focused on this form of calculability as a method of justification when it became apparent that his simple rhetoric was no longer adequate. This is especially important when very little money was appropriated to the Game Department because it was being diverted to Canadian war effort. During the First World War, a curious paradox emerged wherein wildlife preservation was increasingly accepted as a necessary state intervention but public officials were less able impose their judicial will on violators.

Photography

In part through the promotion of conservation, concerns about animal populations began to permeate public consciousness in British Columbia in the first

decades of the twentieth century. Concurrently, differing technologies of capture became more widely available. In response, some hunters turned to different modes of capturing their prey. In particular, photography came to be seen as a viable alternative that combined the moral virtues of the hunt with an aesthetic appreciation of wildlife and landscape. Finis Dunaway describes nature photography as “a form of taxidermy” that promoted the possibility of preserving a threatened wilderness. He suggests that by “turning nature into an aestheticized, distanced Other, the images reflected the deepest form of amnesia encouraged by commodity civilization: the denial of human emplacement in nature, the forgetting of our ultimate dependence upon the natural world.”

Certainly, a similarly dualistic view of nature informed conservation which bracketed the cultural and natural worlds into separate realms of experience. Possibly, this view was expressed through nature photography. The rejection of a nature/culture dualism has become somewhat axiomatic in environmental history. However, the important point here is that the photographs themselves and the authenticity they claimed became commodities. Animals were consumed and traded in the pages of the hunting and adventure narratives that were so popular around the turn of the twentieth century. The photographs became a kind of currency, a validation of experience. Moreover, they offered very particular embodiments of places that

were intangible, exotic and unattainable. For some, the rejection of the rifle in favour of the camera allowed living places to be preserved during a time when doubts about environmental change were manifest and growing.

Warburton Pike is the most notable of these wildlife photography enthusiasts during the early twentieth century in British Columbia. Pike was a man of catholic pursuits. He enjoyed a successful career as a writer-adventurer, had some minor success with a placer mine operation near Dease Lake and also presided over several other business failures in the Stikine, most spectacularly, the cancelled railway from Glenora to Teslin during the gold rush, discussed in the previous chapter.\(^67\) He was also a semi-legendary figure among sportsmen. As Williams describes in his memoir, “Poor old Pike... was not a man who had killed an enormous amount of game, though he might easily have done so had he desired to. During the latter part of his life he rarely fired a shot out of a rifle as the camera had become a hobby with him, and with it he had remarkable success[.]”\(^68\) He was best known for two epic journeys in northern Canada. The second journey, undertaken in 1892-93 and chronicled in Through the Subarctic Forest, took him up the Stikine River and north across the plateau. The narrative is punctuated by his photographs, reproduced as engravings.\(^69\) For Pike, the sensation and ethic of wildlife photography was similar to that promoted through the sportsman’s creed. Much

\(^{67}\) He gained international renown for two books on the exploration of Northern Canada; Warburton Pike, Through the Subarctic Rainforest (London: E. Arnold, 1896); Warburton Pike, The Barren Ground of Northern Canada (New York: MacMillan, 1892).

\(^{68}\) Arthur Bryan Williams, Game Trails of British Columbia: Big Game and Other Sport in the Wilds of British Columbia (New York: Charles Scribner’s Sons, 1925), 277.

\(^{69}\) Pike, Through the Subarctic Forest. There are 17 engravings in the book.
like the hunt, patience, honour and endurance were essential to a successful portrait.

Pike embraced the conservationist vision of Williams and the possibilities it offered for a new understanding of nature. “Enough blood has been spilt,” he maintained, “and it is only by laying down the rifle for the camera that one may begin over time, with zeal, the search for lonely places where wild beasts wander undisturbed. In such places it is still possible for a man well on in years to experience a few symptoms of buck-fever as he crawls up within camera-range of a band of animals.”\textsuperscript{70} In the Stikine, where game animals were available in abundance, photography added another element of difficulty to the chase and capture of animals. There was also a naturalist component to Pike’s new commitment: “The hunter never realizes how seldom an animal comes into full view until he has followed him around with a camera, and met with failure after failure.”\textsuperscript{71} The principles of conservation contributed the desire to consume game animals differently, in a manner that preserved their place in nature.

Pike’s transition from hunting with a gun to representing an idealized nature with a camera illuminates how photographs operated as currency and were mobilized as authenticating devices of wilderness experience. Photographs often circulated between interested parties as tokens of exchange and as burdens of proof. Ethnographer James Teit sent to Williams photographs of Stikine wildlife that had originally been given to him by Homer Sargent, a hunting client from New York.

\textsuperscript{70} Warburton Pike, \textit{Canada magazine}, Reprinted in \textit{Victoria Times}, July 20, 1907, 8.
With Sargent’s permission, Williams used the photographs to promote the north to prospective sportsman.⁷² After Sargent, who also financed some of Teit’s ethnographic work through anthropologist Franz Boas, gave Teit his Polaroid camera, Teit used it during both field work and guiding trips in the Stikine. Photographs he took circulated in several groups: among Teit’s anthropology colleagues, through Williams to various hunters and magazines, within Tahltan communities who were interested in the new technology and among successful hunters eager to prove their acumen to members of local associations. Williams packaged photographs with trophy heads to be exhibited as promotional enticements at fairs in Austria and Ireland.⁷³ Photographs functioned as more highly contextualized visions of the possibilities that the Stikine wilderness could provide.

Yet they could also speak to a spectral danger that lurked in the unknown wilderness. Indian Agent Harper Reed spent an evening in the late 1950s around the campfire with writer-adventurer Raymond Patterson. Reed told of one harrowing episode on the banks of Cold Fish Lake where he was stalked and cornered by a pack of wolves. Reed overturned his sled to use as a shield as he shot indiscriminately into a pack of 150 wolves that were converging on his position. He told Patterson of the intentional slaughter and dismemberment of 30-odd moose on the Klappan River. The wolves had corralled the moose to a particular spot where they knew the spring flow had bled over the ice. The moose had no traction on the slick river ice and were easy prey. What the wolves could not eat they cached for

⁷² PABC, Provincial Game Warden Files, Williams to Teit, Jan 14 1908.
⁷³ Williams, “Game Warden Report 1911,” 17.
later. Nevertheless, after a lifetime in constant contact with the animals in the Stikine, Reed underscored the important changes that had been wrought by the imposition of hunting regulations and the project of conservation. He warned Patterson, “What I’ve been telling you happened forty years ago, and since then, what with the bounty and the putting out of poison, and good modern rifles in almost everyone’s hands, all the habits of the animals have been changed. Once man steps into the picture, the very delicate balance of nature is upset. And the wolf has always been the enemy. Too late we may find out that he, too, has a part to play.”

He was able to verify his story with a grainy photograph of the remnants of a single bull moose carcass laying limp on river ice saturated with blood. Raymond Patterson published the photograph in *Trail to the Interior*, his account of a solo voyage into the Stikine/Cassiar in the 1960s. Here photography functioned as a warning. The Stikine was a place of magisterial beauty but also of uncertainty and potential menace. In contrast, Yukon Telegraph operator Richard Landry used photography to ease the tedium of a solitary life on the line. He described an excursion to the government-installed salt licks near his station where he encountered a young moose that had been cached by its mother while she looked for food. Landry recollected that he tried to capture the scene in a photograph but “I couldn’t get him far enough away from my lens so I picked him up and carried him a few yards away. I would turn around and there would be his nose in the lens

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75 Patterson, *Trail to the Interior*, photograph inset between pgs. 80-81. The caption accompanying the photo reads, “The bloodstained ice, the remnants of the moose, the dog sled and team.”
again.” Photography enabled myriad representations of nature and encouraged the overlapping flow of those representations in public discourse. These images were received mostly by those who were ‘outside’ the Stikine. When they went into circulation they ‘made’ the Stikine a place that could be experienced and consumed via that mobile form. As a representational technology, photography cemented place-making practices.

Changes in the consumption of animals and nature came to be imprinted on the land and were reflected in the way the Stikine was presented to people in southern centres. Hunting, conservation and photography made animals the central subjects of landscape representation and place in the Stikine in the first decades of the twentieth century. Animals also reflected the ecological changes wrought by guns, cameras and increased human traffic. Consider the map below (figure 2). Inscribed on the back of an accounting sheet, the map plotted the game (size, weight, numbers, horn quality, fur colour, etc.) taken in the Stikine by Mrs. Hyland’s (widow of recently deceased outfitter John Hyland) clients during the 1916 season. She sent the map and the ledger to Williams for his accounts. It was also used as a promotional pamphlet, sent out to prospective hunters around the world. The map shows the Stikine as a localized space, marked primarily by the movements of its animal constituents. Moose, caribou, mountain goat and grizzly bear showed visitors where to go and served as symbols of the opportunities that awaited them in the Stikine. The practice of conservation and hunting fundamentally changed the

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77 PABC, Provincial Game Warden Files, Mrs. Hyland to Williams, November 1916.
landscape in the Stikine into one that highlighted certain aspects of its ‘real’ nature. By 1916 the Stikine could have been said to look like the gridded, organized territory of the Hyland map. The land is codified in completely different ways. Indeed, it had become a commodity, or perhaps more appropriately, a storage locker for commodities. The state reordered the land to the benefit of the individual and private property, for the purpose of administering the resources that would vitalize the economy and encourage settlement. Lines were drawn on a map, actualized on the ground at the expense of existing understandings of the land, and activated to inaugurate new systems of power and sovereignty over land already managed effectively by rural and Indigenous peoples. The map does not point to the institutions of the state that were moving into the Stikine: the deputy game wardens, the shifting trapline ownership, the game trails and temporary camps used by guides and Tahltan alike. But, by emphasizing the animal presence throughout the previously absent space in the region, we can begin to see how the program of conservation changed representational practices and reordered the land in the Stikine.
A closer look at one species offers an illuminating perspective on how the new hunting industry and conservation paradigm altered human-animal relationships.
Until the 1890s moose were thought to be absent from BC and certainly from the Stikine plateau. Writing up his scattered field notes on the Tahltan, amateur ethnographer George Emmons claimed, in an uncharacteristically equivocal tone, “The history of the occurrence of the moose in this section can not well be accounted for. It is believed to have been a habitant of all this region in early days, but for some unexplained reason the animal entirely disappeared in 1800.”

Emmons’ assertion is complicated by the slightly less ambiguous comments of Warburton Pike who claimed, in 1896, that “Twenty-five years ago... the animal was unknown to the [Tahltan] Indians hunting west of Dease Lake... Quite recently there were [no moose] between Dease Lake and Telegraph Lake.” But this had changed. Pike reported the Tahltan had observed that “a new animal – larger and better than anything they knew before – had invaded their country.” Perhaps betraying his entrepreneurial eye, Pike’s next line held a portent of things to come: “Today the little known region drained by the Dease, the upper Liard, the Frances, and the Pelly [northern section of the Stikine/Cassiar], is probably the best moose country on the Continent of North America.”

If Pike hinted at the potential economic and aesthetic value of the migrating moose, his more stoic and pragmatic travelling companion, Sir Clive Phillips-Wolley, pinned those benefits down in stark terms: he “saw two canoes (big freight canoes) come down loaded with magnificent horns from a district where almost the only residents are a few Siwashes and some

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78 Emmons, George T., Tahltan Indians (Philadelphia: University Museum, 1911).
79 Pike, Through the Subarctic Forest.
Chinese miners."\(^{80}\) Here we can begin to glimpse the potential relationship between the emergence of moose as object-of-desire with a qualitative value and the growth of conservation and the hunting industry in north-western BC. Moose are set down on the Hyland map as existing in particular places. This fixing of knowledge also worked to fix the value of moose within the commodity market. Yet moose (like other game species) remained fungible. They remained usable and important in many different economies, including those specific to the Tahltan and their neighbours.

All these changes enacted by Williams, his ‘advisors’ and the administrative apparatus built up around conservation altered Tahltan cosmologies that mediated their relations with animals and the environment that sustained them. This was exemplified through the shifting relationship with AtsEntma, the meat mother. James Teit was told in 1915,

\[^{81}\] AtsEntma has the power of making game scarce in certain places. When this happens the Indians believe that some one has not treated the animals respectfully or has failed to make full use of them as food, and that therefore their mother has called them home for a time or for good, as a warning or punishment for the Indians.

This fundamental relationship was changed by the development of a hunting and guiding industry, by the movements of liberal capitalism, by the commodification of meat, hides, and salon-mounted heads and by the mobilization of new technologies of hunting: the rifle, the horse, the camera. Many Tahltan men were employed in the hunting/guiding industry as cooks, horse wranglers, guides, and store-clerks –

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working as active participants in the re-ordering of the landscape in the Stikine. The Tahltan had a certain measure of control over the outcome of the conservation program, but they could not prevent the incremental technical and administrative thrust that motivated the successful land re-ordering scheme at the heart of the provincial state’s move into the northwest.

In the first decades of the twentieth century the geographies that emerged from the programme of conservation changed the way people interacted with, constituted and consumed nature and their relationships with its inhabitants in the Stikine. This changing engagement with nature was built on the cultural, economic and administrative institutions that first arrived in the gold rush years and gained increasing power as more major infrastructure and development projects were proposed in the following decades. The state, through the administrative medium of conservation inaugurated to control animal populations, altered regimes of consumption in the Stikine. This was accomplished through various mechanisms of control and coercion, and, though it is too blunt to say this was an intentional campaign of alienation, it occurred during a time of profound changes to the lifeways of Indigenous peoples across British Columbia and Canada. This altered the ecology of the region and had profound effects on local and regional Tahltan economies, on Tahltan cosmologies and social relations and on human-environment interconnections in the region. Conservation, as an administrative apparatus and policy initiative, can be seen as a modern technology of power that worked to destabilize established administrative regimes and enacted new state-sanctioned visions of landscape and environment in the Stikine plateau. New regulations on
traplines, hunting seasons, allowable catches and quarries, the creation of ‘poaching’ and other illegal activities combined with the recent growth of a hunting and guiding industry to establish alternative means of management over land, animals and the socioeconomic lives of inhabitants in the Stikine.

This chapter is a bit of an outlier in the larger argument about unbuilt environments. Conservation and consumption do not fit within the physical development framework of other chapters. But, this chapter is important but it does frame important concerns about early development and point to the movement and establishment of personnel and institutions and ideas into the region. The connections between local, regional and global economic and social forces worked to shape nature and landscape in the Stikine. It is in this sense that the idea of imbrications, the interlocking of conservation and consumption, becomes constructive for histories of the environment and for interrogations of the changing relationship between humans and animals and the state institutions that often mediate those relations. Overlapping effects created a tightly-bound but still malleable system of wildlife organization in northwest B.C. Imbrications encourages possibilities for work across geographical scales, from the intimate bodily scale of consumption to national/provincial scales of conservation and governance to grander scales of global connections. Hunting, conservation and the changes to consumption worked to shift understandings of nature in north-western BC. The geographies of conservation and consumption, operating across multiple scales, were a fundamental component of place-making in the Stikine in the first decades of the twentieth century.
There are no road signs to Cassiar anymore but an affable gas-station attendant told me to turn off just before Jade City, 140 km north of Dease Lake on the Stewart-Cassiar Highway. It is late June and the road into Cassiar is in reasonably good shape considering it has been left unmaintained since Cassiar Asbestos declared bankruptcy and closed the town in the middle of the winter of 1992. The road meanders along the bottom of an alpine valley, passing the detritus of abandoned buildings and equipment servicing operations, until you pass over the crest of a hill for a first glimpse of the tailings pile. Nestled in the shadow of McDame Mountain, the site of the open pit asbestos mine that sustained the town for forty years, the tailings pile sits still and untouched like a big grey-green toad. Although I expect it to be there, the tailings pile of crushed ore is startling. Its outline is stark against the surrounding mountains. Even in this post-industrial nature it is utterly out of place.

I feel a strange disquiet as I approach the pile. Asbestos carries ominous connotations in contemporary society, a health hazard and environmental contaminant. But asbestos has a different history in northwest B.C. Cassiar was the primary employer, main service centre and only permanent magnet for infrastructure development in the region during its existence from 1952 to 1992. Its failure is intertwined with the social, economic and environmental development of the Stikine in the latter half of the twentieth century. As I inch closer to the mountain of waste rock, I contemplate the particular constellation of asbestos,
deindustrialization, abandonment and corporate failure that characterized the lives of Cassiarites and determined the fate of the Company in the late-1980s and early-1990s.

Figure 4.1 - Three Views of the Tailings Pile at Cassiar. Photographs by the author.

Cassiar is an emblematic unbuilt environment. It is not even a ghost town; most of the houses and buildings have been dismantled, sold at auction and taken to other sites in the region. The few buildings that still stand have been repurposed as storage facilities for prospectors or stand as neglected examples of antiquated mining/milling technology. The town that once existed is no longer there.

Residents have long since been forced to leave. But the tailings pile stands as a stubborn testament to the environmental effects of the mine and social impacts of the townsite. This chapter examines the environmental legacy of the mine and the economic circumstances that led to the abandonment of asbestos production and permanent settlement in the Cassiar Mountains. I also assess the development, dislocation and re-emergence of ‘community’ among residents and company employees. There is a peculiar convergence of environment and community memory in Cassiar. The townsite is dismantled and hidden behind a locked fence but place-based connections internalized by former residents have persisted in spite of the physical dislocation that resulted from the mine shutdown. Cassiarites now
live across the province and the country but they have come together online to unite under the banner of “Cassiar ... do you remember?” The recreated community, its virtual geography and deep associations with place, are important motivators for this chapter and its engagement with Cassiar’s environment and the remarkable resolve of Cassiarities in the face of closure, economic failure and displacement.

I stand outside my car, taking pictures and trying to rationalize the health hazards I imagined I was inflicting on my own body by being in the pile’s presence without a mask. I was an asbestos neophyte, letting my uninformed cultural knowledge about asbestos run up against my research curiosity. A big red pick-up pulls up beside me, the same truck that had already driven by a few times as I stood there. The truck window rolls down and the driver, a burly man of 50 with an awesome handlebar moustache, asks me what I am doing, his air of suspicion betrays the ongoing politics of mining in an area of uncertain indigenous property rights and lingering environmental anxiety. I tell him, too quickly and too excitedly, that I am a researcher from UBC who wants to write about Cassiar and the mine and the tailings pile and asbestos. I share the few things I had read and found in the archives about what Cassiar was, what it meant and what was lost when the mine failed and I confess that although I had heard about the tailings pile I never understood what it was until I had seen it ten minutes earlier. We talk for about fifteen minutes. He is a prospector with several gold and copper claims in the adjacent hills. Eventually, he decides to trust me. He stopped, he said, to make sure

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I was not with the Sierra Club or some consultancy paid to quantify the value of untapped area resources.

He invites me to follow him to his office, located east of the tailings pile in the Storie Cabin, one of the first permanent buildings on the site. After introducing me to his employees and showing me some of the inner workings of his operation he tells me to hop in his truck for a quick tour of the townsite and mill. If he does not take me, he says, I will never be able to see it. I will be safe. He has been working there for ten years and does not know anybody who had gotten sick from exposure to asbestos. I leave my car at the cabin and begin the impromptu tour.

![Cassiar Tailings Pile](image)

**Figure 4.2** – Cassiar Tailings Pile. Photograph by the author.

We drive back past the tailings pile, the base barely 15 feet away, next to the fetid roadside ditch. For first time, I notice Troutline Creek, the primary water
source and sometime industrial refuse dump, on the other side of the road. It looks clean and clear. We approach the gate through an empty parking lot. On the right, I can see the mottled red roof of the wet mill. I unlock the gate and am told not to tell anyone who brought me in past the gate. Directly in front of us is a blue corrugated tin building that had been one of the primary management offices.

We turn left past the hockey rink. Or at least, the rubble that had been the rink. Since the shut down, the arena had been used by prospectors and miners to store equipment during the inactive winter season. In the winter of 2009, the unmaintained structure collapsed under the weight of snow, crushing any trucks, campers, drills and shovels leftover from the preceding summer. Now, the lot outside the former rink is a graveyard of twisted steel and derelict machinery.

South of the arena, the geometric street grid of the townsite is still imprinted on the landscape. We drive down the main thoroughfare, Connell Dr., still intact. The dozen or so side streets that transected Connell have been dug up in an effort to return the valley bottom to some semblance of wilderness. The houses are all gone, either torn down or transported to proto-Cassiar subdivisions in Dease Lake, Iskut or Watson Lake. Driveways, often surfaced with tailings material, are still apparent, as are the flower boxes, some of them with resilient perennials poking out from behind the dessicated borders. We drive to the end of the road to look at the dump. It is on the other side of Troutline Creek but the bridge has been taken down and the site is inaccessible from our vantage. Troutline is small, shallow and slow: I could wade across but my guide has a drilling appointment later and I do not want to impose further on his good will. The material history of settlement – house lots,
waste deposits, flower gardens, minor league hockey games – exists in outline, but remains tantalizingly ephemeral.

We turn around and head back up the other major roadway, Malozemoff Ave. The same landscape continues to my right but to the left is another example of the civic culture that the company promoted to entice workers and their families to a remote corner of British Columbia. A T-bar traces a route up the hillside, where workers skied during their free time. After several hundred metres we arrive at the Catholic Church, still standing, empty of pews and sermons but intact with the iconography of worship. The stained glass windows remain unbroken though the brutal northern winters at an elevation of 3000 feet chip away at the white exterior paint. My guide’s time seems less precious and he keeps encouraging me to stop and take pictures of the places that interest me. He seems proud of what is left of Cassiar, claiming a kind of ownership over the place through his intermittent presence during the summer exploration season.

Figure 4.3 – Cassiar Catholic Church. Photographs by the author.

There is some evidence of recent activity in the distance. A late-70s model gasoline transport truck, with the unmistakable Shell Oil logo, is parked in front of
three long brown apartment complexes that are still standing. These are the former “Single Quarters” where itinerant labourers were housed when they arrived or where family men boarded until their families arrived or their houses were built. Now, the buildings are used to house contract diamond drillers, prospectors working their claims and jade miners harvesting the waste debris of the asbestos mine. For 160 dollars a night, the mostly male clientele get room and board and a warm shower, all powered by a generator. This is a welcome development in the new Cassiar where the lack of infrastructure previously meant fairly spartan conditions during the months of on site work.

**Figure 4.4** – Cassiar Dry Storage and Wet Mill. Photograph by the author.

We continue east, away from town, toward the milling complex located beside the tailings pile. There are a few buildings left intact, most prominently the wet mill and dry rock storage. The mill buildings are not safe to approach and, after having been sold at auction, they are private property, so my guide is reluctant to get too close lest someone report his further infraction of the unspoken code of conduct. On our way past the milling complex we pass under the aerial tramline, originally built in 1955 to haul broken ore from the mine to the mill. The baskets
still hang motionless in the air along the full 3-mile line to the pit. Underneath the tramline is the makeshift processing facility of a private jade mining operation. High-quality jade is everywhere in Cassiar. It was separated from the asbestos fibre by the Company and used to pay for community amenities like the ski hill, movie theatre and curling rink. Now it provides considerable income for a local prospector who has established his own jade monopoly in the region. Cassiar jade is sold around the world, much like Cassiar asbestos was in decades gone by.

Figure 4.5 – Cassiar Tramline. Photograph by the author.

This should be the end of my time in Cassiar. I feel lucky to see the mill and the townsite, to spend a few minutes inside the church and experience the eerie magnetism of the tailings pile. But my guide decides that I should “see the pit.”
We turn north onto the mine road, the first bit of infrastructure built by the Company. It runs adjacent to the tramline and was used to haul ore, equipment and personnel to and from the pit year-round, often all day and night. Constant equipment upgrades designed to maximize production ensured that the road was in constant use and under heavy stress from the 80-tonne trucks that were in perpetual motion. Jettisoned mining equipment, trucks and camping gear are stockpiled along the route. The gear is in varying stages of disrepair; ‘Junk-yard Larry’ makes a decent living taking apart the equipment and selling it for parts or scrap in Smithers, I am told. After I learn this, Larry’s imprint comes into focus all over Cassiar. Piles of rubble take on new meanings within the new micro-economies that emerge in the wake of failure. Jade and junk are Cassiar’s commodities now.

We make two stops on our way to the pit. About a kilometer and a half from the mill site we find the shovel that lived at the bottom of the pit for the entire life cycle of the mine. It has been left in a field by the side of the road. A P & H Mine Shovel, it was the only shovel ever used by the Company to remove the dislodged material into trucks and tramline cars, providing almost 40 years of uninterrupted service, more than any man. There is a certain romance to a piece of industrial equipment that outlasts its operators and its corporate owners. But the shovel will never be used again. It is now outdated and, even if it were operational, would cost too much to move to another mining site. So it sits beside the road.
Further up the road sits the crusher. Before being loaded onto trucks and tramline cars ore would be broken into smaller pieces so that it could be better processed at the mill. The crusher improved production by no small measure. However, it too is consigned to the same fate as the shovel, equal parts industrial waste, relic of a northwestern mining past and big yellow warning of uncertain mining futures.

The road is six kilometres from townsite to pit where it is 6000 feet at the lip. As we climb McDame Mountain we get an unimpeded view down the Cirque Valley which would take us right to Atlin, B.C., site of a secondary gold rush in the early twentieth century. A barely navigable road snakes through the valley, a favoured area for the many hunters who worked out of Cassiar. Hunting and other outdoor activities were the primary leisure pursuit of Cassiarites. The possibilities of the surrounding landscape enticed many workers to Cassiar and were often cited in promotional material as an antidote to the blistering cold of winter. It is hard to imagine hunting being any great solace to the men working the night shift in

Figure 4.6 – Cassiar Crusher and Shovel #3. Photographs by the author.
February at 6000 feet when bolts would snap right off of machinery and the tramline cars would crack in the cold.

My guide was full of anecdotes about Cassiar... people and places, practices and pastimes, gossip and scandal.

We do not make it to the pit. Someone, the jade miner was the primary suspect, had dug a large trench across the road about a kilometre before the new, reduced summit of McDame Mountain. My guide suggests it was probably for drainage, but, he speculated, it might just as easily be to prevent other jade-seekers from scouring the pit and waste piles that had been pushed off the side of the mountain. So we back down the mountain, the road too narrow to turn his truck around. We are both disappointed but seeing the town is more than I had hoped for at the start of day when I left Whitehorse for Cassiar at 7AM.

We come back through town and meet Junkyard Larry at his headquarters just outside the gate in behind the hockey arena. It turns out there is some organizational method to the madness of rubble surrounding the arena. We stop to chat and Larry, loading gnarled steel onto his flatbed truck, admits that business prospects are very good this year. His new bounty excavated from the rink will provide enough material for several summers’ worth of loads to Smithers.

My guide has one more place to show me. We drive out of town, past the Storie Cabin, and follow two ATVs down a secondary road that seems to lead nowhere. We emerge from the brush onto a long, straight tarmac. The airstrip, I am told, was mostly used for medical emergencies and for supplementary deliveries of goods and services. But, for a few years, they were landing 737s with some
regularity. My guide muses on the cultural differences he witnessed at his different mining properties. If we were in Montana, he says, the tarmac would be filled with trucks piled high with barbeques, beer coolers and hunting equipment. And we would hear gunshots, round after round, fired at targets in the adjacent bush. But in northwest B.C., the tarmac is empty. We turned the truck around and drove straight toward the tailings pile.

![Figure 4.7 – Driving on the Cassiar Airstrip. Photograph by the author.](image)

I leave my guide at his office. He goes to meet his contractors and I go for another, closer look at the tailings pile. I park my car, no longer feeling much apprehension about health, environment or property. I jump across the ditch and am on the pile. Paralleling my footprints are animal tracks, moose or bear by the
dull size of them. The tailings pile has been subject to repeated business proposals since the closure. There is still a mineable grade of asbestos in the pile and new technologies could likely mill it economically. The ore is also filled with manganese, an element used as an alloy agent in steel and aluminum. My guide maintained that in the next ten years someone would option the tailings pile and ship it wholesale to Asia for processing. Clearly, Cassiar’s economic potential is not exhausted.

This fact is obvious to the naked eye. While you cannot see the manganese, asbestos and jade are accessible underfoot. Hairy, fist-sized emerald rocks are everywhere. I picked up dozens of samples before deciding on a few souvenirs.

It was time to leave Cassiar. I am going to be late for a dinner meeting in Dease Lake. But on the way out of town one last thing arrests me. I do not know how I missed it on the way in. Stashed on the side of the road, beside an old equipment garage, are several pallets of packaged asbestos. Split open and unused they invoke the risks of industrial failure and the politics of mining in marginal areas. Each package bore the imprint of the Cassiar Asbestos Company.
PART II – CASSIAR, 1952-1992

A. Geology, Exploration, Discovery

In the summer of 1950, four prospecting partners staked 7 claims on McDame Mountain in the Cassiar country about 100 km south of Watson Lake. Hiram Nelson, Victor Sittler and the Kirk Brothers were amateurs, poking around the region on weekends and off days, but they were after a big find and decided to explore the rumours of an asbestos outcropping that had been circulating ever since they had come north to work on the Alaska Highway. The partners did not really ‘find’ anything, but they did claim ownership over a commodity that had gained new value with its emerging industrial applications and new accessibility enabled by the highway they had helped build.

The partners knew they lacked the capacity to bring the deposit to production so they quickly sold their shares to Conwest Exploration Co. Ltd. In May 1951, Conwest incorporated the Cassiar Asbestos Co. Ltd., sent fibre to Ottawa for sampling, submitted an additional 33 claims and began to plan for more extensive diamond drilling to get a more complete rendering of the economic promise of the deposit. They determined that there was “a large body of talus material containing asbestos fibre overlying serpentine rock. There is estimated to be 290,000 tons of asbestos ore available in the talus material, and exploration and development to date indicate that this is underlain by a large tonnage of serpentine rock carrying a good percentage of similar fibre. The results of testing from the talus material have indicated a high quality spinning fibre and a recovery of 8% fibre of this grade is indicated. It is expected that additional recovery of lower grade fibres will be
practicable when operations are established.” The grade and quantity of the fibre, plus the prospect of further reserves, motivated Conwest to build a mill capable of treating 250 tons of ore daily with an initial annual production of approximately 6,000 tons of spinning grade fibre by 1953. Additional drilling increased annually as deeper drilling exposed greater fibre reserves; 5,892,000 tonnes in 1952, 7,232,000 tonnes in 1953. Expenditures increased at a similar rate as mining and milling equipment was brought to the site and as transportation technologies were implemented. A gravity fed steel chute was built from the lip of the pit, a power station and transmission lines were completed, an aerial tramway extending three kilometres from the pit to the mill was planned and the adit was drilled deeper every summer, exposing greater reserves. By 1962, after ten years of exponential increases in investment and capacity, the mill was processing 720,416 tonnes of ore annually and producing 2,357,623 tonnes of waste material. Profits rose accordingly: from $4.7 million in 1954 to $115.1 million in 1971. Cassiar was, within the broad metrics of the mining industry, hugely successful.

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2 Conwest Exploration Company Limited, “Annual Report 1951,”1-2. The samples were milled out at the Industrial Minerals Division of the Department of Mines and Technical Surveys.
This was, by most standards of industrial growth, a rapid and successful program that maximized potential and profit. But why did Cassiar Asbestos engineers and executives decide to proceed so quickly? What had they found that was so valuable and so immediately worthy of investment and endeavour? Asbestos is a general term used to describe a group of six hydrous magnesium silicate materials renowned for their supple and soft yet strong fibres.7 It had gained considerable value after its use became widespread in building construction and in

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7 The types of asbestos are chrysotile, amosite, crocidolite, tremolite, actinolite, and anthophyllite.
more specialized industrial applications, beginning in the mid-nineteenth century, because of its resistance to fire, corrosion and friction. Asbestos was used in concrete, for instance, because it was heat- and sound-resistant, it acted as insulation and the tensile strength of its long fibres amplified the structural integrity of buildings. The existence of asbestos on McDame Mountain had been known for 80 years (Dawson mentioned it in his 1887 Report) but the geographical marginality of the area made economical production impossible. The deposit suddenly became viable after the completion of the Alaska Highway. The peculiar qualities of the Cassiar deposit were also essential to its marketability. It was an iron-free chrysotile asbestos found in serpentinite rock. Non-ferrous asbestos was rare, at the time only found in South Africa and in small quantities in Arizona. It was identified as a strategic mineral by military interests, valued for its use in electric insulation, particularly on naval vessels. The chrysotile, or ‘white’ asbestos form, would gain increasing economic value for its long fibres and rhetorical value for its distinction as the ‘healthy’ form. The company claimed that chrysotile asbestos did not pose the same health hazards as ‘brown’ or ‘blue’ asbestos. To buttress the health claims management was particularly proud of claiming its product had been to the moon: Asbestos mined at McDame Mountain had apparently been used as the primary heat-reduction agent on the nose of the Apollo 11 spacecraft.

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B. Community, Population, Labour

When Cassiar was operating at peak capacity, the population of the town hovered around 1200 people. In the first years, the population was mostly male, but the gender and age demographics began to more closely resemble conventions as more families settled in the town. The company built a community around the mine to house workers and their families. Home ownership was at the centre of this program. The company laid a townsite to the west of the mill and tailings pile. With limited experience, management personnel surveyed house plots and streets that would determine the layout of Cassiar. Plots of land could be leased from the company and building materials were subsidized for wageworkers. Construction was the responsibility of the individual ‘homeowner.’ An unofficial exchange economy emerged with plumbers, carpenters and electricians all working on each other’s houses. Single men lived together in dormitory accommodation and ate in the company cafeteria. Management also rented company-built houses. The town had a school and a hospital, a bank and a post office, a grocery/hardware store and a liquor store that attracted shoppers from across northwest B.C. An RCMP detachment dealt with whatever minimal disturbances occurred. There was a travel agency to facilitate the great exodus during summer holidays. Schmoo Daze, a weekend community celebration of snowshoe, ski and dog sled races, marksmanship, snow-sculpture, curling bonspiels and, conspicuously, the outhouse races, eased the tedium of the dark, cold winter.

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10 Leblanc, Cassiar, 72, 79. For example, Leblanc claims that “by 1961 the 800 winter residents of the town included 135 married couples and 200 children.”
Figure 4.10 – Cassiar Townsite. Source: Cassiar employee booklet, n.d.

Company recruitment material emphasized activity, recreation and community wellbeing while trying to mitigate distance: “Because this is a relatively small community, somewhat isolated from the larger centres of amusement and leisure-time activity, no effort has been spared to develop a wide range of athletic, cultural and recreational pursuits. They are made available in hope that your spare time will be filled with interesting and rewarding pastimes.”  

In her popular history of Cassiar, UNBC Women’s Studies scholar Suzanne Leblanc, details the material comforts available to Cassiarites built by the company to foster a sense of community: curling rink, movie theatre, community center, lounge and bar, games room, library, auditorium, ski hill, hockey rink, soccer field and two churches, Anglican and Catholic.  

A club room held meetings for the Lions Club, toastmasters,  

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11 No Author, “Employee Information Booklet” Cassiar Asbestos Corp. Ltd., N.D.  
12 Suzanne Leblanc, Cassiar: A Jewel in the Wilderness (Prince George: Caitlin Press, 2003). For a comparison with an Asbestos mining town in Quebec, see, Jessica van Horssen, “ASBESTOS, QUEBEC: The Town, the Mineral, and the Local-Global Balance Between the Two” PhD Dissertation, University of Western Ontario.” Department of
boy scouts, girl guides, majorettes, dart club, P.T.A., handicraft club, gun club, badminton club and duplicate bridge club.\textsuperscript{13} For many workers, the main enticement was unencumbered access to prime hunting and fishing territory and other outdoor recreation possibilities. Others drank and gambled. Cassiar was similar to most remote northern resource communities, except with more of the leisure trappings of modernity readily available. Yet it was unique in that the amenities were funded by the company through the harvesting of an additional product mineral found in the ore of McDame Mountain. At first, jade was an annoyance, mostly tossed out with other tailings material down the side of the mountain or in the growing pile beside the mill. Some jade, the bigger chunks not connected to any asbestos fibres, would be saved in piles and left until the company figured out an economical use for it. The union soon bargained a solution. The company would sell the jade and use the profits to build some of the community amenities designed to make Cassiar an attractive place to live and work. Jade would mitigate some of the climatic and environmental disquiet of daily life in a Cassiar winter where months would pass without sun and the temperature would dip dangerously low. After a time, the sale of jade became so profitable that the company was compelled to include it in its general income reports for the benefit of shareholders.

The mill and mine were staffed by men from all over the world. An early promotional piece reported that the company needed between 50 and 150 employees “composed chiefly of Canadians, including Indians from Telegraph Creek, History, 2010.
\textsuperscript{13} No Author, “Employee Information Booklet”.
Lower Post and Whitehorse, but also new Canadians, formerly displaced persons of various national origins.”¹⁴ The company did not necessarily solicit this ethnic diversity but it became a marker of the workforce. For instance, in 1961 there were men from 27 countries living and working at Cassiar.¹⁵ Turnover was high, particularly in the early years when much of the wellbeing infrastructure was still being developed. The climate proved too much for some, others were undone by isolation while many were itinerant workers simply seeking a high paying job before moving on to the next enterprise. Turnover was above 100% annually during the 1960s – 125% in 1964, 175% in 1965. Bill Zemenchik, Mine Manager for almost the entire duration of operations at Cassiar, estimated that 250,000 people worked for Cassiar in various capacities.¹⁶ Skilled workers were the hardest to recruit and often the first to take their skills elsewhere: Cassiar Asbestos offered higher wages and apprenticeship programs to keep these workers. This was a business decision for Cassiar: high turnover translated to higher operating costs and higher industrial accident rates often resulting from inexperience.

From a company standpoint, there were considerable labour difficulties on top of the problem associated with skill, numbers and wages. The Cassiar Mine Mill and Allied Workers’ Union, Local no. 927, was formed in early 1954. Mill and mine workers subsequently joined the United Steel Workers Local 6536 in 1964. Strikes became more common in the 1970s as unionization spread from the mine and mill workers to other areas. In 1972, a strike over wages shut down production for

¹⁴ “$400 Monthly Earned in Northern Post” The Ottawa Citizen, Dec 31, 1952.
¹⁵ Leblanc, Cassiar, 71.
¹⁶ Leblanc, Cassiar, 75.
three weeks. In 1975, another strike shut down production largely over health concerns. Additionally, outside strikes continually disrupted shipment and production. Labour-management tensions continued into the 1980s and contributed to the ultimate failure of the company.

C. Transportation

Cassiar was, from an infrastructure point of view, in the middle of nowhere. The economical movement of industrial materials and household goods into Cassiar and the export of finished product was a constant concern of management. A road had to be built into camp at the outset, though they did not have to carve a trail out of the wilderness. A Sacramento-based mining interest, Moccasin Mines, had a small placer gold operation in the vicinity in the late 1940s and they had built a very rough road south from Watson Lake in order to bring machinery and supplies to their camp. There was no surveyor available so they simply chose the route themselves.17

Immediately after staking, the original partners secured a thousand dollar grant from the provincial government to improve the makeshift Cassiar Trail (as the Mocassin Mines road was known), to extend it down to the present day site of Jade City and to begin a branch road into the Cassiar townsite. This was completed within two years. The company also used grant money to improve the road to the pit, originally built by Moccasin as a bull dozer road up McDame Mountain in 1948. This road network would become the primary route of extraction of bulk ore for the next forty years.

The switchback road to the open pit was almost twice as long as the 5 kilometres that separated the mine and mill. By the summer of 1952, the company had acquired 12 7-ton trucks that were employed exclusively on the mine road, bringing ore to the mill for processing.\textsuperscript{18} The size and carriage-capacity of these trucks were continually upgraded over the years of operation. By the mid-1970s, a fleet of 80-ton trucks was in perpetual motion on the mine road, servicing the mill 24 hours a day, seven days a week. Aside from gasoline, tires were the major cost incurred by the transportation division. They were vulnerable to rock and sharp mine debris, particularly in the deep cold of the Cassiar winter. The road could be hazardous in winter as drivers made a 700-metre decline over the 10 kilometres to the mill.

Cassiar received considerable infrastructure support from the provincial government, especially in the construction and continual improvement of the Stewart-Cassiar Highway. The original shipments of product went north via the improved Moccasin-Cassiar Trail to the Alaska Highway and on to Whitehorse, almost 600 km away, where it would be loaded onto the Yukon and White Pass Railroad bound for Skagway. From there, Cassiar asbestos was shipped to various Pacific markets or directly to Vancouver, from where it was shipped in larger concentrations. This product travelled over 2000 kilometres between Cassiar and Vancouver. A small percentage of product travelled east along the Alaska Highway, bound for Edmonton and markets further east in Canada and the United States.

Construction of the Stewart-Cassiar Highway, explicitly for the purpose of providing

\textsuperscript{18} “Cassiar Output Starts in Fall” \textit{The Northern Miner}, July 31, 1952.
Cassiar Asbestos with a direct link to a Canadian deep seaport, began in 1958 but was not completed until 1972 at a cost of $30 million. This reduced the Cassiar-Vancouver product travel distance by 650 kilometres, but inconsistent road quality, periodic washouts and unreliable maintenance meant that Cassiar still looked north instead of south to Stewart. In spite of its consistent lobbying for the road, Cassiar did not use it until 1978, when it became a more cost-effective transshipment corridor than the Alaska Highway route.

The Alaska Highway route was undone by a number of factors: length, load weight limits, a political dispute over territorial jurisdiction and dust. The Stewart-Cassiar route was shorter, but until the early 1970s, the federal government, who collected duties on the Alaska Highway, offered Cassiar considerable concessions at the scales that monitored industrial traffic. All of the 22 trucks that Cassiar employed between the mine and Whitehorse operated over the legal weight limit, with the full knowledge of federal authorities. Cassiar paid fees for oversize trucking on the B.C. portion of the route, but took advantage of a “policy of unofficial ‘tolerance’ without overload permits.” It certainly helped that there was no scale on the Yukon portion of the route until December of 1970. When supervisory responsibility over the Alaska Highway devolved to the territorial government there was tangible anxiety at Cassiar that the Yukon government would enforce the load

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22 Maxwell, “A Brief Outline of the Economics and Northern Trucking Operations”. 
limits and the advantages of the northern route would be diminished. As it 
happened, Cassiar maintained its advantage for the better part of the decade before 
improvements to the port at Stewart made that transport avenue more attractive.

Dust also played a role in the decision to use Stewart as the main terminus 
for shipment to Vancouver. On the northern route, “Yukon Dust” seeped through 
“the smallest crack or opening contaminating everything.” The product got dirty 
on the trip to Whitehorse, masking the ‘whiteness’ that made Cassiar asbestos so 
valuable as a commodity. The solution was simple. It was less dusty on the 
southerly route and “palletized shrink wrap” packaging technology would further 
protect the containerized asbestos fibre and prevent the loss of fibre during the 
transportation process. In a further effort to accommodate Cassiar’s shipment 
needs at Stewart, the provincial Department of Highways allocated $40 million to 
upgrade and widen the Stewart-Cassiar Highway. Furthermore, the province 
offered truckload weight concessions that Yukon could not match. This was all 
happening at the same time as the B.C Rail’s Dease Lake Extension, which was being 
built with the assumption that Cassiar Asbestos would be a major customer. It 
seems clear that Cassiar was in a favourable transport position, with different 
governments (and different departments within governments) competing to 
provide the best competitive advantage to the company.

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D. Environment

“Environment” was not an important administrative concept in the early years of operation at Cassiar. Processing and production overrode concerns about environmental pollution. There was some awareness of the dangers of ambient dust and measures were taken to collect and disperse dust during the milling operation. But this was a localized response to a regional problem. Former employees remember a simple method of dating snowfalls. A tunnel or shaft dug into the snow exposed lines of green where mill dust had fallen on top of each snowfall. A postcard from the early 1960s shows a dust-cloud hanging over the town on an otherwise clear day. Prevailing winds were easterly, taking most of the dust away from town, but much remained, hovering above the townsite and touching down when winds subsided. Anybody living in the cabins and shacks east of town and the mill bore the brunt of hovering dust.

By the mid-1970s, the environmental effects of open pit mining and of asbestos production had become central to operational organization of the mine and the townsite. This signaled a cognitive shift from asbestos as mineral to asbestos as hazard. This policy modification was as much a result of outside pressure as of larger social-ecological concern. Pressure came largely from outside of Canada with the US Environmental Protection Agency (EPA) leading the charge with a forceful critique of asbestos and its health risks. The 1974 Annual Report marked an abrupt shift in company discourse in the way it framed operations. A developing environmental program was highlighted: equipment and infrastructure investment were suddenly at the forefront of the public message. The company created a new department of environmental affairs that was concerned generally with waste
removal systems, reducing airborne fibre counts, dust prevention and improving the standards of cleanliness.

These innovations were instigated by the looming possibility of enforced decreases in allowable asbestos dust standards from 5 million fibres per cubic foot. When the Mine Inspection Branch imposed a more stringent guideline of 5 fibres per cubic centimeter the company was forced to shut down operations for three weeks to meet the new standards. It was intimated that the standard might be further reduced to 2 fibres per cubic centimeter: the company complained that this limit was impractical and that the technology required to meet the target was either not available or too expensive. Yet, by 1981, the company had met the prospective standard and was proud of the expenditure and achievement: “over $18 million has been spent at the Cassiar asbestos mine on environmental facilities and equipment. These capital expenditures for modifications and improvements within the mill complex have resulted in the reduction of overall average fibre concentrations to less than two fibres per cubic centimeter, in compliance with B.C. government standards.”

A two-tiered Environmental Committee, composed of community, union and management representatives, was formed in January 1976 to supplement the environmental affairs department and to consult employees in environment and health matters. The Committee published newsletters designed to “get to the heart of the matter” without “complicated and somewhat mysterious” medical jargon and

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the fear-mongering of the media and the EPA.  

In the newsletter, Garry Doran, Cassiar’s newly hired Environmental Engineer, admitted that there were potential environmental side effects of asbestos production, but these were mitigated by the type of asbestos at Cassiar, production techniques and new technologies mobilized to alleviate the most potent dangers. The new programme included: “a) continuous monitoring program, b) extensive medical examinations, c) new and improved equipment enclosures d) use of new and improved dust lifts, e) protective clothing, f) confining asbestos to the working environment, g) personnel dedusting booths, h) new and improved vacuum cleaning system, i) mobile equipment cleaning, j) conditioning of wastes to reduce emissions, k) education of the employee, l) anti-smoking campaign, m) improved mill circuitry.”  

The Environmental Committee itemized the company response to environmental dangers while downplaying the actual effects on area ecosystems. The response was publicized but the dangers remained ambiguous and undetermined. Cassiar would also fight, for the remainder of its days, the “erroneous” decisions of the EPA to warn against and ultimately ban the use of asbestos in the US. By the mid-1980s, Cassiar could point to the Ontario Royal Commission on Asbestos and various industry-affiliated organizations to claims that chrysotile asbestos posed no discernable environmental risks.

Cassiar was forced to enumerate specific areas of environmental concern in a submission to the Pollution Control Board of British Columbia during a hearing on

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the reduction of fibre emission objectives in January 1978. This was a fairly comprehensive document that catalogued discharges into water and atmosphere and discharges onto land for the Minesite, Plantsite and Townsite. In general, Cassiar gave itself a passing grade. The main site of environmental contamination was the tailings pile that covered 45 acres of the valley floor and contained 12 million tonnes of material. It was acknowledged that there was some danger associated with the pile but the document emphasized the money spent and the mitigation programmes initiated. The submission claimed that operations at Cassiar benefitted from increased environmental awareness because “[e]nvironmental and process improvement tend to go hand in hand, the process improvement allowing generation of the capital required.”30 This tactic allowed Cassiar to issue new warnings about the dangers of over-regulation: “Increasingly large amounts of capital have been expended on environmentally related projects at Cassiar operations. In fact, the capital requirements for these and future projects are becoming so large that Cassiar’s known ore reserves may not be able to support all of them. This potential problem is of vital concern to all persons or agencies directly or indirectly deriving benefit from this primary resource industry.”31 Cassiar supported environmental initiatives but only to a point that did not interfere with production.

The submission also highlighted the company relationship with Troutline Creek, which was a flashpoint of environmental concern. Troutline was at risk

30 Cassiar Asbestos Corporation Limited, “A Submission to the Pollution Control Board of British Columbia for the Public Inquiry,” January 1978.
31 Cassiar, “A Submission to the Pollution Control Board of British Columbia for the Public Inquiry”. 
because of its proximity to the tailings pile and it needed to be protected because it was the main source of drinking water for the community. Engineers employed an industrial solution to the problem: “Between 1973 and 1976, diversion work was carried out to relocate Troutline Creek to a point further south of the Plantsite. This eliminated possible water contamination from the tailings. A restraining berm was installed to impound runoff during springtimes.”32 By bulldozing a new creek bed Cassiar claimed to ensure the safety of the water. Troutline Creek was subject to company testing and was always considered safe.

Independent testing at another Cassiar-owned asbestos mine in the Yukon revealed some health concerns. Residents of Clinton Creek, another company town associated with Cassiar asbestos in operation from 1967-1978, asked the federal Department of Environment to investigate the water they were drinking. That study concluded that there were “significant adverse effects on the invertebrate communities and fish populations as a result of substrate alteration and the presence of asbestos fibres in the vicinity of the mine ... [and] the water chemistry of the area near the tailings and waste rock pile has been affected as indicated by elevated levels of calcium, magnesium, iron manganese, potassium, turbidity and hardness.”33 Equivalencies with the situation at Cassiar are a matter of conjecture but it is clear that water quality standards were a contested matter open to some interpretation. The tailings pile and other industrial emissions became part of area

32 Cassiar, “A Submission to the Pollution Control Board of British Columbia for the Public Inquiry”.
33 Janet M. Landucci, “An Environmental Assessment of the Effects of Cassiar Asbestos Corporation on Clinton Creek, Yukon Territory” Department of Environment, Environmental Protection Service, Pacific Region (Regional Program Report no. 79-13), June 1978.
ecosystems and interacted with human and animal bodies in ways mostly unpolicied by the company or environmental regulators.

By the late 1980s, Cassiar had begun to develop more comprehensive environmental policies. Pollution policy would no longer be considered in isolation but would permeate all levels of corporate planning. The company would have a four-pronged strategy focused on air, water and noise pollution and on the abatement of solid waste but it would also focus resources on communications, organization and training, industrial health, customer protection and on defining problems and monitoring systems. Communication would be “at the heart of any successful system.” Yet the bottomline would still be prioritized even if the corporate language changed: “Abatement planning must be a balance of the equities between corporate economics and desired environmental quality.”

The tailings pile was the ever-present green-grey elephant in the room. Dust and water contamination were certainly on the corporate radar of Cassiar asbestos. But the real environmental legacy of the mining operation and the tailings pile remains to be seen. And it is an ongoing story. Both the pit and the pile were left unremediated. Groundwater seeps up into the pit, rainwater and melted snow create a pond every spring. Animals walk across the pile, fish swim in Troutline Creek across the road from the pile and prospectors drink its water.

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34 Melvin S. Taylor, “The environmental control structure required to establish corporate policy, communications, corporate environmental management, and to meet all guidelines for a safe and healthy environment at Cassiar Asbestos Corporation Limited in Cassiar BC” Prepared for Cassiar Asbestos Corp, April 1987.
E. Health

The question of asbestos-related health dangers was intimately tied to the environmental questions that had become so threatening to the asbestos industry. For Cassiar Asbestos, health and environment went hand in hand: interest in the health of workers and customers paralleled the new concern with environmental issues. Environmental innovations were more closely associated with limiting health risks than with mitigating ecological damage. Concern over employee health followed roughly the same timeline as environmental planning. In early years, despite a general awareness of the health risks associated with asbestos production, the company did not have a concerted health policy. Health seems to have been subsumed under the title of safety, which was essentially the minimization of risk: “All new employees are required to attend a Safety Indoctrination meeting. This requirement must be met as very important information on Company policies, requirements and practices, fire control, safety and legal aspects are explained.”

The company instituted health policies as the specific health risk of long-term asbestos exposure – lung-related cancers, asbestosis, mesothelioma – became better known. The modernization program of the mid-1970s included funds for the radical reduction of ambient dust in the mill. The mill was enclosed to become a self-contained unit, a vacuum system was installed to facilitate cleaning, air blowers maintained circulation and mill air pressure was redesigned to reduce the escape of fibres outside the mill. Much like environmental improvements, these health

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measures were seen as ‘non-productive’ but necessary in light of impending legislative adjustments and the possibility of lawsuits.

By the late 1980s, as the costs from lawsuits reached upwards of $10,000,000, Cassiar was continually forced to defend its health record. They mobilized science, history and, again, the uniquely safe properties of chrysotile asbestos to make their case. The company told the Workers’ Compensation Board of BC in January 1989 that,

A review of the relevant scientific evidence reveals that adverse health effects have not been observed from exposure to only chrysotile fibre in the relevant industrial settings at levels near, but still substantially higher that, the current limit of 2 f/ml. Thus, the present limit of 2 f/ml is clearly sufficient to protect workers from asbestosis... Moreover, there is no basis in the scientific literature for concluding that chrysotile has ever caused mesothelioma at such low levels as 2 f/ml... Finally, in studies of well-controlled factories using only chrysotile, no excess of any kind of cancer has been observed at levels such as 5 f/ml.

Anecdotal evidence challenges such assertions. There are several reported cases (or at least cases referenced by former employees) of asbestos related diseases among workers at Cassiar and much suggestion that others must exist, particularly among the itinerant indigenous community downwind from the tailings pile. Company health records are sealed and liability is limited and difficult to prove considering the company was dissolved almost twenty years ago.

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36 Leblanc, Cassiar, 141. Leblanc counts 6500 lawsuits filed against Cassiar between 1974 and 1991.
The open pit mine always had a finite life. Engineers projected a 40-year lifespan at the birth of the mine and that held up over the years as increased ore tonnage discoveries matched advances in production technology. In the late 1970s, during a time of uncertainty in the Canadian mining sector, engineers stumbled upon a second asbestos deposit while involved in seismic studies around the stability of the rising pit walls. After years of careful appraisal, company directors took a decision intended to extend the life of Cassiar for at least another ten years. The construction of an underground mine adjacent to the open pit was supposed to save the town and the company, but repeated engineering failures, financial difficulties and market downfalls signaled the end for both.

The second major asbestos mineralization on McDame Mountain was found by accident in 1978. Cassiar had been having problems dewatering the open pit. The excess water was disrupting the mining and benching sequence as they extended the pit deeper. Company engineers concluded that the appropriate solution was to drill a new adit on the side of the mountain and from this adit drill holes into the pit to drain the bottom. While the adit was being developed the company decided to do some exploratory diamond drilling. They found the extension deposit and confirmed it the following year with a more ambitious drilling programme. The news was greeted with considerable enthusiasm in Cassiar as it was thought to ensure the immediate future of the community.

Likely prompted by the possibility of operations extension, Brinco took over majority ownership of Cassiar in a corporate merger in August 1980. They invested
heavily in the development of the new ore discovery, known as the McDame vein. There was an elaboration of the drilling program in 1980-81 and an extensive airborne and ground magnetic survey endeavour in the following years. A series of pre-feasibility studies dampened some of the optimism by questioning the fibre grade of the deposit and the rock strength of the surrounding material. Further testing revealed a deposit that straddled an area 1.8 kilometres in length and 1 kilometre wide containing some 32 million tonnes of ore at a grade slightly below that of the open pit. Al Burgoyne, the Brinco geologist leading the McDame exploration operation, stated the obvious in May of 1986, “[a] production decision, utilizing block caving mining methods, will be contingent on continuing favourable exploration results, mine operating costs, financing and markets.” Nevertheless, by the end of the year Brinco was boasting to shareholders that McDame was “technically feasible.”

A feasibility study published in December 1987 determined that there was sufficient ore to proceed and to ensure the life of Cassiar for another decade after the closure of the pit. The decision to proceed was now in the hands of Princeton Mines (a mining conglomerate under the corporate control of Toronto investment counseling firm Hamblin Watsa) which bought a controlling share in Cassiar in February 1987. Management, under the leadership of newly-recruited president

40 Burgoyne, “Geology and Exploration”.
and CEO James O'Rourke, recognized the considerable risk and investment involved in the development of an underground mine. Expertise was lacking. Few of the miners had worked underground and no one in management had experience in building and operating underground. Financing, paradoxically for an asbestos initiative, proved relatively easy. In March 1988, Jack Davis, the provincial Minister of Mines, Energy and Petroleum Resources, announced government loan assistance for McDame of $25 million. The Bank of Montreal guaranteed loans of $12 million, leaving Cassiar to find the rest of the $43 million start-up costs.\(^\text{42}\)

Construction began in June. After a few complications with the contractor hired to build the mine, Cassiar staff were brought in to finish the job. McDame was completed on time in November 1990, although it was $20 million over budget. But production problems arose from the outset. The ore proved difficult to break into small enough rocks, making it impossible to remove the ore from the mine draw points. There was also considerable tension over the negotiation of a new union agreement. Having agreed to suspend pay increases over the last three contracts the union was unwilling to make further concessions now that the underground mine was operational. The company argued they could not afford the called for increase. A two-week strike resulted in a settlement in March but the work stoppage exacerbated a water inflow problem that had plagued the mine in the opening months of operations. The seepage problem could be contained by pumping out excess water, but the strike had halted regular operations and the mine was essentially flooded when work resumed. Additionally, asbestos continued

to take a public relations beating. The EPA decided to ban most uses of asbestos for 7 years, though the company claimed this would have little effect on sales as the US was no longer a major market for their product. The mine was operating over budget and the fibre grade was below predicted values but the mine met its contractual obligations and the company felt confident enough in the future profitability of the mine to host a 600 person mine opening celebration in August.\footnote{Leblanc, Cassiar, 154-163.}

\section*{G. Reorganization, Failure, Closure}

The development of the McDame mine was tied to the continual corporate re-organization of Cassiar and to an evolving corporate strategy meant to deal with shifting global demand for asbestos products.\footnote{John Bradbury and Michael Sendbuehler, “Restructuring Asbestos Mining in Western Canada” Canadian Geographer 32:4 (1988); 296-306.} Both Brinco and Princeton sought to diversify corporate holdings to increase financial assets and liquidity and to distance Cassiar from the social stigma of asbestos. To this end, Cassiar acquired San Antonio Gold Mine in Manitoba, Newmont Mining Co., which operated the Similco Mine near Princeton, BC and 50% stakes in Western Canadian Mining and the Lac Knife Graphite Project in Quebec. These investments brought Cassiar considerable investment leverage, reduced debt, increased cash flow and directly facilitated the decision to proceed with the McDame project. When Princeton took over in 1987, they completely re-oriented marketing patterns. \textit{BC Business} magazine compared Cassiar to “cigarette companies... its marketing strategy has shifted to where the action is.” In this case, the “action” was away from North America and Australia, “the areas most sensitive to environmental and health
concerns,” and towards Asia and Eastern Europe, with further target markets in South America and the Middle East. O’Rourke rejected criticism of a cynical corporate strategy directed at the Global South: “The reason that sales are climbing in countries like Indonesia and India is not only that they have highly sophisticated and growing construction industries, but because a favoured building product in such a climate is asbestos cement.” According to Cassiar, re-structuring and diversification was driven not by a desire to get out of asbestos but by opportunities presented in other arenas.

This is the corporate context of the McDame failure. Cassiar was able to secure financing for McDame because of its diversification program, but, from a corporate standpoint, Cassiar was undermined by the loans and differing political and business opinions over the economic viability of McDame. As collateral for the $25 million loan received in March 1988, Cassiar put up its wharf facility in North Vancouver with the understanding that it would be returned to Cassiar once construction of the underground mine was complete and pre-determined production goals were met. The company believed they had fulfilled these conditions. In order to meet further production targets and turn a profit on the McDame ore, Cassiar needed to hire 50 additional workers. It required $10 million to do so, and would raise half on the market with an equity issue, half by selling the wharf to the federal government. There was, however, disagreement about Cassiar’s progress. The provincial government claimed Cassiar had done little to repay the loan and would not release the company from its collateral obligations.

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45 Annett, “Shifting Fortunes,” 27.
The company, faced with a lack of capital and labour, decided nevertheless to proceed with the McDame mine. The Bank of Montreal also raised concerns about its loan, sending the company a letter reminding it that the loan could be recalled at any time. O’Rourke met with government officials in a second attempt to get the wharf released so that the company could raise operating capital. An election campaign was underway and the Social Credit government, keenly aware of its likely electoral defeat, asked for an outside report on the viability of McDame. It commissioned Coopers and Lybrand and released a document that was interpreted very differently by the now opposing groups. Cassiar contended that the report affirmed their plans and highlighted the market value of the ore. The province, now governed by the NDP, acknowledged the quality and size of the ore reserve but emphasized Coopers and Lybrand’s skepticism about the economic viability of the mine. They reached a standstill over the release of the wharf and, without the needed capital, Cassiar began to lay off workers and reduce its production.

The company filed for creditor protection in early October 1991. This gave the company three months to develop a plan to meet its credit obligations and restart full production. The “Reorganization Plan” claimed that Princeton had no resources to continue operation of the mine and would be forced to shut down without a further $17 million loan from the provincial government to be drawn over the first 8 months of 1992. Cassiar declared that the “[c]onsequences of not proceeding with the plan,” would force them into bankruptcy, entailing “[a] loss of approximately 500 direct jobs, and the consequential loss of many other jobs, curtailment of services of the townsite including heat, light and power and the
destruction of the economic base of Cassiar." The company outlined steps to cut operating costs: customers agreed to product cost increases, workers were temporarily laid off, planned wage increases were delayed, and creditors agreed to a significant concession. But the Plan was rejected. The government refused to finance the full measure of a re-organization where shareholders would not share any of the economic risk. There are parallels here with the Dease Lake Extension case discussed in the next chapter. The incoming NDP government under Mike Harcourt was trying to govern in a fiscally responsible manner after the previous Social Credit government had left behind the largest deficit in BC history. There was little money to spare for corporate bailouts.

Financing was unavailable from government sources and Cassiar could not raise money privately, so it declared bankruptcy in late January 1992. There was some attempt to find a buyer for Cassiar. A community coalition, McDame Mine Limited, formed to attract prospective buyers. They garnered some interest, particularly from Black Swan Gold Mines of Vancouver, but, ultimately it was a fruitless pursuit. Residents were given until July 30 to leave Cassiar or face eviction

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47 Princeton Mining Company, “Reorganization Plan - Summary” December 23, 1991. The company enumerated what would be lost in the event of closure under the title What is at Stake? Under “the Town of Cassiar” they included “1050 residents; businesses, government offices; hospitals and schools; services all provided by Company including power, sewage, water, recreation, snow removal.” Under “the McDame Project” they included “underground mine with more than 10 years remaining; 450 direct employees at Cassiar; 30 contract employees Stewart; 46 employees and contractors in Vancouver; $25 million per year in wages and benefits; $40 million per year to suppliers, materials and contractors: $75 million per year in export sales.” Under “the Company” they included “Cassiar Mining Company head office in Vancouver; Open pit mine operated for 38 years; provincial taxes and payments of $5.7 million per year; directors – management and union representatives; international sales of products to 52 countries.”
from their homes. Maynards auction house of Vancouver was hired to sell everything. The brand new school building was disassembled and shipped, piece-by-piece, to Hudson’s Hope in the Peace River valley. A developer from Sechelt bought lighting, telephone, electrical and fire prevention infrastructure for a subdivision on the Sunshine Coast. Mining companies from all over the world arrived to bid on the mill buildings, equipment and trucks. The auctioned raised only $6 million, a figure far below Cassiar’s debts. Most of what was not sold was bulldozed.

**H. Access, Information**

In the summer of 1993, as part of the liquidation and dispersal of company assets, an agreement was reached with the University of Northern British Columbia to house the records of the Cassiar mine and townsite. Files were placed haphazardly into boxes, taken from offices and from the on-site storage warehouse, and loaded into trucks to be taken to Prince George. In all, a trove of 3000 bankers boxes of archival material was delivered. There was no external logic applied to the material as it was placed in the containers. Anything deemed worthy of preservation was simply removed from office shelves and filing cabinets and put into whatever box seemed convenient. Organization and cataloguing of the material would rest with the archivists at UNBC. The boxes waited until 2000, when archivist Michael Taft, seeking to demystify the “archeological remains of Cassiar,” hired the
first of many summer co-op students to begin sifting, identifying and cataloguing Cassiar’s disordered past.48

Engineering and Annual Reports, employment and health records, environmental assessments and promotional material, production statistics and geotechnical data, maps and photographs – this is a massive collection chronicling the everyday operations of the mine and everyday life in Cassiar itself. It is an invaluable repository for someone wanting to write a comprehensive history of the company and the town. But such a study is circumscribed by serious legal, administrative and technical limitations on the archive. The Cassiar Corporate Archive is constrained by issues of access, accountability and the terms and organization imposed by the UNBC archive and the lawyers hired to protect company interests.

Research into the Cassiar Archives is frustrated by a number of factors. The material is literally difficult to access. Early on, UNBC archivists made the decision to use a database to catalogue what was held within the collection. The contracted computer consultant, along with the managing archivist, chose the original version of Microsoft Access. Searches must be conducted within the proscribed organizational parameters used to codify the collection. These searches must happen within these conventionally defined, ostensibly intuitive categories – “Name,” “Date,” “Accession/Box No.,” “Title,” “Category,” etc. There is no mechanism to cross-reference the categories. Researchers can only search for one term within one category at a time. In order to change the search term or to search for the same

term within a different field the researcher must log out of the database, log in again, return to the search page, reopen the database and input the new request. This is further complicated by the decision to split the collection into two smaller databases. They are not divided by subject, date or any other organizing logic. They are simply halved: 1500 boxes in each database, both organized in the same manner. They cannot be searched at the same time and they cannot be open at the same time. The researcher must repeat the log in/log out process to move between the databases, even when searching the same term in the same category. The unique process imposed on the Cassiar records subverts conventional models of doing archival work in the digital era, where following the trails of keywords and phrases makes the study of voluminous amounts of data possible. Physically accessing the boxes is prohibited and no long copy of a finding aid has ever been created, so researchers are channeled into a digital portal that in effect proves to be a blockade. The conventional archival method of follow-the-trail becomes impossible.

These research difficulties are exacerbated by the privacy restrictions imposed on the collection. The Cassiar databases are not publicly accessible. Unlike most modern archives, in order to search the collection, the researcher must be physically present at the one computer terminal that houses the database. Even while in Prince George, individual researchers are not allowed free access to the computer. An archivist must operate the computer, inputting all requests and searches. Every time the researcher wishes to search a term, name, concept or place, he/she must ask an archivist to leave her office, abandon whatever task she was engaged in, and do the search. The staff at the UNBC Archive are extremely
accommodating, but the continual requests disrupt of their other work. Sometimes they are unavailable or otherwise occupied. The unique process of the Cassiar collection is very time-consuming for the archivists and lies far outside of their regular routine. For the researcher, making constant demands for specialized time required to work within a database is impractical. Research begins to feel like an imposition. And it is likely burdensome for the archivist. It is a stop-start-stop endeavour that is counter-intuitive and, ultimately, counter-productive to the research process.

When the archivists began the task of accessioning the Cassiar material, they delegated the job to a succession of summer and co-op students. These students, though they may have had an interest in the library sciences or in the Cassiar collection, were not trained archivists. Nor were they well versed on the corporate structure or management of the Cassiar mine. Nevertheless, they were responsible for the identification and labeling of the materials contained within the 3000 unorganized boxes. Some of this cataloguing would have been straightforward: the identification of report author or title, the date of publication/submission or the sequencing of box numbers. Many of the conventional responsibilities of library professionals, particularly those designed to facilitate searches, required more specialized knowledge than the students could have possessed. The simplification of that amount of disorganized, disaggregated data into a coherent structure of searchable terms would have been a daunting task. Problems of continuity between student workers and the terms they employed were marked, particularly in the case of laden terms with political overlap, like ‘environment,’ ‘pollution,’ or ‘dust.’ These
ambiguities were heightened in cases where the classifications chosen to identify particular sources corresponded poorly to the actual contents of the file. This problem is common when dealing with archival records but the scale of the collection, coupled with the above-mentioned complications, made the ambiguities into a more serious difficulty.

Finally, problems around restricted legal access constrain access to relevant material. Under the terms of the bankruptcy proceedings a New York law firm was empowered to determine if any of the archival material should have restrictions placed upon it. This was the case with many files dealing with employment histories, payment records or hospital and health data. Considering many former Cassiarites are still alive, this is a reasonable caution from a corporate standpoint. However, much of the material dealing with environmental assessment is restricted as well. There is some confusion over how this material can be pursued. In the summer of 2010, I was informed that written requests must be submitted individually, through the UNBC Archive, to the law firm, who will make a determination of the risk involved in releasing the material. A legal assessment of the researcher's work, the positionality of the researcher and the potential legal hazard to the company are embedded in this oversight process. Of course, restrictions exist on many collections, but it is rare to have a third party, concerned primarily with the liability of a company it represents, hold sway over issues of access. In the winter of 2010, from the archivist informed me that the law firm would no longer be involved in the process. Instead, a more conventional procedure
involving a UNBC-expedited request through the BC Freedom of Information (BC FOI) review process would determine if the ‘restricted records’ would be released.

PART III – CASSIAR, 2010

I. Memory, Commemoration, Virtuality

There have been several other attempts to mine out of Cassiar, though none have sought to reopen McDame. In the summer of 1994 a partnership called B.C. Chrysotile Corp. began processing the tailings pile for asbestos fibre that had been left over from open pit operations. The waste rock, containing 16 million tonnes of crushed material, was believed to contain enough asbestos to be immediately profitable. As part of the mining agreement, B.C. Chrysotile agreed to clean up contaminated soils in the townsite and to begin the process of turning the abandoned and stripped townsite ‘back to nature,’ saving the province the estimated $5-7 million remediation costs. Roads were dug up, debris and garbage was organized and removed. 40 years of community development were consigned to heaps of rubble and the desire to obscure the most noticeable traces of settlement. In the late 1990s, the same company under a different name, Cassiar Mines & Metals, began a similar operation. Using the same milling facilities, CM & M were shipping product by the spring of 2000. With the planned construction of a new wet mill facility, CM & M planned to boost fibre production to 50,000 tonnes annually, almost half of Cassiar Asbestos’ peak production levels. The project was ultimately unsuccessful but the ‘rehabilitation’ of the valley floor continued the
production of a different landscape at the Cassiar townsite.\(^{49}\) In 2003, Cassiar Resources Inc. (as the company was then known) sold its operation to Cassiar Jade Contracting Inc., who currently mine, maintain and police the property.

The tailings pile is still there and some speculate that it will be optioned in the next decade. One local prospector told me that Chinese and Korean companies have been analyzing the contents over the last couple of years, with an eye to moving the entire pile to Asia to be rendered there. A significant part of this new business rationale is the presence of large quantities of manganese, an element with important metal alloy uses.

In the years after the shutdown, after residents were forced to find jobs and create lives elsewhere, a fascinating virtual postscript has emerged. Seeking a place to connect with lost friends and co-workers, share memories of bygone days and foster the idealized sense of community partnership that characterized life in Cassiar, former residents started a website called Cassiar... do you remember? Built in 1998 by Simone Rowlinson and currently maintained by Herb Daum (both former students at the Cassiar high school), the website is a rebuilt Cassiar. The site is sprawling: it contains hundreds of pictures, scanned archival documents, copies of Cassiar newspapers, reminiscences of employees and residents, birth and death notices, recollections of teachers and community leaders, a news page with links to stories about Cassiar. It offers souvenirs and a links page for other online Cassiar sources. A noticeboard allows conversation between former neighbours and facilitates planning of now-yearly Cassiar reunions that take place across Canada.

\(^{49}\) No Author, "Cassiar Completes First Shipment" The Northern Miner (Feb. 28 – Mar. 5, 2000).
An “In Memory” page remembers Cassiarites who have passed on and encourages remembrances from friends and family while a trivia section tests your knowledge of the ephemera of northern living.\(^50\)

The photographs are Cassiar’s main legacy. Members have uploaded thousands of personal photos documenting the social life of Cassiar: Schmoo Daze, weddings, dances, parties, concerts and the people who populated the gatherings that signaled community. Hundreds more show the landscape, both ‘urban’ and the surrounding area so valued by residents for its wilderness qualities. Many more show the gloomy scenes of closure, the abandoned buildings and unmaintained infrastructure sagging under the weight of neglect. Others show happier times, the men’s hockey team or scenes of a curling bonspiel, a Christmas pageant or talent show, or the visit from Prime Minister Pierre Trudeau in 1968. A new initiative launched this summer, by co-op student Megan Heitrich at UNBC, seeks to link Cassiar to other modern forms of social networking. Working with the UNBC Archives Cassiar photo collection, Heitrich launched the “Cassiar Photo I.D. Project” on Facebook. The project harnesses the communal nature of social media to help identify individuals, places and everyday activities at Cassiar. The process reads like a running historical commentary, with contributors offering suggestions and possibilities, assertions and contradictions.\(^51\) Even in its posthumous online life, Cassiar is a contested place.


Figure 4.12 – Cassiar Tailings Pile. Photograph by the author.

Conclusion

This chapter presents Cassiar from several different, overlapping vantage points. I visit three sites where Cassiar was or is, and, particularly in its virtual embodiment, complicates the unbuilt nature of the townsite. The first section is an immediate, personal experience of a clandestine trip through Cassiar’s ruin. The second, more substantive section relies on the fragmented archival record of the town and company’s demise while a short final section considers Cassiar’s continued presence as a virtual clearinghouse of community connection, memory and commemoration. The unbuilt environment in Cassiar is a unique case in northwest B.C. Cassiar was never just a dream of planners, bureaucrats or
investors; it was a full and functioning town and industrial operation, the administrative and service centre of the region and economic heart of northwest B.C. Over the course of forty years, Cassiar was built into a community of almost 2000 people with modern amenities and amusements, rich social worlds and economic prosperity for families and single working men. The open pit mine sustained the town and the company over those forty years but it was exhausted when the company processed all of the asbestos fibers they could extract economically. The open pit’s replacement, the underground McDame mine, was undone primarily by human error and unfavourable economic circumstances. Fluctuating markets, imprecise engineering, uncertain management and unsupportive creditors meant that McDame would not be built and mined to its fullest possible extent. The inhabitants of Cassiar and the built environment around the townsite would bear the material burden of the breakdown of the McDame mine scheme. When residents were forced out of their homes and when the material of Cassiar was razed and an unbuilt environment of a different order was created. In many respects, the town of Cassiar follows the classic boom and bust cycle of northern resource towns and mines. Cassiar was built and then destroyed. But this destruction, when the mine was closed, the town emptied, sold and razed to the ground, was the result of the operational and business failure of the underground McDame Mine. It was the unbuilt nature of a particular component of the Cassiar project that led to its demise.

The closure of Cassiar raises important questions about the outcomes of the unbuilt environment, primarily around the effects of the removal of the built
environment, but also around the erasure of the human environment and its abrupt divorce from the community that sustained it. The building of Cassiar, as a town, a mine and a corporate entity, instigated profound environmental and economic changes to the region. The closure of Cassiar, likewise, left a vacuum of environmental responsibility. Its failure almost two decades ago has left an economic and social void. Population in the region has been halved. New industrial investments are contingent on infrastructure that is lacking and has no substantial community to anchor it. Virtual Cassiar adds another dimension to the unbuilt environment question. It has little impact on the material remains of the former town, on the tailings pile or on current mining endeavours at the site. However, as a prospective geography and as a place where past connections can maintain community futures, the site has considerable impact.

The next several chapters consider other megaproject failures. I move through an analysis of the collapse of a major transportation initiative and a hydroelectric generation scheme before concluding with a consideration of contemporary energy transmission proposals and their intimate connections to the mining sector and community development. Cassiar hangs above these next three chapters as a kind of test case of growth, promise and failure. Each follows a similar trajectory. They overlap, both temporally and in ambition, informing the outcome and historicity of each other. Yet they remain apart as modes of modernity and development that were never fulfilled. Together they make the unbuilt environment in the Stikine.
Chapter Five - Roads (and Rails) to Resources: The Dease Lake Extension and Its Antecedents

On August 23, 2010, Fortune Minerals announced plans to move its product from mine site to port at Prince Rupert via rail. Fortune owns a large anthracite metallurgical coal deposit located in the Mount Klappan area of northwest B.C., within the boundaries of the Sacred Headwaters and adjacent to Royal Dutch Shell’s coal bed methane tenure claim. This new “commercially competitive railway transportation option” is based “on existing infrastructure and provides a much simpler transportation solution that would allow the Company to rapidly capitalize on the world class resource potential of Mount Klappan and participate in the growing global shortage of high quality metallurgical coals.” The company admitted that it will have to invest significant capital to upgrade the existing right-of-way which is impassable in places. But the new railway strategy will “reduce the environmental footprint for the development, eliminates concerns for truck and port congestion in Stewart, reduces overall project risk, and provides for more rapid project execution and construction.” The company will run 127 car unit trains with 95 tonne car loads on the upgraded (and tracked) rail bed, formerly known as the B.C. Rail Dease Lake extension, for 150 km from the mine site to Minaret where loads will be transhipped to trucks bound for Prince Rupert where it will be shipped to “the company’s potential customers in the overseas steel industry.”

This chapter outlines a series of attempts by companies like Fortune Minerals, governments, and private investors to construct a major transportation line through the Stikine to connect north and south. I focus on the most spectacular failure among these schemes - B.C. Rail’s ignominious Dease Lake extension. This was failure in the purest sense: the Dease Lake Extension, a rail bed almost 500 km long, was abandoned in 1977 in mid-construction amidst economic, environmental and administrative controversy. Successive transportation megaprojects were designed to transect the Stikine wilderness with rails and roads, to access its hidden resources and to develop its mountains, plateaus and watercourses. The dreamers behind these schemes prized what lay beyond the boundaries of the Stikine watershed as much as what lay within. Much like the unrealized rail projects of the gold rush era, the goal of the Dease Lake Extension and its antecedents was to move goods through the Stikine or to move goods out of the Stikine to larger markets and centres of distribution.

Yet, unlike the boosters behind the Cassiar Central or the Yukon-Canadian, the new transportation advocates embraced a more ephemeral and anticipatory notion of resources. They envisioned rails and roads that would open up the possibilities of resource extraction and movement. For these men, politicians and promoters, Americans and Canadians, mining entrepreneurs and bureaucrats, transportation was the essential precursor to development. This was an ‘unbuilt environment’ imagined multiple times and in multiple ways, but always through the same concept; to open up the north and its development through the construction of transportation networks.
Figure 5.1 – The Dease Lake Extension with Ealue Lake Road and Highway 37.

The failure of the Dease Lake extension should be read differently than the other failures, or ‘unbuilt environments,’ in the Stikine watershed. This chapter corresponds closely with the following chapter about the attempt to build several hydroelectric dams on the Stikine and Iskut rivers, not least because they occur at
the same time. The abandonment or failure of the Dease Lake extension is different however than in the B.C. Hydro case. Failure is the endpoint for Stikine-Iskut Hydro project; the dams were never built, so important questions need to be asked about the planning, debate and data creation behind the dams. But in the Dease Lake extension case, failure is quantified and analysed through a Royal Commission set up in order to analyse what went wrong and what the consequences were. The failure/abandonment becomes the mechanism through which environmental change is analysed. We only know about siltation, erosion, drainage problems, etc., because the state decided to get to the bottom of what went so wrong with the extension. Failure is the object of analysis rather than an outcome. What happens when failure, or 'the unbuilt environment,' is analysed by state-sanctioned bodies? What kind of information gets produced when failure itself is the object of analysis rather than the outcome of a polyvalent dispute over a development project? In this case, the state (in the corporation/person of B. C. Rail) was responsible for the lack of knowledge production which resulted in failure and also (in the person of the Royal Commission) the solicitor and repository of information regarding the consequences of failure. State institutions lead the way for environmental reporting in the Dease Lake Extension case but they are also, through poor planning and management of a massive infrastructure project, the principal cause of the environmental degradation they seek to understand.

This chapter shows the persistence of the desire to build a conduit through the Stikine throughout the twentieth century. The transportation dreams of the gold rush were revived in the late 1920s and, even with the successful completion of
a resource highway in 1972, are still strong and increasingly ambitious. The Dease Lake Extension still stands as the bellwether for megaproject failure in the Stikine. Royal Commission submissions variously described it as a piece of bureaucratic ineptitude, engineering clumsiness, environmental disregard or blind political will. But, as we will see, the abandoned rail grade has provided an essential line of access and become a central axis for the manipulation of the environment in the watershed. It still functions, though not as intended and not without opposition, as an important thoroughfare through the Stikine.

**Antecedents**

Early plans for transport routes through the Stikine were instigated by the desire to connect Alaska to the continental United States through British Columbia connecting to infrastructure already built in the southern half of the province. Despite periodic rumblings and public declarations nothing official emerged until 1928 when Donald MacDonald, an associate engineer with the Alaska Road Commission, “mapped a highway route back of the Coast Ranges from Hazelton to Fairbanks and made a tentative estimate of the mileage and costs.” MacDonald's surveying was done in a drafting office, with no experience on the ground, but his work convinced US President Herbert Hoover and B.C. Premier Simon Fraser Tolmie of the route’s practicability and economic possibilities. MacDonald created the International Highway Association, a western transportation “advisory” group, and

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submitted his report to US Congress in 1933.³ With the Depression in full swing, it was an inauspicious time for major infrastructure development. Franklin Roosevelt’s New Deal had not yet arrived to bolster the continental development economy.

The 1933 Report did nevertheless solidify American interest in the area and surveys and engineering studies continued. The US Government, anxious about the possibility of war and the perceived Japanese threat, established the Alaska Highway Commission in 1938 to examine proposed routes for what became the Alaska, or Alcan, Highway. An affiliated Canadian Commission was established in the same year, although the selection of Charles Stewart, a former Liberal cabinet minister from Edmonton who had health concerns that made it difficult to travel or work, as head of the Canadian section reflected the scepticism of Canadian Prime Minister Mackenzie King toward the northern transportation scheme.⁴ US engineers undertook considerable surveying to better inform the route selection. Originally, the US Commission supported the coastal route while the Canadian Commission offered tepid endorsement of an interior route heading northeast from Prince George.⁵ Both Canadian and American Commissions delivered summary reports of their findings in 1941.⁶

Considerable, and often competing, lobbying on both sides of the border supplemented the institutional efforts of both federal governments. The recommendations of the US Commission were tempered by the political manoeuvrings of a group of politicians, bureaucrats and entrepreneurs eager to secure corollary business opportunities for their home constituencies on the Canadian Prairies and US Great Plains. The United States-Alaska Prairie Highway Association, with members from Alberta, Saskatchewan, North Dakota and Montana, staged a last-minute political intervention that secured US Senate approval of the route still active today. The successful route had the added military benefit that it would roughly equate with much of the Northwest Staging Route, a series of airstrips and radio towers designed to provide quick response and supplies to Russia as part of the Lend-Lease Program. Once again, the Stikine would be bypassed, this time in favour of a more easterly route heading north through Fort St. John.

Instead of the long term economic benefit of a highway, residents of the Stikine enjoyed short-term economic benefit of another wartime infrastructure project. The Stikine River and the labour of its inhabitants were integral to the construction of the Watson Lake Aerodrome in 1941-42. Because the Alaska Highway was still under construction and could not yet be used to transport materials, machinery and men to the north, US construction personnel decided to develop the Stikine-Dease Lake corridor as a transportation conduit to bring the

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necessary goods to the planned Watson Lake depot of the Northwest Staging Route. They awarded the contract in March 1941 to General Construction of Vancouver, who built and contracted boats and barges to take materials up the Stikine to Telegraph Creek. The company immediately set to improving the Dease Road between Dease Lake and Telegraph Creek because it was inadequate for the transportation task at hand. It hired local merchants to put trucks to use on the Dease Road and boats on the Dease Lake-River system to Watson Lake to take up the freighting slack. The improvements shortened the Telegraph-Dease trip from one that could take three days to an average of four hours. Much like previous booms, this new construction and transportation phase was short-lived for the residents of the Stikine. Freighting continued along the corridor through the summer of 1943. But as soon as transportation bottlenecks cleared up on the new Alaska Highway, things returned to their pre-war state.9

The next major transportation initiative was instigated in the late 1950s as a major part of B.C. Premier W.A.C. Bennett’s burgeoning northern development dreams. Bennett’s business courtship of Swedish industrialist Axel Wenner-Gren resulted in the imagining of the Pacific Northern Railway (PNR), a track roughly similar to the coastal route envisioned by Donald MacDonald.10 Construction was to start in the summer of 1960 at an estimated cost of $400,000,000.11 But delays

9 Ball, “Stikine History: Freighting to Watson Lake Aerodrome along the Stikine-Dease Corridor, 1941-43”.
followed. B.C. Minister of Transportation Phil Gaglardi reported in the summer of 1960 that the Wenner-Gren “company proposes a 700 mile rail line... on a route that has been extensively surveyed at a reported cost of several million dollars [while] estimates as to total costs including construction, rolling stock and financing are $250,000.000.”\(^{12}\) The cost discrepancy was not explained. Much like Wenner-Gren himself, the PNR directors were cagey with their plans, short on specific information and cautionary with promotional material. There is no doubt, however, that Wenner-Gren gained considerable economic concessions because of his promotional activities. Additionally, the planners behind the PNR anticipated linking up with the Alaska rail network to create a true transcontinental north-south rail network.\(^{13}\) But the Wenner-Gren railway dream, it’s financing, surveying and touted infrastructural advantage, proved as tenuous as the other schemes to move goods through the Stikine. By the beginning of 1962, the PNR was finished.

The only successful major transportation scheme to transect the Stikine watershed was initiated at roughly the same time as the Wenner-Gren initiative. Again marshalled under the guidance and vision of Premier Bennett, the province began building the Stewart-Cassiar Highway began in 1958. It was the first project to use funds from Prime Minister John Diefenbaker’s ‘Roads to Resources’ partnership program designed to spur northern infrastructure development. The federal government entered into an agreement to share construction costs equally up to fifteen million dollars. The road, originally intended to link Stewart to the

\(^{13}\) No Author, “Alaskan Road Plan Aids B.C.: $354 million project” The Province, April 1, 1961.
Alaska Highway just west of Watson Lake, was to be completed by the summer of 1963.\(^\text{14}\) Aside from some small scale logging, the only potential commercial user of the road was Cassiar Asbestos, located 550 km north of Stewart but anxious to reduce transportation costs from the remote mine/town location. In fact, the Cassiar Asbestos Company had already upgraded the 90 km of road between the mine and the Alaska Highway. The Cassiar Road, as it was known, was originally built to access the McDame placer gold deposits and then improved in the late-1940s by the Moccasin Mine Company. The new highway, built overtop of the Cassiar Road, encountered many of the same problems as the previous road building endeavours. Depending on the time of the year, mud engulfed trucks, new road sank in soft soils or washed away in flash floods and frozen ground could not be transformed into gravel. Supply lines were long and expensive. The last section was finally completed in November 1972 and a connecting all-weather route between the Stewart-Cassiar Highway and Hazelton was opened to the public the following year.\(^\text{15}\)

Communities and individuals in the Stikine had little say in route selection for any of these projects. Indian Agent Harper Reed did promote the coastal highway for decades through his B.C. political contacts but his agitation for input likely had minimal impact in large-scale political and bureaucratic discussions.\(^\text{16}\)

From the late-1940s to the early 1960s, Reed promoted a Pacific Highway,

\(^{14}\) No Author, “Cassiar Road Agreement Reached” Whitehorse Star (November 20, 1958).

\(^{15}\) No Author, “The Stewart-Cassiar Highway” The Cassiar Courier (December 1979), 19; Thomas A. Elliott, “A Strategic Road to the North” Western Business & Industry (December 1964), 20-21.

\(^{16}\) BCA, MS 0516, Harper Reed Fonds. Boxes 1 and 3.
emphasizing an anticipated intersection with Atlin, his home base, located approximately 240 km northwest of Dease Lake. After construction on the Stewart-Cassiar Highway began, Reed focused his energies on the promotion of spur roads, designed to connect communities on the highway with the towns, resources and ports of southeast Alaska. Reed’s local interest was shared by politicians from Alaska, the Yukon, B.C. and the Pacific states. These efforts came to a head in the summer of 1960 in Victoria at the Alaska-Yukon-British Columbia Conference attended by high level politicians from all the respective governments. Each government presented transportation prospectuses, largely focused on integration and mutual economic benefit. Spur roads to Juneau, Ketchikan, Wrangell and other coastal towns were promoted but concrete proposals failed to yield construction commitments. The abandonment of the Wenner-Gren rail project signalled the end of another possible tie-in partnership. With little business enterprise beyond Cassiar Asbestos to use and promote infrastructure development and with the continued incremental construction of the Stewart-Cassiar Highway, the conversation around spur lines and coastal routes died away. These northern extension discussions were revived several years later under a different guise: the B.C. Rail Dease Lake Extension.

The Dease Lake Extension

There is no good place, but this is as good a place as any to relate the sad story of overruns and under-estimates, very expensive field-redesigns, massive expenses incurred to satisfy environmental authorities, miscalculation and litigation...17

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The Dease Lake Extension actually comprised three unique railway construction projects fused together by a simple notion that attached provincial economic growth to northern infrastructure expansion: the Fort St. James Extension, running 117 km from Odell to Fort St. James, completed in 1973 for just over $18 million; the Takla Lake Extension completed in 1973 at a cost of $23 million, running 130 km further north between Fort St. James and Leo Creek; and a third section, a 540 km line commonly referred to as the Dease Lake Extension, begun in 1970 and slated for completion in 1974. When construction of the Extension was suspended “temporarily” in March/April of 1977 the rail grade was built over the entire length of the route but track had only been laid over 253 km and was only operating over 84 km between Leo Creek and Bulkley House. The Dease Lake Extension financials were also problematic. Approval of the line in 1969 carried an estimated construction cost of $68.9 million. The actual cost had risen to $360 million at the time of abandonment. In February 1977, while the Provincial Government under W.R. Bennett was attempting to suspend work on the Extension without penalties, the Royal Commission on the British Columbia Railway was struck by the province to re-examine the feasibility of continued construction and the economic potential of a rail line into northwest B.C. This was to be a cost-benefit exercise designed to quell increasing public pressure on the increasingly obvious economic and environmental debacle. Commissioners were to decide if the dire

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economic realities of the Dease Lake Extension should result in its abandonment or whether the economic possibilities (in forestry and mining) envisioned alongside its completion were enough to warrant its continuation.20

The Royal Commission Report was limited by mandate but the submissions to the Commission are useful as a repository of information on the workings and many failures of the Dease Lake Extension.21 Individual submissions expose the managerial inadequacies, environmental disregard, financial manipulations, technical clumsiness and political perogatives that motivated construction and ultimately guaranteed the failure of the Extension. Contributors catalogued the litany of abuses and oversights, shortcuts and cover-ups perpetrated by contractors, managers and under-qualified railway personnel. The picture that emerges from these records reveals, unvarnished, a corporate and political culture of northern development, geared toward the production of energy and the movement of goods but unprepared to deal with the environmental and economic conditions of social and geographical marginality so familiar to residents of northwest B.C. The Dease Lake Extension was abandoned, not because it was a bad idea doomed to fail, but

20 Commissioners expressly avoid apportioning blame: “... we are obliged to make inquiry into and concerning all aspects of the management and development of the railway. While these last-quoted words might be construed to mean that we should hold up to scrutiny the conduct of all past managers who helped shape the railway into its present form, and to condemn any whose performance we found wanting, we would be reluctant to make such an interpretation... We have neither mandate nor inclination to join the hunt.”
21 There has been some suggestion of compromised impartiality among the three Commissioners who all had ties to the SoCred party. Lloyd George McKenzie was counsel to the legislative committee that exonerates Gaglardi of corruption charges, David Chapman was the SoCred nominee to the Canadian Anti-Inflation Board and Syd Welsh was a well-known SoCred party member.
because planning and construction practices were deficient and there were insufficient mechanisms for oversight or change.

The development ideals that underpinned the Dease Lake Extension were based in the "northern vision" of W.A.C. Bennett which would "herald in an era of renewed and torrid development... a modern day gold rush."22 Emboldened by the success of other northern development megaprojects, such as W.A.C. Bennett Dam near Hudson’s Hope, Bennett returned in the late-sixties to his northern transportation goals, with a bold plan for railroad development at its core. This was to be a "provincial development tool," brandished in negotiations with the federal government and used as a carrot to investors and geologist-prospectors leery of transport costs associated with any major finds. Bennett had more than a hint of the evangelist when describing his plans (or lamenting the lost opportunity): he had "a vision of opening the vast untapped British Columbia north; a vision of providing our American neighbours a vital link between the States of Alaska and Washington; and, a vision of a new Yukon."23 This "pioneer railroad" would ensure the economic vitality of northwest B.C. and have considerable knock on effects in the southern parts of the province eager for power and resources.

The Dease Lake Extension was part of a larger provincial strategy to encircle with rail an area of uncertain but potentially lucrative resources in the northern half of the province. Along with the Fort Nelson Extension in the east, the Dease Lake


Extension would provide links to the rest of the continent and, through improved port facilities, to overseas markets. Though construction of a further section was never approved, Bennett envisioned the creation of a resource traffic corridor to Alaska and the Yukon. Railway plans were attached to the idea of motivating resource exploration and commercial enterprise. Aside from the Groundhog coal fields and the Cassiar Asbestos operation, northwest B.C. had no commercially viable resource opportunities and few confirmed deposits. But, in Bennett's reckoning, the completed rail link would instigate exploration and underpin the economic prospects of identified copper, gold and forestry resources. The construction principle of "minimum standards, maximum speed" was embraced as the best mechanism for inspiring mining entrepreneurship and investment in the north. The Dease Lake Extension would be built as quickly and cheaply as possible and would only be upgraded when traffic justified further investment.24

Bennett had some institutional backing from the federal government for the Dease Lake Extension. The federal Ministry of Transport contracted the consulting firm of Hedlin Menzies in the late 1960s to analyse transportation options and "the complete spectrum of the region’s overall mineral and forestry resources" for northwest Canada (Yukon and northern half of B.C.).25 The firm saw dramatic resource potential for the region as a whole though it was contingent on an expansion of transport facilities. But Bennett wanted a firm commitment from the

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federal government. Instead, he perceived vacillation and resolved to begin without federal assistance. B.C. Rail had compiled more specific locational studies in the wake of the failure of the Pacific Northern Railway. A B.C. Rail-commissioned study released in December of 1969 as a buttress for the newly conceived Dease Lake Extension noted regional potential in agriculture, recreation, forestry, oil and gas as well as hydroelectricity. The section on mining was positive, though, again noting that "the majority of known finds are uneconomic due to inaccessibility." The message was clear. In the parlance of industry, these were ‘stranded resources.’ The resources were probably there, but better infrastructure was needed to find out how much.

Bennett lost the election in August 1972 to David Barrett’s New Democratic Party. Rather than instigating a wholesale policy shift, the change in government, from Bennett’s populist Socreds to Barrett's progressive NDP, maintained northern railway development policy along its current course. Barrett was equally convinced of the importance of the Dease Lake Extension to the growth of the provincial economy although his government’s economic housekeeping revealed serious irregularities in the financial management of earlier northern railway construction. Barrett hired Touche Ross and Company, a Vancouver accounting firm, to go over the books of B.C. Rail’s Extension projects. Its analysis revealed that previous B.C.

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27 Bennett had many powerful allies in this claim. For instance, many Royal Commission submissions espouse the developmental necessity of the Extension. See submissions from the Kitimat-Stikine Regional District, the Mining Association of B.C., Northern Development Council, Cassiar Asbestos.
Rail Directors (including Bennett and his Minister of Lands and Forests Ray Williston) had misrepresented the debt being carried by the railway and, in particular, the financial stability of the Dease Lake Extension. Nevertheless, the Touche Ross maintained that the Dease Lake Extension was still financially feasible if a federal capital cost grant could be secured and several other mitigating factors were met.\footnote{UBC Archives, BCR Collection, Box 7, File 38, Exhibit 264C, Touche & Ross and Company, “assessment of the Dease Lake Extension,” 1973.} Bennett’s government had already signed an agreement-in-principle with the federal government to this effect in July. At around the same time, reports of the negative environmental consequences were beginning to circulate. This was the first substantiated evidence of the economic and environmental mismanagement that eventually halted construction.

At the base of all the economic and environmental problems associated with the Dease Lake Extension was the route selection for the rail bed. The invocation of the "wrong location" was a constant refrain in submissions to the Royal Commission and other press and public commentators. At the root of the location problem was the original survey tactics employed by Ray Williston and the general lack of deliberate planning in evidence in the late-sixties. Williston selected the route himself. He flew in a helicopter along the general vicinity of the abandoned Pacific Northern Railway of the Wenner-Gren group. He did have some surveying experience but he did not use it on the ground preferring general lines on large maps in his Victoria office. This was done without engineering and geological studies. Route location was not chosen to be close to known resource areas. It simply went north. The generalities were unilateral but the specifics of the route
were left to individual contractors. The Fish and Wildlife Branch of the B.C. Ministry of Recreation and Conservation submission to the Royal Commission put it bluntly: unnecessary ecological damage occurred because of "[t]he lack of any workable process at the conceptual and design stage of the railway to incorporate on a planning basis reasonable environmental concerns."\textsuperscript{29}

The most pertinent example of the material effects of the route selection difficulties can be seen in the problem encountered while moving through the Bear-Sustut River system. In a rare example of environmental oversight, the Fisheries Branch of the federal Department of Environment required B.C. Rail contractors to relocate the rail bed line away from the Bear and Sustut River flats because it was a sensitive fish spawning habitat. The contractors had been working directly beside and sometimes on top of the rivers but were forced to move the line away from the riparian zone, into very difficult (and consequently very expensive) hillside terrain.\textsuperscript{30} There were also efforts to move the location of the Extension to more economically profitable resource areas. The Kitimat-Stikine Regional District advocated shifting the line towards the Nass, Bell-Irving and Iskut Valleys where forestry and mining potential was greater and access to other northern centres like Terrace and Prince Rupert was easier. The Regional District had been pushing for the alternative since 1973, when they received a commissioned report from

Vancouver consulting firm F.L.C. Reed which contradicted the rosy projections of the

\textsuperscript{29} UBC Archives, BCR Collection, Box 6, File 28, Exhibit 181, British Columbia. Ministry of Recreation and Conservation, Fish and Wildlife Branch, “Submission,” 16.

Touche Ross Report. Largely because they were anxious to secure the federal grant for the Extension (which was already established as part of the negotiation) B.C. Rail and the provincial government were reluctant to change routes in spite of probable economic benefits and lower capital costs.

Problems around this route location assessment might be seen as the first nod towards the most concrete environmental effect and economic hardship encountered in the Dease lake Extension case: the movement and disposal of gravel and other construction material. This seemingly benign foundational construction technology had far-reaching consequences in riparian habitats, on larger interconnected ecosystems and on local economies that relied on the use of and access to rivers for other uses. For instance, in its discussion of the Bear-Sustut system route selection, the Royal Commission commented that that the Fisheries decision resulted in "increases from 1,200,000 cubic yards of common material to 5,477,000 cubic yards and from 30,000 cubic yards of solid rock to 506,000 yards of solid rock plus 128,000 yards of loose rock. At least 80% of the material excavated had to be wasted rather than being used as fill in the balancing process."\(^31\) The problem of gravel/rock movement, or infill, affected every aspect of construction on the Extension. The 'downstream' effects of this problem will be evident throughout the rest of the chapter.

The lack of engineering enterprise, both before and during construction, was a direct result of the inadequate surveying practices employed by Williston and B.C. Rail. But the engineering problem went deeper than the perfunctory work of Ray

Williston with his topographic maps, his binoculars, his helicopter and his red pens. Submissions often mentioned the lack of pre-engineering. Staffing of the engineering department was too small, poorly trained, inexperienced in rail engineering and hampered by the directive to work quickly. Nelson Hepburn, a consulting engineer to the Royal Commission, suggested that the lack of pre-engineering was a policy decision in line with the goal of minimizing costs but also borne out of necessity because of a dearth of qualified personnel. Hepburn claimed,

The railway was thus in an extremely difficult situation when the decision to proceed with construction was given, and was faced with the choice of either enticing experienced engineers from the two continental railways - or training their own as best they could during the progress of work, all for a construction programme which at the time was visualized as lasting for only a few years, with no evidence of on-going work... All of this could have contributed to the fateful decision to proceed to contract without the implied proper pre-engineering. The B.C. Rail... failed to draw on skilled location and construction engineers with the experience that could have been adopted easily to meet their needs.32

B.C. Rail engineers largely agreed with this assessment but were powerless to do anything about it because of an intransigent managerial structure. Stanley Oakes, an engineer with 20 years of professional experience, began working for B.C. Rail in 1969. While still employed by the company, he wrote to the Commission that he felt compelled to "bring to light and to emphasize the fact of the lack of adequate involvement of Professional Engineers during the early stages of the planning, design and construction of the British Columbia Railway's Northern extensions. Many of the problems which have subsequently developed are attributable to this

fact." Oakes suggested a correlation between engineering practices and
environmental problems, implying culpability on the part of B.C. Rail,

Less publicized has been the fact of the considerable number of
complete of partial failures of embankments, drainage structures and
the like which have occurred. These failures reflect badly on
professional engineers within the Company who might reasonably be
expected to have been closely involved in the work... with the
exception of the bridge structures, the amount of engineering
involvement at the professional level was extremely limited and fell
far short... of that which should have been properly provided. I
expressed my concern about this to the management of the Company
on a number of occasions with little result and it was only after a
number of construction failures began to develop that there came to
be a gradual recognition and acceptance of the need for more
engineering.33

Royal Commissioners pointed to in-field revisions necessitated by the lack of pre-engineering. Again, this had a direct bearing on the amount of material that needed
to be moved. Contractors had to deal with the decision to "increase base widths of
cuts from an 18-to-20 foot standard to 32 feet in solid rock and 24-to-26 feet to 54
feet in other materials."34 In some cases this had to be done to maintain track
integrity and stability and in others cases it was simply necessary to allow on-track
snow plows to function properly.35 Sometimes these decisions were made with
managerial approval and sometimes on the spot. Consideration of cost increases
appears negligible.

The Swan Wooster Report on the engineering and contracting practices
generally backed up the assertions of the professional engineers. The Report

33 UBC Archives, BCR, Box 5, File 16, Exhibit 60A, Stanley Oakes, "A Brief to the Royal
34 BCR Royal Commission, Vol, III.
35 UBC Archives, BCR Collection, Box 8, File 2, Exhibit 264H, BC Railway, "History of
the Railway Line Commencing at Odell Through to Dease Lake as of January 1975".
claimed that engineering on the Extension was largely satisfactory with the important exception of the pre-engineering which was substandard at best. The authors took issue with B.C. Rail’s "current practice [which] is to perform almost all detailed engineering of earthwork in the field, concurrently with construction. This contrasts with the more normal practice of executing most of the detailed engineering on any given segment of the line prior to the award of a construction contract."36 This irregularity led to low earthwork estimates. The hiring of a geotechnical engineer and a senior design/construction engineer would have been good business and would have proved invaluable in public relations and, by providing advance notice of railway activities, in the expression of transparency with other public agencies. Additionally, because there were no reliable earthwork estimates, there was no yardstick to check performance. According to Swan Wooster, better pre-engineering was simply good business. It would have paid for itself.37 The B.C. Comptroller-General agreed. Asked by Barrett’s NDP to review B.C. Rail finances, the Comptroller-General stated in April 1973, before the full extent of the Dease Lake Extension failure was known, "[w]ith respect to the awarding of contracts for rail line extensions I confirm that the company’s officials have seen fit to limit spending on preliminary engineering studies, a practice which directly

contributed to overruns in the order of $17,000,000 on contracts completed to date.”

Responsibility for the shoddy engineering can be put on B.C Rail managerial decisions and the pervasive problem of infill but blame for the overruns can be shared with consulting and contracting practices employed in the construction of the railway. Every level of construction was sub-contracted and B.C. Rail always awarded each contract to the lowest bidder regardless of experience and qualifications. This was in keeping with Bennett’s ”minimum cost/maximum speed” principle but had predictable ramifications. From the outset, the Dease Lake Extension was beset with cost overruns and contracting difficulties. Zanatta & Leva Bulldozing Co., who won the first contract in August 1970 for clearing the right-of-way, made claims for additional remuneration because of problems getting men and equipment to the job site. On the same section Catre Industries exceeded their contract by $4,489,017.27. The rock quantities that they had to move were double the estimates which was ”attributable to the fact that the line [chosen by B.C. Rail] closely followed the shoreline and during construction it was found that the rock shelves in which the grade had been projected were completely unstable to carry the railway grade.” Fourteen such revisions had to be made on this contract alone. Catre had to sue but were eventually paid an amount 137% of the original

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39 UBC Archives, BCR Collection, Box 8, File 2, Exhibit 264H, BC Railway, ”History of the Railway Line Commencing at Odell Through to Dease Lake as of January 1975”.
40 UBC Archives, BCR Collection, Box 8, File 2, Exhibit 264H, BC Railway, ”History of the Railway Line Commencing at Odell Through to Dease Lake as of January 1975”. 

contract price. Similarly, Keen Industries claimed an overrun of $4 million because "the quantities were not accurately estimated from the engineering and field information available at the time the contract was let." They were paid a 100% overrun. The Royal Commission commented on the case of KRM Industries which had its contract terminated after $18,322,047 had been paid on a job that had been awarded at $7,448,399. Of course, as happened in most cases, the KRM contract was only settled after a lawsuit. These kinds of overruns were chronic.

However, the problem of gravel quantity and earthwork was only the most materially obvious reason for the massive cost overruns. General price inflation of the 1970s was the biggest blow to contractors. There was no mechanism to adjust the value of contracts for inflation, so contractors took the brunt of the inflationary hit when their contracts took longer than expected because of the extra work involved in moving extra material. Contractors could not properly deal with escalating costs within the structure of their static contracts. As inflation worsened, "[t]he cost of getting northern B.C. resources out went up, while the price obtainable for them in world markets went down." This had far-reaching consequences for economic viability of the Extension as a whole as it constricted its customer base and put additional pressure on the potential customers of the companies moving goods on its line. Contractors also took huge economic hits when the line was abandoned. Chinook Construction and Engineering Ltd. was awarded the contract for grading and culvert installation between miles 286 and 308 on the Dease Lake

41 UBC Archives, BCR Collection, Box 8, File 2, Exhibit 264H, BC Railway, "History of the Railway Line Commencing at Odell Through to Dease Lake as of January 1975".
43 BCR Royal Commission Vol. III, 81.
Extension. The contract was worth $10.3 million of which an estimated $5.28 million had been completed when they were ordered to pull all personnel and equipment off the job. In its Royal Commission submission, Chinook suggested that construction should continue because of the danger of damage to existing work, the larger cost of later completion and the potential loss of economic benefits to the province through jobs for 80 men and taxes of $2.085 million. Presumably, the $5 million dollars of lost work and the corresponding company revenue were part of the deliberations as well. Contractors were able to charge more than expected for their work but they often faced considerable difficulties in completing the work and in securing payment.

If the economic situation facing contractors was partly shaped by outside forces, the construction techniques and quotidian practices of contractors had damaging environmental effects. The Swan Wooster Report claimed the construction practices conformed to "industry standards," certainly an ambiguous endorsement, but many other commentators reported serious and avoidable problems. The B.C. Fish and Wildlife Branch lamented the "flagrant disregard by the major contractors for even the most basic environmental concerns and the inability... of BCR to exercise proper control over their construction practices." This was aggravated by "the complete lack of any educational program by the Railway or

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by government to acquaint workers with these concerns.”

The Branch submitted plans for encroachments and diversion to B.C. Rail staff, but were continually frustrated by the lack of input and by the low quality of environmental stewardship during construction near streams and rivers. L.P. Levernan, Vice-President of the B.C. Wildlife Federation, travelled along the Dease Lake Extension in July 1972 on a reconnaissance trip. He complained of companies using bulldozers instead of shovel cranes to move gravel, a situation he compared to the damage done by placer mining versus the minimal impact of panning. Far away from one construction camp and the railbed itself, Levernan found that construction personnel had destroyed the muskeg by "playing games" with their vehicles.

Four years later, David Bustard, the Habitat Protection Biologist with B.C. Fish and Wildlife Branch, claimed that within,

the past year extensive unstable earth cuts have been opened up in the Upper Skeena, Spatsizi, Tanzilla, and Stikine Rivers. Older cuts on the Klappan, Little Klappan, Sustut and Bear Rivers have still not been adequately secured. In addition approvals granted for waste disposal areas and stream crossings based on the premise that proper stabilizing would be carried out have been left, partially completed and unstable. Programs designed to stabilize numerous cuts and fill situations with proper drainage structures and revegetation have also been abandoned, only partially completed.

Engineering problems combined with poor contracting principles and destructive construction techniques to create an untenable situation where environmental

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45 UBC Archives, BCR Collection, Box 6, File 28, Exhibit 181, Fish and Wildlife Branch, B.C. Ministry of Recreation and Conservation, "Submission to the Royal Commission on B.C. Railway," 16.
46 UBC Archives, BCR Collection, Box 6, File 30, Exhibit 189A, British Columbia Wildlife Federation, “Addendum Submission [L.S. Levernan Submission].”
damage became an almost inevitable outcome. Poor management compounded the problem.

The B.C. Construction Association defended their members, preferring to shift blame back to the engineering inadequacies. They claimed there was a culture of deference toward engineers in the B.C. Rail corporate culture. The Association claimed that the Royal Commission terms protected the engineers and planners of the Extension from culpability. For Association members, it was "amazing, considering the omnipotence attributed to the engineer in these clauses, the lengths that the Conditions go to, to ensure that the Company is protected from the consequences of errors made in design and specifications by the Railway's engineering staff..." Even more galling was that the "General Conditions are filled with penalties which the Company can impose on the contractor, but there is no remedy provided for the contractor in the event that the Company does not meet its obligation."48 Contractors may have been environmentally negligent but they often had no recourse to address their own professional grievances.

Robert Dhensaw, a construction foreman with B.C. Rail, complained about the lack of internal supervisory promotions from within the ranks of the B.C. Rail workforce, particularly as more managerial promotions seemed to come from outside. The lack of training programs was a particular cause for concern. Dhensaw criticized the use of company vehicles for non-company purposes (both by executives and by personnel engaged in the destructive activities alleged by

Levernan). But Dhensaw’s greatest scorn was reserved for the ineffective managerial culture and very poor management-labour relations. His comments were backed up by Mark Crawford, a graduate student analyst with the B.C. Project in the Political Science department at the University of Victoria. Crawford commented on the correlation between the failure of the Dease Lake Extension and B.C. Rail’s poor record of industrial relations. Failure was "directly related to the authoritarian style of decision-making in which employees, railwaymen, engineers and economists were required to carry out management policies and never help to formulate or even question them."  

This authoritarian style went further. Poor planning and minimal public relations was "compounded by poor relations between the BCR and all of the most important private sector groups directly involved in, or affected by, the construction of the railway: Keen Industries Ltd., MEL Paving Ltd., the union, the native community and other groups whose land was expropriated or devolved."  

Constructive leadership was clearly lacking at B.C. Rail. This leadership failure had material environmental consequences along the Dease Lake Extension corridor.

As the lack of surveying and engineering and the construction practices of contractors became more widely known, assessments of specific environmental problems associated with railway construction began to surface. The B.C. Fish and Wildlife Branch asserted that the "construction of a project as extensive as the Dease Lake extension poses many potentially severe environmental impacts some of

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which may be readily apparent while others are more subtle but insidious in their effect." The problems were legion and mostly related to the movement and disposal of gravel, especially in riparian zones. Broadly speaking, the two major problems were erosion and habitat loss. Both were the result of maladapted construction technologies and their effects were exacerbated by the abandonment of the Extension.

Siltation and sedimentation was a primary effect of work on the banks of watercourses. Eggs and spawning habitat of salmon, trout and other importance sport and food fish were affected by the filling in of interstices between rocks and gravel and through the reduction of water percolation and oxygen content. High water turbidity can block fry emergence from spawning beds and can reduce light penetration and the primary production of plant life and the production of fish food. Siltation occurs naturally but also may be caused "by heavy machinery working in a watercourse, failure of culverts, drainage from unsettled roads and... erosion from unstable banks, cuts and channels." According to David Bustard, mass wasting was an erosion problem exacerbated by the fallout from poor construction practices. Bustard observed that "slumping from cut and fill slopes is occurring extensively along the grade from the Upper Skeena right through to Dease Lake. Material from these slumps may go directly into fish streams or indirectly via small

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51 UBC Archives, BCR Collection, Box 6, File 28, Exhibit 181, Fish and Wildlife Branch, B.C. Ministry of Recreation and Conservation, "Submission to the Royal Commission on B.C. Railway".
52 UBC Archives, BCR Collection, Box 6, File 28, Exhibit 181, Fish and Wildlife Branch, B.C. Ministry of Recreation and Conservation, "Submission to the Royal Commission on B.C. Railway," 9.
creeks and ditches, causing siltation of spawning and rearing areas."\textsuperscript{53} His report on the environmental problems of the Extension, a copy of which was submitted to the Royal Commission, contained photographs and commentary on 32 examples of various adversely affected areas. Explaining Photo 18, of the Upper Skeena River, Bustard wrote,

Waste material has been pushed to the side of the rail grade and has oozed down into the Upper Skeena River. An extensive section of the grade in the vicinity of the Gunanoot Camp is similar to this... Why hasn't this material been end-hauled to a safe site for disposal? It is our understanding that the contractor, if instructed, could be requested to back haul material without additional cost to B.C. Rail. Time and Again, this material has been pushed to the side and left to ooze into the rivers.\textsuperscript{54}

Similarly, Photo 14 shows significant surface erosion and slumping on the Stikine River: "Prior to abandonment, B.C. Rail was in the process of benching the slopes, installing cross-drainages and revegetating these cut slopes."\textsuperscript{55} Abandonment of the Extension meant any remediation projects were left incomplete.

Erosion and siltation problems were particularly serious around culverts which were cheaper than bridges, but carried a heavier environmental burden because they reduced channel size, affecting downstream water velocity and upstream water storage. L.J. Levernan was emphatic in his opposition to culverts, claiming that regardless of construction specifications culverts will always adversely affect the ecology of a river or stream in ways preventable by a larger

\textsuperscript{53} David Bustard, "Environmental Problems Associated with the Abandonment of the Dease Lake Extension of B.C. Rail" Smithers: B.C. Fish and Wildlife Branch, 1977. 
\textsuperscript{54} Bustard, "Environmental Problems Associated with the Abandonment of the Dease Lake Extension of B.C. Rail". There is no copy of this photograph that can provide a suitable reproduction. 
\textsuperscript{55} Bustard, "Environmental Problems Associated with the Abandonment of the Dease Lake Extension of B.C. Rail". Again, there is no adequate original copy.
bridge structure.\textsuperscript{56} They can be barriers to fish migration through their installation height and interior velocity and can result in the scouring of river beds below the culvert. Warning against abandonment in its submission to the Royal Commission, Chinook Construction noted the possible environmental repercussions of an unfinished culvert “covered with a minimum coat of material” that “could easily be washed away” in a bad winter, and lead to the loss of the culverts as well.\textsuperscript{57}

The extensive manipulation of streams and rivers also resulted in channelization which could take the form of "the straightening of a stream, the levelling or widening of a streambed, relocation, realignment, ditching and gravel removal."\textsuperscript{58} This is in part what occurred on the flats of the Bear-Sustut Rivers. Channelization has myriad effects, not least of which is the possibility of increased flow and the attendant possibility of further scouring and bank erosion. Pools, side channels and riffles are often essential rearing, feeding and resting habitats for anadromous fish and may be destroyed or altered by channelization. The removal of streamside vegetation results in rapid bank erosion and can alter the temperature regime of the river by the introduction of silt and other materials and through the reduction of the shading effect. Additionally, energy inputs can be reduced through the loss of leaf fall, insects and other dissolved nutrients. Aside from the general productive health of the river, these cumulative impacts caused serious

\textsuperscript{56} UBC Archives, BCR Collection, Box 6, File 30, Exhibit 189A, British Columbia Wildlife Federation, “Addendum Submission [L.S. Levernan Submission]”.
\textsuperscript{57} UBC Archives, BCR Collection, Box 5, File 6, Exhibit 32, Chinook Construction, “Brief”.
\textsuperscript{58} UBC Archives, BCR Collection, Box 6, File 28, Exhibit 181, Fish and Wildlife Branch, B.C. Ministry of Recreation and Conservation, "Submission to the Royal Commission on B.C. Railway,” 9.
ramifications for spawning anadromous salmon in the Upper Skeena and interior fish living in other rivers.  

   Consideration of the potential environmental effects of the Dease Lake Extension is necessarily speculative because of the lack of inventory data created before construction began. This is a consistent complaint of environmental organizations involved in the area. There was almost no inventory of fisheries resources before construction began. Most of the detailed knowledge about wildlife was held by long-term residents, trappers, indigenous peoples, guides and prospectors, but these people were not consulted even though many of their livelihoods were greatly affected. Indeed, the burgeoning environmental assessment apparatus was hamstrung by a number of institutional factors which limited their effectiveness and reach, diluted their message and hampered their ability to change contractor practices. Organizations like the Fish and Wildlife Branch and B.C. Wildlife Federation, were held back by inadequate funding for enforcement and monitoring agencies. This led directly to the lack of oversight, inspection capability and overall management of wilderness areas. Agencies simply could not travel to and provide comprehensive assessments of all the areas for which they held regulatory responsibility. Faced with mounting concern expressed by environmental assessment organizations, B.C. Rail did appoint a guardian on the Extension to carry out the required monitoring. The guardian’s effectiveness was

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59 UBC Archives, BCR Collection, Box 6, File 28, Exhibit 181, Fish and Wildlife Branch, B.C. Ministry of Recreation and Conservation, "Submission to the Royal Commission on B.C. Railway;" cf, Bustard, "Environmental Problems Associated with the Abandonment of the Dease Lake Extension of B.C. Rail".

60 UBC Archives, BCR Collection, Box 6, File 30, Exhibit 189A, British Columbia Wildlife Federation, “Addendum Submission [L.S. Levernan Submission]".
mitigated by the size of the area to be patrolled and the fact he was restricted to one flight per week (the same flight taken by B.C. Rail construction staff). This reveals a general lack of capacity and the disordered mandates of monitoring agencies. Overlapping jurisdictions present the possibility for coordination but more often result in disorder. In the end, this lack of monitoring capability was a major cause environmental disturbance. B.C. Fish and Wildlife Branch blamed, [t]he lack of capability... to monitor construction activity in any but the most cursory fashion. The logistics of patrolling the line without adequate manpower available defeated any attempts at consistent surveillance. We must also admit that the monitoring services which were provided by the Branch did not encompass sufficient construction and engineering expertise to provide the type of professional guidance necessary.

These problems of expertise, capacity and environmental knowledge reverberate along the Dease Lake Extension to this day as locals and environmental assessment personnel struggle to control who uses the Extension and for what purpose.

The problem of increased access to the area for hunters and recreationists may be the most environmentally profound legacy of the Extension. The Extension, particularly after it was abandoned and left unmonitored, allowed access to an area previously only accessible by helicopter or float plane, on foot or on horseback. Now the Extension was accessible to all manner of vehicles. There was an immediate increase in hunting activity, with the corresponding pressure on wildlife populations. Again there was no real inventory of wildlife data apart from the

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62 UBC Archives, BCR Collection, Box 6, File 28, Exhibit 181, Fish and Wildlife Branch, B.C. Ministry of Recreation and Conservation, "Submission to the Royal Commission on B.C. Railway," 17.
knowledge held by locals. But general experiential knowledge painted a grim picture for diverse animal populations who became new recreation opportunities for hunters. The B.C. Fish and Wildlife Branch asserted that "[w]ithin a 20 minute walk from the rail grade along the Klappan River, one can be amongst stone sheep and mountain goats." Moose were common along the entire stretch of the Extension from Takla to Dease Lake. Eighty kilometres of the length of the Extension ran beside the Spatsizi Provincial Park (now the Spatsizi Plateau Wilderness Provincial Park) created in large part because of its outstanding wilderness values (Osborne caribou, moose, grizzly and black bear, stone sheep, mountain goat, timber wolves). Amongst wildlife management personnel, there was an expectation that there would be an immediate influx of recreationists eager to exploit the new accessible area and fears of a concurrent inability to manage properly the influx with an already overtaxed staff. In 1976, a 200 km no hunting area was imposed by the BC Fish and Wildlife Branch along the Dease Lake Extension in an effort to protect vulnerable wildlife populations. Some inventory work was accomplished but hunting returned to normal restrictions in the following years.

Similarly, there were increased pressures from the secondary resource extraction sector, particularly in mining, but also in forestry. In the early days of construction, before news of construction difficulties became common knowledge, there was an explosion in mineral exploration in the area. This was still somewhat speculative, but it was hoped that deposits in the region would be richer than those

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63 UBC Archives, BCR Collection, Box 6, File 28, Exhibit 181, Fish and Wildlife Branch, B.C. Ministry of Recreation and Conservation, "Submission to the Royal Commission on B.C.,” 4.
in areas easier to access. There was some discussion, both for and against, on using the Extension as a resource road. The B.C. Wildlife Federation wrote about the dangers of a resource road, claiming it was self-evident that if there were no resources for a railroad to carry than there would also be no resources for road traffic. But resource companies were adamant about the inherent and forward-looking value of a resource access line. Stikine Copper Ltd. held a massive copper-gold tenure claim approximately 120 kilometres west of the Dease Lake Extension, known as Galore Creek. For Stikine Copper, an economically-viable access route was the main stumbling block to the profitability of their enterprise. In their estimation, though they would not commit to using it, the Extension could provide an essential access route for the transportation of ore to port. They stressed the potential economic benefits to the province of successful mining operation: 900 jobs, a new town site and tax base, corollary transportation options with other area resource companies, revenue from the estimated mine development costs of $400 million. They even advocated the possibility of a series of spur lines, including one heading toward the mine site, though they conceded,

It is recognized that this suggestion for another costly extension comes at a time when some are questioning the wisdom of extending even as far as Dease Lake; however, it is made in the spirit of accelerating the development of northern British Columbia and the adjoining Territories, thus improving the economics of the entire northwestern line. It is further recognized that if this extra extension were to be implemented, it would also serve the interests of Stikine Copper Limited in a way which we believe is reasonable...

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64 Crawford, "The Role of the State in the Economic Development of British Columbia" 37.
65 UBC Archives, BCR Collection, Box 6, File 29, Exhibit 189, British Columbia Wildlife Federation, “Submission”.
66 UBC Archives, BCR Collection, Box 5, File 9, Exhibit 47, Stikine Copper Ltd., “Brief”.

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Cassiar Asbestos agreed with Stikine Copper. The Extension was an "exciting prospect" and their "basic opinion" was that it should be completed. They also would not commit to using the Extension but looked forward to analysing the economic opportunities presented with the completion of the line: "Certainly our asbestos tonnage from Cassiar would be shipped via a Dease Lake extension if it were built providing the rates were competitive with other transportation facilities.... [but] it should be considered as a road to resources, and in order to foster economic development it should offer attractive freight rates to industry and business that either exists now or will exist in the future." Increased access was simply a competitive advantage for resource companies, to be exploited much like ore from the ground.

The Extension is currently in use by resource companies (including Shell, Fortune Minerals and Klappan Coal) to move personnel and equipment to mining camps and has provided access to the area for the past 35 years. In particular, the area 125 km south of the Stikine River is under pressure from resource companies. This section runs parallel to the Stewart-Cassiar Highway but does not intersect the larger road. These companies are able to access the rail grade by vehicle because of a construction access road built to facilitate the delivery of B.C. Rail materials and men to the job site between Mile 190 and 286. This 26 km access road, now known as the Ealue Lake Road, leaves the highway south of the village of Iskut and meets the Extension 40 km south of the Stikine River, just after crossing the Klappan River.

67 UBC Archives, BCR Collection, Box 5, File 52, Exhibit 126, Cassiar Asbestos Corporation Limited, “Presentation”.
The Ealue Lake Road and Klappan Bridge were built by Keen Industries, who at the time were working on the Stewart-Cassiar Highway. The Ealue Lake Road provides year-round access for resource companies and hunters to the Extension, which has formal restrictions for unapproved vehicle access, but is essentially unpoliced. (There is a sign at the entrance of the Ealue Lake Road warning users of such restrictions. It has five bullet holes in it.)

Figure 5.2 – Klappan River Bridge (Summer 2010), where the Dease Lake Extension Meets the Ealue Lake Road. Photograph by the author.

The highway turn-off to the Ealue Lake Road is at a non-descript gravel quarry. Behind the quarry is a Tahltan hunting/outfitting camp that has been used

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intermittently as the base for blockades set up in protest of mining and hunting activity along Ealue Lake Road, the Dease Lake Extension and in the Sacred Headwaters, which lie adjacent to the Extension starting at a point about 85 km south of the Stikine River. The correlation between access, exploitation and conflict has been facilitated by the construction of the Dease Lake Extension. Shell Canada (now Royal Dutch Shell) has been repeatedly obstructed in their attempts to drill coal bed methane wells. Fortune Minerals has a better record but they too have come face to face with Tahltan concerns. Red Chris, a copper/gold mine located just off Ealue Lake Road at kilometre six, has a poor record in dealing with local communities and has just been sanctioned for lax environmental assessment standards through a ruling by the Supreme Court of Canada. The Dease Lake Extension may have been abandoned but the cascading effects of access continue to shape human-environment relations in the Stikine.

The problem of access relates directly to the socio-economic conditions of people in the Stikine and northwest B.C. in general. Several studies trumpeted the large-scale economic benefits of the Extension. The Touche Ross Report, so integral to the NDP’s decision to continue construction in the face of mounting evidence of its economically perilous situation, estimated that 5,500 jobs would be created in northwest B.C. and between 10,000 and 17,000 total jobs would be created in the province after the completion of the Extension.\textsuperscript{70} Jean-Paul Drolet, federal assistant deputy minister in the Department of Energy, Mines and Resources, claimed in 1976

that once transportation conduits were established in northwest B.C., new mines could employ 4,500 people by 1990. Mineral processing plants would employ a further 2,500 people, 14,000 would work in secondary industrial sectors related to mining with equally high tertiary employment figures to supply the industrial needs. Locally, the Extension developed increased opportunities for entrepreneurs who used the environment in their businesses. Increased access meant more hunting, guiding and outfitting business; it took less time on the trail getting to and from preferred destinations. Obviously, the increased business came at an environmental cost and some outfitters had their territory bisected by the rail grade. Many guide outfitters expanded their operations and also developed low-impact business models around trail rides, photography, mountain climbing and canoeing/rafting. Local businessmen were also given incentives to bid on construction contracts. Edward Asp, a Tahltan businessman, formed Dease Valley Resources and employed mainly Tahltan workers. The company ran into similar overrun and earthwork issues as most other contractors.

There were no comprehensive studies of the socioeconomic effects in the Stikine. There was, however, some analysis done further south within Carrier-Sekani communities to the north of Fort St. James. This work was instigated by a blockade set up by the Stuart-Trembleur Band (now the Na’Kad’zli First Nation) in the spring of 1975. The blockade went up on April 28 across the Extension to force the band’s demands for compensation in exchange for the 378 acres that had been

expropriated by B.C. Rail to build the Extension. The Stuart-Trembleur Band was asking for $7 million dollars and a 3-to-1 land exchange. B.C. Rail agreed to the land exchange but offered only $50,000 as compensation. In late summer, the Stuart-Trembleur Band lifted the blockade and negotiations continued.\textsuperscript{72} Slightly further north, the Takla Lake Band (now the Takla Lake First Nation) had to deal with the environmental disturbances to the Bear-Sustut Rivers system. In 1972, there were major mud slides in the area with serious effects on salmon ecology. They were assured by B.C. Rail that the area would be cleaned up and no further disruptions would take place. The following year, the Takla Lake Band reported to the B.C. Wildlife Federation that things had gotten worse, including excessive garbage and chemical pollution. The Federation sent a delegation to the area which confirmed the reports of bank erosion, slumping and streamside dumping. They used their institutional heft to force B.C. Rail into action and were pleased to report the following year that improvements had been made. But the Takla Lake Band still had to deal with the long term environmental consequences of river pollution and flow disruptions, an especially onerous dislocation considering the socioeconomic importance of salmon to the community.\textsuperscript{73}

\textbf{Conclusion}

What were the tangible results of the Dease Lake Extension failure? The Royal Commission delivered its findings on August 25, 1978. It recommended that construction of the Dease Lake Extension be abandoned permanently, suggesting that

\textsuperscript{72} Crawford, "The Role of the State in the Economic Development of British Columbia" 44.

\textsuperscript{73} UBC Archives, BCR Collection, Box 6, File 30, Exhibit 189, B.C. Wildlife Federation, "Submission to the Royal Commission on B.C. Railway" September 22, 1977.
W.R. Bennett's (his Social Credit government succeeded Barrett in 1975) decision to suspend construction was "inevitable and commendable." B.C. Rail was deeply in debt: their own internal audit revealed they would be paying $42 million annually by 1980 just to service their debt. The private sector started to desert the Extension when Barrett disclosed new B.C. Rail deficits in June 1976 that he attributed to Social Credit incompetence. Some of the projected customers, including coal mines and pulp mills, did not materialize. The Extension became a sensation again in late 1976 when MEL Paving, a Red Deer contractor hired to complete the last section between the Stikine River and Dease Lake, sued B.C. Rail, alleging they had been strategically misled about the scale and complexity of the work. They sued for fraud, claiming a wilful discrepancy between earthwork estimates and actual tonnage to be moved. They settled out of court before the Supreme Court of British Columbia finished hearing the case. Environmental organizations tried to secure "remedial action" and to force B.C Rail to properly put the Extension to bed. In spite of these efforts, the Extension remains much as it was when it was abandoned, with slight maintenance by resources companies at particularly troublesome spots to make the road passable for their trucks. The greatest embarrassment came in the form of the Stikine Bridge. It became a local symbol in the Stikine, emblematic of the debacle of the Dease Lake Extension. Completed in 1977, at cost of $3 million, it was promptly rendered impassable, upon orders from B.C. Rail management when the abandonment was announced several months after completion. The Stikine Bridge would have been

several hundred metres underwater if B.C. Hydro went forward with its concurrent plans to build a series of dams upriver on the Stikine. The Stikine Bridge stands today, a talisman of the lack of planning, integrated management and forethought of B.C. Rail and its Dease Lake Extension. The Dease Lake Extension case offers a unique test of the unbuilt environments concept in the Stikine. It was partially built before it was abandoned. The reasons for abandonment are complex, but the unbuilt environment here had future side effects which connected the abandoned Extension to problems of increased area access, the contemporary resource boom and questions around resource politics.

The northern dream of a railway through the Stikine did not die with the abandonment of the Dease Lake Extension in 1977. A consortium of investors, lobbyists and politicians have largely forgotten about the profound effects of earth-moving, culvert construction and increased access in the Upper Skeena, the Klappan and the Stikine. In October 2005, the group announced a Feasibility Study to examine various transportation routes between Fairbanks and the B.C. Rail system. In fact, this new study group was going over well-travelled ground in Alaska: the rail link had long been a goal of public officials and private investors in the state.\(^76\)

Making British Columbia a hub of continental integration had also been W.A.C. Bennett’s dream. He wanted the line to connect B.C. with Alaska. From Dease Lake it would eventually push north to Watson Lake and then west toward Anchorage. In

the enthusiastic outlook of 2005 boosters, the Stikine would again be a place through which people, things and ideas moved. Unlike Bennett’s galvanizing political style, the Alaska Canada Rail Link group newsletter sought to temper prospects of the rail link: "If the study reveals that the railway is not financially feasible at this time, the extensive body of knowledge that has been developed will become a legacy for long range transportation planning in the north and the criteria for future rail investment viability will be determined." It would also be costly: "This line segment is the most expensive of the nine route segments studied with very high capital, maintenance and operating costs. This is a high energy consumption line and the right-of-way would have a high risk of exposure to natural disasters." But it did not seem to matter. The "working scenario" proposed to the governments of Alaska and the Yukon uses large sections of the abandoned Dease Lake Extension.

This is very similar to the route that Fortune Minerals intends to use to move its coal. There have been some discussions between Fortune and the Alaska-Canada Rail Link group. The Dease Lake Extension, after several operational permutations in the last thirty-five years, last operated to an abandoned logging camp called Minaret. If the Extension were activated again, Fortune could transport materials by rail to Prince George, where ore could be loaded onto trucks to be taken via the highway system to the Ridley Coal Terminal at Prince Rupert to be shipped to China.

The abandonment of the Dease Lake Extension had another, unforeseen environmental legacy. After a period of sharp public interest and press concern, the Extension faded from public environmental consciousness. It was abandoned both as an integral component of transportation infrastructure and as an environmental concern. Many of the environmental problems associated with the Extension have metastasized over the years of neglect. But the rail bed, still in the 'wrong location,' still eroding into the Klappan River and still barely holding up over collapsed culverts, presents a cheaper transportation option, a kind of 'short-cut,' for Fortune and the new northern rail dreamers in Alaska.
Chapter 6 - Corporate Ecology: B.C. Hydro’s Stikine-Iskut Project and the Unbuilt Environment

The modern history of the Stikine watershed is shaped by a belief in material riches.¹

In the latter half of the twentieth century, a growing awareness of the negative social and ecological effects of large dams prompted the emergence of an international anti-dam environmental movement. In British Columbia this emerging environmentalism faced off against the pro-development stance of Premier W.A.C. Bennett and his conservative Social Credit Party. At the crux of Bennett’s attempt to lure development and investment to the province was a comprehensive plan to harness the hydro-electric potential of B.C.’s northern rivers. Commentators have suggested that the damming of the Peace River in the northeast of the province reflected the politics of scientific engagement under high modernism, arguing that the self-declared ‘progressive’ philosophies behind the super-developments of the 1960s actually resulted in massive social and environmental dislocation.² In this chapter I follow this argument by looking at the planning, management and debate over a separate damming project in the northwest of the province: BC Hydro’s power scheme to generate on the Stikine and Iskut rivers. More specifically, I consider the changing role occupied by animals, habitats and ecology in the shifting environmental perceptions employed by interested parties. I look at the bureaucratic discourse and territorial ambitions of

² Tina Loo, “Disturbing the Peace: Environmental Change and the Scales of Justice on a Northern River “Environmenta", 895-919; for a diverse spectrum of analysis, see, Matthew Evenden, ed., Site C Forum BC Studies 161 (2009), 93-114.
BC Hydro, the crown corporation tasked with managing the province's hydro-electric resources and developing their potential for commercial and domestic use. The company commissioned volumes of surveys, environmental assessments, geological and hydrological reports, and resource and heritage inventories which contributed to the institutionalization of information on a remote section of the province.

BC Hydro’s attempts to dam the Stikine and Iskut rivers in the 1970s and 80s did not ultimately materialize. The political economy of those frustrations has been well documented in the press and in popular literature about the region. My focus here is on the scientific and bureaucratic underpinnings of these projects, the data and knowledge created to justify the economic imperative and environmental degradations attached to the dams and the discourses that underpinned Hydro's power generation plans. In the BC Hydro case, this involves the critical assessment of the reports and surveys that were integral to the progress of information, the application of modern technologies and the attribution of expertise. How did new knowledges and experiences mobilize technology and expertise to influence the relationships that locals and newcomers had with each other and with nature in the Stikine? The unbuilt environments imagined in the shadow of BC Hydro's Stikine watershed project have histories of their own which illuminate conversations about what the river means and how it would be changed by the construction of several

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dams. The imagined environments envisioned by dam proponents and detractors show how the battle over nature in the Stikine galvanized interest in the area, promoted conflicting development possibilities and used the region’s history to mobilize support for different viewpoints.

The Stikine dams were never built. As a result we need to ask different questions than the ones asked about completed large dam projects which have had very real social, material, climatic, biophysical and hydrological consequences. What happens to environmental perception when the large project in focus never comes to fruition? How does the process of information gathering and exchange, debate, activism and planning, change the way people relate to their natural surroundings? What are the effects of an assessment apparatus, directly implicated in a fractious debate about nature and development, on the generation and entrenchment of new ways of knowing an area?

In order to assess these questions, this chapter continues the focus on environmental perception and ‘unbuilt environments.’ Although these planned spaces never materialized, their two-dimensional archival presence can illuminate a collective imagination of what might have been. Because of the management intentions of organizations like BC Hydro, with its catalogued information and rigorous planning imperative, alternative visions of the Stikine watershed can be illuminated, analysed and brought to life as agents of environmental change.5

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Various groups contested BC Hydro's managerial and scientific discourse, promoting competing structure of value to assess the potential impacts of dams on the Stikine and Iskut. Local and metropolitan environmentalist organizations were increasingly vocal in opposition. The Tahltan, who had lived in and used the resources of the watershed ‘since time immemorial,’ brought other perspectives which attempted to reconcile disputed land rights with the need for increased infrastructure and development and the desire for ‘sustainable’ ecological management of the resources that formed the base of local economies.  

Recreationists, hunters and park advocates wanted the area protected to ensure that they could continue to pursue their interest in animals and landscape. Governments (operating at multiple scales) wanted to solidify their jurisdictions. And multinational mining corporations wanted to promote possible infrastructural advantages. These groups advocated for particular notions of environmental resources, property ownership and usufructory benefits. The politics embedded in these debates exemplify the cantankerous but often ambiguous environmental politics of the sixties and seventies which was particularly evident in British Columbia. I underline the many discourses in play in the Stikine, in boardrooms and surveyors camps to analyse

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how the proposed damming of the river changed the society and ecology of northwestern British Columbia.

Geographers and environmental historians have recently refocused debate on hydro developments in Canada. This recent work has promoted some analytical departures from a previous tradition that emphasized the political economic aspects of hydro development. Matthew Evenden has chronicled the nature-culture tensions that led to hydroelectric project abandonment on the Fraser River. He shows how science and engineering became a central narrative force in debates over the future of the Fraser. The impetus behind dam construction was the desire to implant ‘new technologies of power,’ wherein science and technology fostered progress and profit. In the case of the Fraser, a multivalent conservation movement stalled progress and contributed to the preservation of an important salmon-bearing river.

Much of this work on hydroelectric projects uses disputes over the nature of hydroelectricity to complicate the literature on environmental justice. In a series of articles on Cree interactions with Hydro-Québec and its development of James Bay’s hydroelectric potential, Caroline Desbiens analyses how shifting ideas about nature, nation, identity and gender crystallized around threatened landscapes, livelihoods and lifeways. For Desbiens, history and environmental justice intersect along the


boundaries of Cree and Québeçois national imaginaries created by a geography of
resource exploitation and development.\footnote{Caroline Desbiens, “Producing North and South: A Political Geography of Hydro Development in Québec” \textit{The Canadian Geographer} 48 (2004), 101-118; cf, Caroline Desbiens, “Women with No Femininity: Gender, Race and Nation-building in the James Bay Project” \textit{Political Geography} 23 (2004), 347-367; Caroline Desbiens, “‘Water All Around, You Cannot Even Drink’: the scaling of water in James Bay/Eeyou Istchee” \textit{Area} 39 (2007), 259-267.} Writing about the same conflict, Hans Carlson uses an ethnographic-experiential approach to remind us that the recent modernist incursions of dams and mining in Northern Québec confront long histories of the land built on the cultural bedrock of home and memory.\footnote{Hans Carlson, \textit{Home is the Hunter: the James Bay Cree and Their Land} (Vancouver: UBC Press, 2008); John F. Hornig, ed. \textit{Social and Environmental Impacts of the James Bay Hydroelectric Project} (Montreal & Kingston: McGill-Queen’s University Press, 1999).} Moving west, environmental historian Tina Loo uses the damming of the Peace River in northeastern BC to ask questions about the multiple scales of environmental change and to challenge scholars to think laterally about how they represent the social and environmental impacts absorbed by communities in the wake of large-scale infrastructure projects.\footnote{Tina Loo, “Disturbing the Peace: Environmental Change and the Scales of Justice on a Northern River” \textit{Environmental History} 12 (2007), 895-919; Tina Loo, “People in the Way: Modernity, Environment, and Society on British Columbia’s Arrow Lakes” \textit{BC Studies} 142/143 (2004), 161-191.} Environmental justice, then, is not a simple matter of accounting, of distinguishing negative effects from positive progress and compensating those adversely affected by development. Rather, scholars must attend to how these megaprojects shape understandings of place and the scale of inequality that defines the changing experience of nature. New work on megaprojects seeks to
understand the impact of massive, often state-led, infrastructure and energy projects and how modern technologies remake environments.14

Geographers have a long tradition of pushing the boundaries of the environmental justice literature to highlight the inequities of 'development' and the bureaucratic and technological apparatuses that move it forward. In many cases, expert knowledge is mobilized to identify and define a body of resources as finite and useable. This enables state-sanctioned agencies and corporate bodies to engage and develop those resources, often in conflict with the intentions of those who used them before and defined them differently.15 The so-called 'State Formation' literature in Canadian history, though not directly influenced by these geographers, has been informed by similar ideas about state knowledge and its intersections with hegemonic discourses of power and representation.16 More recently, Canadian geographers and environmental historians have turned their attention to the place of scientific practice


and technology in the changing understandings of natural knowledge and use. I contribute to these disparate literatures in making an argument that questions the creation of circumscribed knowledge in and about the Stikine, the way these knowledges impeded and interacted with previous knowledges about the river and their reflection in the ultimate failure of the scheme.

**What Makes a River?**

Between 1973 and 1983, BC Hydro tried to develop the Stikine district with a massive power venture by damming the Stikine and Iskut rivers. This plan brought it into conflict with local and metropolitan groups. The ensuing debates over resource use hinged on the way various stakeholders saw their responsibility and role over the plateau. The dialogue drew upon animals, their habits and habitats, and ‘nature’ more generally. In the past, animals were intrinsic to the way locals and newcomers understood nature in an out-of-the-way place like the Stikine. But how did nature function as a marker of meaning in a contemporary context that wrestled explicitly with problems of development, progress and changing environments?

Interest in the hydroelectric potential of the area dates to 1961 when the BC Lands Service first raised the possibility of adding the Stikine-Iskut basin to the province’s hydro reserve. In 1964, the BC Water Investigation Board identified potential damsites which led to an Order-in-Council that restricted mining activity and held lands near these sites in reserve. Small-scale surveys continued over the

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next decade. In the early 1970s, vacationing Vancouver Sun reporter Bruce Larsen stumbled into a dozen men engaged in survey and core drilling work for Brinco Ltd., builders of the massive Churchill Falls hydro system in Labrador. Larsen guessed that Brinco was planning a dam, employing the following logic which, in retrospect, connects the dams to the development projects: “(1) the provincial government is rushing completion of the Stewart-Cassiar road, (2) the provincial will have completed the PGE railroad [Dease Lake Extension] south of the Stikine and into Dease Lake by 1974, (3) at least 34 mining properties are ready to go into production as soon as the railroad arrives, (4) the area right now is swarming with helicopters under contract to mining companies, (5) there are more geologists in the hills than goats, (6) mines need hydro power.”

Brinco at first denied interest in the Stikine, probably because it had no permit and had not submitted a formal proposal. However, it later relented, publicly admitting interest and engaging in a protracted public relations exercise which continued until 1977 when it submitted a formal proposal.

Meanwhile, BC Hydro marshalled its institutional might behind hydro development in the watershed. Hydro commissioned its own feasibility study in 1977 (published the following year) which “found that, based on preliminary data, the

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19 Demchuk, The Stikine, 44-47.
Stikine-Iskut development was technically feasible and economically attractive.”²⁰

Hydro developed a plan that focused on damming five sites (figure 6.1).

Figure 6.1 – Five Proposed Dam Sites of BC Hydro’s Stikine-Iskut Project.

There were two dams planned on the Stikine River: Site Zed, a 270 metre (75 storey) archway at the head of the Grand Canyon of the Stikine; and 37 kilometres downstream, Tanzilla, a 193 metre structure at the confluence of the Tanzilla and Stikine Rivers. Upon project completion, two massive reservoirs, with surface areas of 12700 hectares and 900 hectares respectively, would have completely flooded the

²⁰BC Hydro (Hydroelectric Design Division), *Hydroelectric Development of the Stikine River Overview Study* (Victoria, January 1978). The purpose of the report was ‘to provide information for use in the project feasibility study and secondly, to provide information for the environmental impact analysis.’ iv.
Grand Canyon of the Stikine, an extraordinary 54 kilometre-long tectonic marvel with walls often nearing 1000 metres. Three smaller, though no less imposing, structures were planned for the Iskut River, the Stikine’s largest tributary and primary site of mining development. Two dams, a 158 meter monolith in the Iskut Canyon and a 135 meter structure at More Creek, and a smaller diversion dam at Forrest Kerr Creek, would have created two reservoirs twenty-five and thirty kilometres long, providing roughly one-third of the project’s total power potential. The Stikine-Iskut project would have generated 2800 megawatts of power: a spectacular amount considering that BC Hydro’s thirty-two other generating facilities combined produced 7500 megawatts (in 1978). The cost was equally staggering: at $7.6 billion, it would have been the biggest capital project ever undertaken by BC Hydro. With such massive investment on the line, BC Hydro commissioned reams of data to support the project and prove its necessity.

Hydro’s effort was complicated by a number of factors. In 1980, the BC government amended the BC Utilities Commission Act, creating a new regulatory body with formal oversight over power development, distribution and sales of power in the province. BC Hydro set its own regulatory terms before the implementation of the Utilities Commission Act: the regulatory reform of the Utilities Commission ensured that the utility was no longer autonomous in decisions regarding energy planning. Additionally, the institutionalization of an environmental impact

21 Demchuk, *The Stikine*. The reservoirs created by the dams would have been 103 km and 25 km long.


assessment apparatus was a central component of the Utilities Commission Act. This was a major departure in the management, assessment and regulation of energy resources in the province. In the coming years, the construction of new generating facilities would take a back seat to the economical operation of existing ones.

The same year saw the creation of two influential environmental organizations dedicated to preserving the Stikine in its ‘natural’ state – Friends of the Stikine based in North Vancouver and Residents for a Free-Flowing Stikine based in Telegraph Creek, the only permanent settlement on the river. The Tahltan, politically active and increasingly involved in large-scale business disputes within their territory, raised a consistent chorus of dissent, based primarily in the language of unresolved land claims but also appealing to the ecological and cultural integrity of the watershed.

Other interest groups clamoured for more information and input, questioning Hydro’s transparency and data on issues ranging from power consumption projections to fisheries damage to issues of international legality. A cat and mouse game of environmentalist agitation, cagey corporate engagement and frustrated Tahltan involvement continued until the fall of 1983 when Hydro, citing mounting debt, a power surplus and tentative future consumption prospects, reluctantly announced the postponement of the in-service date of the first installations from the early 1990s until the 21st century. In 2000, the postponement became permanent when the Tahltan negotiated a Land and Resource Management Plan (LRMP), formally
protecting 25.4% of the Stikine watershed, including the Grand Canyon, from major development.24

In spite of the actual failure (non-construction) of the dams, the discourse and debate around the dams had very real material consequences for landscape and the way people interacted with the environment. Through the discourse around damming people came to know (and think about) the river differently, which changed the materiality of the watershed. People knew the river differently partially as a function of the creation and codification of knowledge about the area. The Stikine had been largely ‘absent’ in this sense – this is repeated and emphasized in every report commissioned by BC Hydro. The constant refrain is that Hydro or its contractors (and by extension other official bodies) knew very little about the area, therefore, ‘scientific’ studies were necessary to correctly identify the inherent values of the landscape and the value that should be ascribed to them. In the language of BC Hydro, this was to ensure both proper use and protection. The ‘environment’ came to be organized into a rational typology in which contingent uses were circumscribed.

“Technically Feasible and Economically Attractive”: Framing the Constituents of the Debate

An essential part of the planning process for major new projects is the early identification and assessment of potential effects the projects could have on wildlife, forests, agriculture, recreation, archaeology and human settlements. BC Hydro recognizes the need to avoid unfavourable impacts wherever possible and the responsibility to mitigate or compensate for them when they cannot be avoided. To

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obtain the data necessary to make informed judgements, BC Hydro’s planning process provides the opportunity for exchange of information with environmental specialists, appropriate government agencies and the public at large.25

Between 1977 and 1983, BC Hydro commissioned eighteen studies on forestry, fisheries, archaeology, caribou migration, climate and meteorology, economic geology, river regime and morphology, furbearers, land use, mountain goats, recreation and aesthetics, resource evaluation, socio-economic considerations, the Stikine estuary, townsite planning, vegetation mapping, transmission and overall wildlife. The scope and range of these reports are difficult to summarize (see Appendix 2 for details). These specific studies were complemented by a series of intermittent Progress Reports which synthesized new developments and data associated with the project and provided general context for assessment. BC Hydro did some of these studies in house, but most were handled by outside contractors, primarily based in Vancouver or other major western cities. Patterns and recurring themes could be identified but I am concerned with how these reports produced knowledge about the resources of the Stikine and the impacts that the dams would have on those resources and the communities that relied upon them. But, more importantly, the reports functioned as frames for analysis and debate around the dams themselves. They plotted the terms through which various interests were required to speak about the river and its reorganization. As Joe Alesi, BC Hydro’s environmental studies co-ordinator put it,

“[w]e’re looking at the real issues, not every dicky-bird and squirrel.” Or, in more conventional contracting language, the assessments were needed “to provide the follow-through, and to connect the loop between doing the environmental studies and preparing the environmental impact assessments and actually carrying out specific environmental protection functions on projects.” Notions of expertise and calculation gained real traction through the creation and dissemination of these reports. Bureaucratic and institutional power were used to propel knowledge to support Hydro’s designs. The framing of environmental and economic concerns allowed Hydro to demarcate how opponents and interlocutors could engage with development. If it is axiomatic that knowledge and power are intimately interconnected, then the production of geographic knowledge in these reports obscured and often erased previous forms of knowledge that inhabitants used to organize their interactions with the river. The reports produced out of Hydro’s scientific program efforts often obscured as much as they generated. The production of non-knowledge and fragmentation contributed to Hydro’s development aims by marginalizing or co-opting critique. This was buttressed because Hydro and its contractors were able to discursively shield the studies behind the artifice of scientific objectivity. Non-knowledge in this sense refers to the manner in which the data

produced and the methods used by Hydro were largely unavailable to the public at the time. The creation of new scientific data drew boundaries around the way interested parties could talk about nature in the Stikine even as it obscured the tangible scientific terms on which Hydro’s plans were based. The concept we commonly refer to now as ‘consultation’ was minimal and one-sided, with Hydro controlling the terms of debate and the dissemination of the information that debate rested upon. In the Stikine, the creation of non-knowledge was integral to limiting resistance and to managing discourse on damming.

A series of reports on transmission line routes helps to illustrate this point. The Environmental Impact Assessment section in the 1982 report draws parameters of possibility around the study. BC Hydro could claim that the study was hamstrung at the outset because of factors outside of its control, outside the realm of controllable scientific variables: “[t]he preliminary environmental and social impact assessment studies for the Stikine-Iskut transmission project are part of the most complex transmission studies ever attempted in British Columbia. The vastness of the study area and the general lack of detailed information added to the difficulty of carrying out the environmental studies.”30 Here we have complexity and size as an explanation for the lack of knowledge and expertise. Science is hampered by a lack of modernity, spatial marginality and obstructed mobility; technology can not transcend the spatial and temporal dislocation. The presold difficulties and engineering ambitions absolve Hydro of the inevitable ecological mistakes through a kind of pre-emptive mea culpa.

Some of the disruption is pasted over by the rational organization of information into distinct categories. Hydro is forced to parse the created/colllected information because it could not envision any other way of engaging with it or presenting it: "[a]fter consolidating available information and collecting new data in the field, each environmental study team member assessed the impact of transmission line construction along proposed corridors from the point of view of his/her individual, specialized subject matter, e.g. forestry or wildlife." or fisheries or geomorphology.\(^{31}\) Ecosystems are abstracted into individuated categories, distinct from one another to ease planning but the result is inconsistent with most basic ecological knowledge.\(^{32}\) It hardly needs to be mentioned that the information that Hydro sought to collect and collate is scientific, measureable knowledge, not Tahltan knowledge garnered through centuries of experience. Anthropologist James C. Scott describes this process of the rendering of abstract ecological phenomena into measureable, contingent values as the enactment of “legibility.”\(^{33}\) Once made legible to the state and its administrative apparatuses, environments could be ascribed value and rated according to desirability and worth.

After field studies were completed, the study team met for several days in order to compare their observations, to determine the relative importance of resources within each corridor and to access the

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\(^{32}\) For an outline of this critique see, David Demeritt, “Ecology, Objectivity, and Critique in Writings on Nature and Human Societies” *Journal of Historical Geography* 20 (1994), 22-37. Hydro’s budget and schedule did not plan for monitoring over long periods.

combined resource consequences of transmission line construction within the corridor. The consultants converted their individual results into a common rating system with eleven categories ranging from very substantial benefit to severely negative impact. The ratings categories are used throughout the source environmental report in the consultants’ basic descriptions and comparisons of the impacts.34

Animals and habitats were subject to calculation and categorization, where the “relative importance” of caribou was somehow measured against the moose or a stand of spruce or the possibility of finding an ancient piece of obsidian jewellery buried in the earth of an abandoned fishing station.

Figure 6.2 – Two Proposed Dams and Reservoirs in the Grand Canyon of the Stikine.

A more pointed example is a report commissioned by Hydro on the mountain goat population of the Stikine Canyon. The authors, Bryan R. Foster & Engel Y. Rahs of Mar-Terr Enviro Research Ltd., sought to map out the “effect of exploration, proposed construction and post-development activities (including flooding) on a mountain goat population residing within the Grand Canyon of the Stikine. Preliminary evaluation suggested that partial flooding of this habitat and increased public access could impact resident mountain goats.” These impacts included “localized goat mortality” and “possible temporary range abandonment.” ³⁵ They estimated that 56 of the estimated 316 mountain goats living in the Canyon would be killed when the Grand Canyon was flooded after the construction of a 75-storey dam (figure 6.2). There is no doubt that 56 dead goats is a somewhat arbitrary outcome of some consulting arithmetic – or, borrowing novelist Michael Chabon’s apt phrase, the outcome of “feats of inspired guessing” ³⁶ - but how is 56/316 understood as acceptable? And to whom is it acceptable? For Hydro, acceptability was indeterminate and largely left for others to judge. After all, this was an information gathering exercise and wilderness values, understood in the disconnected, diplomatic and bureaucratic language of Hydro’s commissioned data, were extraneous to the conversation. Problems can also be seen in the exclusivity of the study. For example, the canyon was also home to a


³⁶ Michael Chabon, Maps and Legends (New York, McSweeney’s, 2008).
variety of raptors, including the endangered peregrin falcon. There was no mention of the falcon in the Mar-Terr report or in other Hydro commissioned reports. The falcon was further threatened by its absence from the terms of reference.

Exclusivity was even evident in the intended purpose of the studies. Most of them are explicitly concerned with establishing “baseline data,” a starting point from which to analyse projected environmental disturbance. This was to be a fixed point in the past that anchored the nature of the Stikine canyon as it faced changes in the future and to determine what other possible resources would be lost. The economic geology report, for instance, was designed to “describe and evaluate mineral, rock, oil and natural gas deposits that would be affected by the proposed hydro-electric development on these resources also described.” The “purpose” of the study was broken into “inventory” and “assessment”: that is to say, a cataloguing of resources for an accounting and comparison of their best use. Reports such as these, and the terms of reference they proposed, had far reaching consequences for mineral and energy development in the region. Here, “lost or foregone” resources were quantified,

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37 BC Hydro, Stikine-Iskut Rivers Hydroelectric Project Environmental Feasibility Studies; Economic Geology, Generation Planning Department – System Engineering Department, (Vancouver, Dec 1980). The ‘inventory' section was designed to ‘1. Describe and evaluate known and potential mineral ore bodies, coal deposits, aggregates, clays, limestones, quarry materials and other recoverable deposits within the study area. 2. Assess the potential for future petroleum and natural gas utilization within the study area.’ The ‘assessment' section was designed to ‘Identify and describe all minable ore bodies, deposits and/or oil and gas resources which would be lost as a result of hydroelectric development. 2. Identify and describe any ore bodies and deposits which may be exploited as a result of hydroelectric and related development of the study area. 3. Collaborate with Resources Economics Study in providing cost estimates of economic mineral, gas or oil deposits lost of foregone as a result of hydroelectric development. Estimate the economic benefit attainable from mineral, gas or oil utilization which may follow hydroelectric development in the area.’
attaining real economic value, while still in the ground, to be measured against other planned uses.

The river regime and morphology study mobilized exclusivity in much the same way. The study was motivated by two purposes, both precursors to future work but not scientifically useful in and of themselves: “to provide information for use in the project feasibility study and secondly, to provide information for the environmental impact analysis.” The authors then provide a comprehensive list of study proscriptions and project entitlements to be used in the study of the assessment of flood levels, flood frequency, river flow regime changes, ice observations, suspended-sediment sampling and water temperature gauging. The report concludes that dam construction would cause summer river flows to decrease and winter flows to increase; there would be more siltation and less seasonal temperature variation. Effects on fish and aquatic vegetation were not discussed. They were under the purview of another group of researchers.\(^{38}\) The reports may have been designed to facilitate future research endeavours but none of those commissioned by Hydro had provisions for long term study or for the continuation of studies beyond the reported field season. This was partially because of the provisional nature of Hydro’s dam plans but it also reflected the arbitrary and exclusive nature of the technical survey work undertaken in support of the damming scheme.

The problems that emerged from the archaeological fieldwork support the point about the discursive power of absence. Aresco Ltd. of Calgary was contracted to set up an “evaluative device” and to ascertain the “heritage potential” (a wonderful

contradiction) of the Stikine watershed. Using a variety of archival, photographic and visual survey techniques, the contractors determined that there would likely be some impact on undiscovered archaeological sites, especially at the confluences of rivers where people had congregated. Impacts at these sites would be minor because it was anticipated that material located there would be sparse. The Aresco consultants, contra ethnographic material and Tahltan oral histories, noted that the Tahltan were historically more dependant on large mammals and did not use the river much until the advent of the fur trade. The sites and histories of Tahltan use of animals and fish were used to push for alternative human contemporary uses of the environment.

Additionally, most of the archaeological sites found (during the field season of 12 days) were on the plateau above the line of the proposed reservoirs and therefore safe from more than incidental impact from transportation and infrastructure.

Furthermore, the report cites ethnographic data, mostly gathered in the early twentieth century within the analytical trope of salvage ethnography, as the de facto authority on Tahltan hunting grounds and culture in general. Knowledge here (or lack of a site for knowledge) operated to dispossess the Tahltan and worked towards the justification of the damming project.39 Hydro’s commissioned reports were predicated on a system that gathered information but ignored previous forms of knowledge in the process.

Underlying the discursive and ideological effects of Hydro’s knowledge creation were the actual material effects on the landscape. By December 1981,

39 Aresco Ltd., Preliminary Archaeological Study of the Proposed Stikine-Iskut Hydroelectric Development, Draft Report, (Vancouver, April 1980). This is a direct contradiction of the claims made by the Tahltan about the importance of the river in their culture as will be shown below.
Hydro's “investigations” at Site Zed amounted to “39 diamond drill holes, totalling 6500m; 3 adits totalling 1075m; seismic refraction and gravity surveys; auger holes and test pits for materials exploration.” Though they were most extensive at Site Zed, explorations of this type occurred at every planned site. Further investigations at Site Zed would require a very heavy track-mounted Becker hammer drill to punch through the overburden material. The drill would have to be flown in which would necessitate the construction of a 1600-metre airstrip to accommodate the Hercules aircraft transport plus a seven kilometre road to the site itself. Alternatively, at a savings of $800,000, Hydro proposed to build a 46 kilometre track road from Highway 37 to Site Zed. Issues of access were important here, and not just for Hydro employees and contractors. The ‘indirect disturbance’ (in Hydro’s language) would occur from increased hunting opportunities and private exploration access. More directly, Hydro admitted that its investigations could have specific, though vaguely worded consequences: “1. Damage to soils and vegetation from excavation, drilling and placement of equipment; 2. Disruption of wildlife and a temporary reduction of wildlife habitats; 3. Disruption of trapping and opportunities for guiding; and 4. Possible disturbance of archeological sites.” In Hydro’s assessment, these were direct but localized impacts, unlikely to galvanize opposition outside of interested

locals and small-scale metropolitan niche organizations. But Hydro may have underestimated the level of protest and animosity its tactics and investigations would encourage.

‘Intervenors’: Local and Metropolitan Environmentalist Critique

‘Intervenors’ was BC Hydro’s preferred term for public interest groups agitating against the Stikine-Iskut project. Friends of the Stikine and Residents for a Free-Flowing Stikine were the most prominent of the approximately thirty groups active in protest. Formed in Vancouver in 1980 at a meeting sponsored by the Sierra Club of Canada about Hydro’s Stikine-Iskut plans, both groups showed a willingness to work within mainstream politics. Their activist strategy focused on education and influence but there was little direct action. They embraced a reformist strategy that focussed political energy on the publication of newsletters, participation in limited public debate and media coverage.

Friends of the Stikine was the more publicly prominent voice in British Columbia, possibly because it was based in the major urban centre of the province and enjoyed connections to various scientific communities and to personnel at area universities. Its goals were simple: “to enhance public awareness of the advantages to be gained through preserving the Stikine River and its immediate environs in its natural state’ and ‘to develop... alternative policies for managing it, in keeping with

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44 This cohort included both Stikine groups, the Telkwa Foundation, the Sierra Club, the Anglican Church of Canada, the Southeast Alaska Conservation Council, Western Guide and Outfitters Association, Canadian Nature Foundation, Federation of BC Naturalists, BC Wildlife Federation, Alaska Geographic Society. See, Bentley Le Baron, *Stikine-Iskut Project: Social and Economic Impacts, prepared for BC Hydro and Power Authority*, (Vancouver, August 1982), 110-117.
the wilderness character and the aspirations of native people.”45 The efforts of these
groups were hampered by Hydro’s policy regarding the data it was collecting. No
information would be made available to the public while studies were ongoing. The
interim reports that were released by BC Hydro were removed from their ecological
context and from the circumstances of their creation. Wildlife biologist Rosamund
Pojar, a charter member of the Friends, summed up the frustration of advocacy within
an analytical vacuum. Writing in the Telkwa Foundation Newsletter, she condemned
Hydro’s “policy of conducting fragmented environmental studies to obscure its grand
plans.”46 For Pojar and her colleagues, the information imbalance handicapped public
interests and created a lamentable situation in which “predictions about the impact of
the dams based on information available to public agencies will necessarily be crude
and speculative.”47 Indeed, this fit with Hydro’s mandate of the creation of non-
knowledge in these scientific studies. Because little was known about the biophysical
qualities of the Stikine watershed (and even less about the actual possible effects of
the dams) opposition was limited to a series of provisional arguments.

This can be seen in the way Friends of the Stikine focused on ‘effects’ and
‘impacts’ in much the same way that Hydro did. In its first newsletter, Friends of the
Stikine listed the ‘Primary Effects’ and ‘Secondary Effects’ of the dams: destruction of
the Grand Canyon, negative social impact on area small communities and indigenous
lifeways, irreversible commitment of the area to energy production, abrogation of

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45 Friends of the Stikine, Newsletter no. 1 (January 1981), 2.
46 Rosamund Pojar, “Transmission Links: More Links Moved Into Place” Telkwa
Foundation Newsletter Vol.3 No. 3 (Fall 1980), 1.
47 Rosamund Pojar, “Wildlife Impact: Only Hydro Knows,’ Telkwa Foundation
Newsletter Vol 3, No. 2 (Spring 1980), 3-4.
unsettled treaty rights, uncertain impacts on wildlife and salmon, increased access for
hunters and mineral prospectors, ecological disturbance of the Stikine Delta and
deterioration of the fishery. This was the basis of an argument against the
construction of the dams. But without hard science of the kind that Hydro was
creating but not disseminating, groups like Friends of the Stikine were unable to
motivate widespread support behind their endeavour. Indeed, the language of
‘impacts’ was used by Hydro representatives to analyse and disarm opposition.

Bentley Le Baron, a contractor with Canadian Resourcecon Limited, was tasked by BC
Hydro with detailing the social and economic impacts of the prospective dams that
were feared by opponents. He grouped all opposition together by suggesting that
“wilderness preservation” was the central organizing principle of their efforts.
This version of oppositional discourse meshed passively with Hydro’s corporate discourse
and may have allowed Hydro significant leeway in incorporating and co-opting the
concerns of a diffuse and often antagonistic resistance movement.

Residents for a Free-Flowing Stikine employed similar tactics to their
metropolitan counterparts although they were more willing to operate outside of
mainstream vehicles and showed greater commitment to local political concerns. In
this sense, their opposition to the dams was more complex. Spokesperson Joe Murphy
predicted devastated communities in the Northern Times in September 1980 as he
and other Telegraph Creek locals decried southern administrators making unilateral
and dislocated decisions about their land and livelihoods. They envisioned
development based on

49 Le Baron, Stikine-Iskut Project: Social and Economic Impacts, 4.
a just settlement for the land claims of the Tahltan People, the original inhabitants of the country to be flooded. We see the development of a regional economy based on commercial fishing, agriculture and the older ways of trapping and outfitting. We see the preservation of... the Grand Canyon of the Stikine. We ask for nothing more and nothing less than the right, as local residents, to have some say about how future developments will best serve the needs of our own people and region rather than serving the needs of corporations across the border. To BC Hydro we must say: 'We have too much to lose – there can be no compromise. We must stop the dams.'

Sensitivity to local economic concerns (particularly fisheries) and willingness to promote the resolution of outstanding land claims were hallmarks of the campaign by Residents for a Free-Flowing Stikine. In this they had an ally in the Anglican Church of Canada, the church group with the longest standing institutional presence in Telegraph Creek. Both groups submitted complimentary briefs to the Pearse Commission on Pacific Fisheries which placed land rights at the forefront of the issue. These groups were forerunners of the notion that the Stikine Canyon should be turned into a park. Animals were talismanic figures for these groups, representing what could be lost if the effort to amend environmental regulation proved ineffective. There was mixed success in partnering with the Tahltan who often regarded environmental groups as interlopers in much the same way as Hydro and other resource companies.

51 C. R. Reitz, Brief to be Presented at the Pearse Commission Hearings, July 24-25, 1981, Appendix I in: Le Baron, Stikine-Iskut Project.
52 Friends of the Stikine, Newsletter no. 12 (November 1985), 4.
“The River is Central to our Lives”: Local Actions and Reactions

Oral histories and ethnographic data show that the Tahltan have derived their social and economic livelihoods from area resources for thousands of years. The river was the centre of this northern lifeworld: it was the central transportation conduit, the main food basket and prominent cultural symbol. The dams challenged that social and economic worldview by imposing limits of how the river could function and what it could mean. There were unresolved questions about the health of the fishery, the status of important cultural sites, employment, and the hunting/guiding industry among others.

The Tahltan position on Hydro and animals is elusive, not least because it should not be seen as a cohesive whole. Nevertheless, a thin consensus emerged among Tahltan on Hydro potential. Tahltan leadership, particularly within the Telegraph Creek band, were vocal from the outset. Spokesman Gordon Franke, present at the January 1980 meeting in Vancouver that lead to the formation of the two Stikine-focused environmental groups, said “if BC Hydro puts a dam on the Stikine, it will exterminate the Tahltan people because the river is central to our lives.”53 All of the area to be flooded fell within territory claimed by the Tahltan, which at this point was approximately 130,000 square kilometres. Tahltan leadership continually appealed to a long history of legal defence of their lands. They invoked the 1910 Declaration of the Tahltan Tribe, an extraordinary document which proclaimed, “[w]e claim the sovereign right, to all the country of our tribe – this country of ours which we have held intact from the encroachment of other tribes,

from time immemorial, at the cost of our own blood... because our lives depended on our country.”

BC Hydro’s dam project was a concrete threat to that sovereign right, unresolved as it was in Canadian law. The Association of United Talhtans (AUT), formed in 1975 to represent the Telegraph Creek and Iskut bands in land claims negotiations, was the institutional face for the Tahltan in dealings with Hydro. George Asp, President of the AUT, invoked the Declaration when he affirmed that the Tahltan “aren’t going into our aboriginal rights claims negotiations after the fact of these dams. It’s a matter of survival for us.”

But the AUT faced a similar knowledge deficit as that claimed by BC Hydro. The knowledge possessed by AUT members, accrued over years on the land, was not sufficient for the looming negotiations about the project. Non-knowledge could be produced when established forms of knowing were superseded by new ways of knowing. To engage in the discussion around damming the Tahltan needed access to the scientific knowledge that Hydro was organizing to justify its program. For its part, Hydro was unwilling to share the data it garnered from its field work. Chief band Councillor Ivon Quock recalled a Hydro public affairs official visiting Telegraph Creek in 1980. The official had copies of Hydro’s environmental studies, “[b]ut he only kept them here for a number of hours, and he told us there weren’t enough copies to leave any behind. He took a lot of notes, and then he went back to Vancouver and told the papers the Indians were in favour of the

The Tahltan and other opposition groups complained repeatedly about the lack of transparency.

To plug the gap, the AUT initiated its own environmental assessment and inventory study. The Stikine Basin Resource Analysis was a three and a half year project with a proposed budget of $7 million. The project was never completed, due in equal parts to the difficulty of large-scale fund raising and its negligible value once dam construction was deferred. But the AUT instigated the study because they felt they had no choice in the effort to protect their land claims: “Why should we have to duplicate the research Hydro is doing?” Asp said, “We don’t want to take an adversarial approach from the outset. But until we compile all the needed information, we have no choice but to oppose those dams.”

The Tahltan were compelled to replicate the data collected by Hydro-affiliated technicians and scientists. They undertook a systematic inventory of valued resources in the watershed. Because of the belief that “things are about to change,” the Tahltan aimed to “realistically assess the overall value of this unique area of Canada to ourselves as native people and to further assess the impact of the British Columbia Hydro & Power Authority’s proposed developments on the opportunities that the region holds for us in the future.”

While the methods used and data created were similar, the objective was very different. The AUT was particularly concerned to assess opportunities for

57 Cited in, Faustmann, The Future of the Stikine Basin, 14. The only specific study published from this endeavour was, Gregory Utzig, et. al (Pedalogy Consultants), Biogeoclimatic Zonation of the Stikine Basin, Prepared for the Association of United Tahltans (November 1982).
future watershed uses imperiled by dam construction and the associated environmental changes: the goal was impact assessment that focussed on evaluation of natural changes over simple description of predicted effects. The scale of analysis was also longer: “The initial objective will be to develop an adequate data base in order to assess the effects of the hydroelectric development in a meaningful way. Ultimately, spin-off benefits will include use of the study results for impact evaluation of other resource development (notably mining) and for formulating long-term regional development plans for the area.”59 For the Tahltan, qualitative analysis trumped data management: “Meaningful impact assessment has to evaluate the nature of change.”60 The data was to be used to facilitate discussion on future land use opportunities and alternatives rather than to justify current land use projections and impacts associated with dam construction.

Furthermore, the Tahltan collected and controlled the data. The AUT hired an outside ‘specialist’ to lead each of the sub-sections.61 However, in many cases it would be Tahltan individuals heading the research teams.62 Each section was described in terms of study objectives, information needs, methodology, work activities, personnel

60 Aspect Consultants, Stikine Basin Resource Analysis.
61 The prospectus was divided into nine sections which broadly reflected both potential economic opportunities as well as BC Hydro’s assessment program: Biophysical mapping, Terrestrial wildlife, fisheries, agriculture, mineral resources, energy, wilderness recreation, tourism, socio-economic and evaluation of land-use options.
62 The text of the Resource Analysis explains that “Tahltan resource people have been budgeted in the various study sectors as ‘field assistants’. This should be recognized as a misnomer. In many situations it will be Tahltans who are directing the work of the moment, and the specialists who are assisting. The term, however inappropriate, was used here for mere convenience.” Aspect Consultants, Stikine Basin Resource Analysis, 2.
requirements and scheduling. These were not exclusive categories: information and analytical overlap was built into the research program. Yet, even in the assessment of capabilities, options and effects, the motivation behind Stikine Basin Resource Analysis was the identification of alternatives and potentials rather than the creation of data for managerial purposes. Furthermore, the ‘corporate ecology’ discourse taken on by the Tahltan in their official dealings with BC Hydro has been sustained. The Land and Resources Management Plan is the most tangible example: it is an advisory document that leads the Tahltan into discussion with governments and resource corporations on land use questions.\textsuperscript{63} Resource development questions are directed through the Tahltan Heritage Resources Environmental Assessment Team (THREAT). THREAT is involved in all environmental assessment processes within Tahltan Territory.

At the community level, Tahltan engaged in active resistance to Hydro’s data gathering. The residents of Telegraph Creek and Iskut were uniformly antagonistic to Bentley Le Baron, the consultant hired by Hydro to satisfy the required social and economic impact assessment. His report, submitted in August 1982, was, in his view, hampered by a serious “deficiency”: “Native groups in the region have declined to cooperate with the consultant, either to provide statistical data for community profiles or to discuss their particular needs and aspirations as well as attitudes and concerns about the project.”\textsuperscript{64} His attempts to “arrange a study program that would meet Native needs as well as Hydro’s needs” were rebuffed by the leadership of both


\textsuperscript{64} Le Baron, ‘Stikine-Iskut Project,’ 3.
bands and by George Asp and the executive of the Association of United Tahltans.65 This was a serious limitation for Le Baron, but, in spite of a lack of formal data, he felt able to write about community impacts and prospects nonetheless. There were also several more violent confrontations between community members and Hydro personnel and equipment, although Hydro never pressed charges in an effort to maintain good relations. Anti-Hydro graffiti was common, bumper stickers and signage proliferated. The most poignant sign was draped across the river along the Stikine Bridge (which would have been flooded by the dams): “Dam the Stikine, Dam the Iskut, Dam the people.” There were also isolated acts of arson and sabotage. Eight trailers at the main Hydro camp at Bob Quinn Lake were set ablaze, $10,000 worth of aviation fuel was burned and Hydro employees were fired upon.66 These confrontations were uncommon but they do reflect the depth of animosity felt by inhabitants.

Individual Tahltan made explicit references to the integral place of the river and animals in Tahltan culture. Speaking in Vancouver at the BC Utilities Commission Rate Hearings in the summer of 1982, elder Henry Tashoots of the Iskut Band deplored the intrusive nature of the survey work and road building:

You see, the traditional trapping ways of our people express that the trapping in the winter was harvested more or less with care, as to the populations they are trapping. Now during the summer months the animals in the area have a chance to re-establish its traditional population. So that it was always regulated. Now if you start sticking... helicopter pads or landing areas in the surrounding area there is a

65 Le Baron, ‘Stikine-Iskut Project,’ 6.
66 Friends of the Stikine, Newsletter No. 1 (January 1981), 6; Faustmann, “The Future of the Stikine Basin,” 16. At a community meeting in Iskut in August 1980, a Tahltan elder said that if a dam is to be built, then he hopes to live that long so he can put some dynamite to it.
population of mink – now, these are very shy animals – Now, what is going to happen is that they're going to migrate to another area, an area where they are more or less not in tune with the environment. So what happens during the winter? They don't know where to find food and they dissipate rather quickly.67

Tashoots was keenly aware of the ruinous consequence of comparatively minor survey work. The more considerable consequences of a series of dams could be extrapolated by several orders of magnitude. For men like Tashoots, this was certainly an ecological warning, but it was also economic warning. Trapping and the hunting and guiding industry were integral components of the local economy. Each would have been curtailed drastically with the flooding of important habitats and established traplines. Hydro’s argument was that significant economic benefits would compensate for the loss of wildlife-derived revenue, but this ignored the entrenched cultural importance of Tahltan interactions with animals.68

The Tahltan were not, and never have been, staunchly anti-development, but rather, keen to ensure that their own social, economic and environmental outlooks were accounted for by those moving into their territory. Tahltan opposition to dams focused on several overlapping issues: planning activities, adverse effects on the salmon fishery, increased pressure on wildlife, resentment over decisions made by people who knew little about the region, and a mistrust of BC Hydro, especially its pervasive corporate secrecy. The Tahltan had good reason to feel threatened. BC

68 This is a common argument on most Hydro Reports, see particularly, Le Baron, Stikine-Iskut Project; Ian Hayward and Associates Ltd., Stikine/Iskut: Preliminary Environmental and Social Impact Assessment of the Stikine-Iskut Transmission System, Prepared for BC Hydro (Vancouver, July 1982).
Hydro explicitly admitted as much in its *Stikine-Iskut Interim Report* of 1982. They sought to create a pro and anti-development binary by focusing on the rapid increase in non-native population, permanence of development, differences between value systems and the alienation of wilderness. According to BC Hydro:

> ...the project would be beneficial for those people who are part of the wage economy and who perceive that hydro-electric development signifies progress. For those people who depend on the subsistence economy or who place high value on the wilderness, the project would require significant adjustments. The increased population and corresponding increases in competition for land and resources (e.g. fish, wildlife and agricultural land) would increase conflict with the present lifestyles. Moreover, the issue of land claims and its relationship to the development remains critical. The issue has implications not only because of its priority for local and regional native people but also because of the political and legal complexities it represents.69

The Tahltan saw the dams as a direct threat to a way of life. Indeed, as Hydro declared in the above statement, they were. There is a curious elision wherein Hydro asserted the primacy of land claims but neglected to include the claims as anything more than superficial elements in the economic and environmental assessment process. The progress-tradition binary that exists above is pervasive in Hydro’s reportage. The conditional sacrifice of an underdeveloped northern watershed, embodied by a subsistence economy and embrace of wilderness values, was emblematic of the tough arithmetic that Hydro employed to assess the Stikine-Iskut project and future power needs in general.

Concern about the health of the salmon fishery gained strength during the period of Hydro’s interest in the watershed. The subsistence fishery had always been of vital cultural and caloric importance to the Tahltan. In the late-1970s, a

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commercial fishery was established on the Stikine, eventually stabilizing at 25 operating licences running out of two processing facilities, the Stikine Salmon Company and the Great Glacier Co-op. Of course, fishers were hugely concerned about the adverse effects of dam construction on salmon habitat and spawning. Hydro moved to quell these concerns, hiring P.J. McCart to conduct fisheries analysis. McCart found that the two major salmon species on the river, the Chinook and the Sockeye, “might” be adversely affected but that “potential losses... can be largely mitigated provided that appropriate measures are instituted.”70 Dams were to be sited upstream of the furthest known ascent of migrating salmon. Fishers and other locals were sceptical: they asserted that Hydro studies neglected the potential impacts of water temperature, turbidity, stream velocity and discharge rates, dispersion of homing odours, egg-fry survival, leeching of toxins, reduction of oxygen and hydrogen, channelization and the drying of sloughs among other serious knock-on effects.71 Hydro’s public relations employees acknowledged these as possibilities, but demurred from comment, citing the ongoing studies and speculative nature of the work it commissioned.72 This also raises the problem of scientific site selection. As Florian Maurer emphasized in the Telkwa Foundation Newsletter, “BC Hydro [and McCart] selected for its studies only such sites on the lower river, where due to

72 BC Hydro, Consultants Study Interplay of Stikine Estuary and River Northern Projects Journal Vol. 1 No. 2 (May 1982), 1.
heavily silted glacial tributaries, no spawning can possibly occur.” Because the federal Department of Fisheries and Tahltan assessment resources were stretched so thin, the structural shortfalls of the McCart report were left unchallenged.

A second, more comprehensive report typified how knowledge production around the fishery worked to obscure the findings themselves. Beak Consultants of Richmond BC, reported that the construction of the Stikine and Iskut dams would have significant impacts on fish and immeasurably alter the river’s composition. However, the negative report contained an exculpatory caveat. The authority of Beak Consultants’ predictions was contingent on how adequately the models they created could describe and reproduce the physical and biological processes within the estuary, and their interactions with each other. The scientific models created to analyze the effects on the river had to exemplify the actual physical landscape more specifically than the original, which was always in flux. The assessment was predicated on knowledge that they did not possess. Therefore, Beak could recommend further study and the co-dependency of development and assessment was re-inscribed in the Stikine.

The fisheries question was also important because it highlighted the international components of the debate about hydroelectricity. Though only ten percent of the Stikine passes through Alaska, it is an international river and the most

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73 Florian Maurer, “Fledgling Fishery Threatened” Telkwa Foundation Newsletter Vol. 3 No.2 (Spring 1980), 7.
74 For example, Fisheries was concerned about the project but could only allocate $8000 to the area.
of the Stikine catch is taken in Alaskan waters in the Stikine estuary by Alaskan fishers. Alaskans, particularly in the regional communities of Wrangell and Petersburg, demanded input. Additionally, a series of treaties and diplomatic arrangements governed the international management of rivers like the Stikine. The International Joint Commission (IJC) was empowered to adjudicate disputes between Canada and the United States. The dispute of fish may all have been moot. As Alaska Governor Jay Hammond (who, not coincidentally, owned a fishing cabin at Telegraph Creek) asserted regarding the dams in March of 1982, “I don’t think it’s warranted. I don’t think it’s cost-effective. I don’t think it’s viable and I think it probably should not be built, from everything I’ve heard.”

Of course, there were numerous proponents of dam construction in northwest BC, although the voices of these concerns were often manoeuvring behind the scenes or were muted by dissent. The most obvious proponents were large-scale industrial operations that required huge amounts of relatively cheap power to forge ahead with production. For example, the Schaft Creek property, believed to contain one billion tonnes of copper-molybdenum ore, was located near the More Creek dam site and could have used all of the power generated at that site. There was also a smattering of local support, mostly among the small ranks of the business community. Elected members of the regional government, the Regional District of Kitimat-Stikine, were also generally favourable to dam construction.

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**Failure and the Study of Unbuilt Environments**

BC Hydro’s Stikine-Iskut project is the idiomatic expression of the unbuilt environment – where a highly anticipated and highly contested megaproject was planned and engineered but ultimately was not built. It is the knowledge created by dam proponents and the conflicts and contestations that the dams engendered that made the unbuilt environment legible in this case. As a result of talking about how they ‘knew’ the Stikine watershed, developers, contractors and conservationists frequently afforded wildlife and the river in general a type of environmental currency in efforts to circumscribe the ecological effects of the dams which were designed to promote the development of the Stikine watershed. Vested groups like the Tahltan, government surveyors and bureaucrats, environmentalists, resource extraction companies, contractors and recreationists conceived of animals and landscapes in overlapping ways, not least because their voices carried unequal power. Interest groups advocated for notions of environmental resources, property ownership and usufructory benefits that helped to re-write the status of what an ‘animal’ meant in the Stikine. The representational terrain of animals and fish began to shift as they were recast as scientific objects, development impediments, ecological truths and as cultural-economic symbols. Eventually the associated surveys, environmental assessments, resource and heritage inventories created such a complex discourse around animals and landscape that the project was abandoned.

Or, more likely, this emerging knowledge around animals and the river was part of a complex calculus of imperatives that resulted in the now-permanent postponement of the project. The influences included environmentalist agitation,
Tahltan assertions of control over the watershed, a new regulatory structure under the revised 1980 Utilities Commission Act, lowered power demand projections, unstable economic conditions and uncertainty around international boundaries and legal responsibilities. The Stikine Canyon and the surrounding plateau remain intact (ie. not under water) – but the spectral presence of the five unbuilt dams changed the way residents and outsiders perceived and used the environment and its many newfound ‘resources’ in the watershed. The process and debate around the dams conceived for the Stikine and Iskut Rivers carried more analytical and material weight than simple failed infrastructure projects. Conflicting ideas about progressive and prosperous land use were integral to how place was articulated within environmental and corporate discourse. BC Hydro’s production of scientific and technological data made it impossible to conceive of or talk about the river in the same way. BC Hydro, through this process, quantified and valued the river, its contents and its characteristics. In doing so, it ensured that future discourse about the river would be articulated within that same framework of understanding, one that prioritized the scientific and the technical.

The Tahltan have faced centuries of conflict with interlopers over the land and resources that formed the material basis of their social, economic and cultural lives. Partly because of marginality and scale - lack of access, lack of infrastructure, spatial and temporal dislocations between administrative centres and on site work – the massive projects envisioned for the Stikine have remained unbuilt. By looking at the program of scientific measurement and the process of data production and management I aim to speak to how future projects engage with the environment and
inhabitants of future northern landscapes. These unbuilt environments are not simply the unrealized dreams of the state and its development apparatus or the forgotten, failed schemes to modernize an out-of-the-way place like the Stikine watershed. They are also the product of the many interlocutors working to dislodge accepted notions of assessment, enterprise and expertise. The Stikine and the Iskut Rivers have remained unbuilt precisely because of the contest over what the river means and how it could be best understood.
Chapter Seven – Transmission: Contesting Energy and Enterprise in the New Northwest Gold Rush

It seems like history is repeating itself, except now it’s a transmission line. If the government builds the power line in tough economic times, and the copper industry doesn’t come, and the IPPs are slow to come, then it will be just like the 1970s all over again.”

Jim Bourquin, Iskut resident and Stikine river guide

There is a new Gold Rush in the Stikine, but this time the scramble is over copper and coal. Despite repeated failures to bring mines to fruition, mining multinationals have persevered over the last twenty years, buying, selling and negotiating tenure claims to proven underground resources across northwest British Columbia. Teck Cominco and NovaGold know that their Galore Creek property has a confirmed 786 million tonnes of good-grade copper-gold-silver porphyry located south of the Iskut River. Imperial Metals is ready to begin the extraction of 300 million tonnes of copper-gold ore at Red Chris, just off the Ealue Lake Access Road built by BC Rail in the mid-1970s. To the southeast, Royal Dutch Shell is embroiled in complex negotiations over the removal of 8.1 trillion cubic feet of coal bed methane gas from a 214,000 hectare tenure claim that overlaps with the headwaters of the Stikine, Skeena and Nass Rivers. An adjacent claim at Mount

Klappan owned by Fortune Minerals of London, Ontario seeks to remove 101.7 tonnes of proven anthracite coal reserves to feed industrial operations in growing Asian economies.\(^5\) The scale of these endeavours is massive. But there are at least six other mines, perhaps more, in the area in various stages of the provincial regulatory assessment process. And that is not even counting the various ‘small-scale’ energy projects – run-of-river hydro schemes, wind turbine generating fields – that are (or have been) in various stages of assessment themselves. Mining promoters call the Stikine and its surrounding region “The Golden Triangle” for all of its potential.

Mining companies face serious obstacles in converting prospective mineral plays into operational mines. Proponents of mining development often lament the complex regulatory expectations established by the province because they are time-consuming and expensive and could potentially stifle mining investment and development.\(^6\) In the Stikine, mines have faced increasing opposition on environmental and socio-economic grounds. Mining companies also face anticipated obstacles once the potential ore is out of the ground: the failed transportation lines of the past mean that it is very expensive to ship the ore to smelters or processing facilities. Most importantly, mines of this scale require massive amounts of power to operate. As we know from the previous chapter, developed power is lacking in


\(^6\) For example, after the Red Chris Supreme Court ruling (discussed below), BC Environment Minister Barry Penner complained to the Globe and Mail that the process was “cumbersome and costly” with built-in duplications that held up investment. See, Mark Hume, “B.C. mine falling through very large crack in system” *The Globe and Mail*, February 1, 2010, A8.
the Stikine. Moreover, the transmission infrastructure that links northern
generation sites to southern points of consumption in the province has never been
extended west to the Stikine. The transmission of power has become the key
limiting factor for the ambitious mining sector in northwest BC, and, some would
argue, for regional development more generally.

This chapter focuses on debates around the construction of the Northwest
Transmission Line (NTL). The completion of the NTL has been uncertain since it
was proposed in 2004, but the goal of diverting more electricity to the northwest
has been prominent for at least the past twenty years. The likelihood of the success
of the NTL mirrors the ebbs and flows of the mining industry. Debate around the
NTL has highlighted recent political history in British Columbia that reveals a close
relationship between mining and party politics. The mining industry has been
particularly supportive of the Liberal Party since Gordon Campbell’s election in
2001. Harkening back to the halcyon days of the Bennett years, Campbell’s
legislative agenda attempted to facilitate the growth of the mining sector by
reducing regulatory requirements and assessment restrictions as well as by
promoting the growth of public infrastructure projects. The NTL is a prime
example. I assess the promotion of the NTL as a public good and local necessity,
reading the claims of ‘green’ power transmission, jobs and corporate investment
against depictions of the line as a public financing of private gain and the

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7 See, for example, the BC Liberals website ‘mining record’ webpage. It chronicles
the legislative achievements of the BC Liberals during the years of Campbell’s
28, 2011.
environmental and socioeconomic dislocation that often accompanies the movement of international capital into investment hinterlands.

Because debates around the NTL are so current, the research methodology employed in this chapter differs markedly from previous chapters. I face limitations in dealing almost exclusively with contemporary materials. There have been no real scholarly analyses of the debates surrounding the construction of the NTL. My primary source has been current media accounts and press releases from mining companies, industry and advocacy groups. Much of the reporting has been first class, particularly the work in *The Tyee*, an online newspaper based in Vancouver. However, the scope of reportage is circumscribed by the simple constraints of length and by a readership that is seeking answers to different questions than those asked by scholars. In order to bridge this gap, I turn to the material produced during the environmental assessment process. I ask how this material functions as a marker of authority and meaning as new representations of the environment emerge in the Stikine.

On the face of it, transmission is incidental to the actual environmental effects of mining and the drastic reformulations of social relations that often accompany the extraction of ore bodies. But in the Stikine, the new economic prosperity promised by mining is contingent on cheap power. Transmission is the central mechanism that the mining of copper and coal must have. Debates about the NTL and debates about the future of the region, both the economic possibilities that can be seen in the present mining boom and the threats to the environment and the local economies and social lives tied to it. But these debates are also rooted in
the past, in the failures of transportation corridors, in the shadows of envisioned
dams and in abandoned mining landscapes. My aim in this chapter is to clarify the
connections between transmission and extraction, between mining economies and
mining environments and between the economic prospects of the present and
legacy of failure that has informed it. In the Stikine, it is the Northwest
Transmission Line that makes these connections possible.

**Reviving the Northwest Transmission Line**

Premier Gordon Campbell rekindled northern transmission dreams in a
September 2008 speech delivered to the BC Union of Municipalities. He pledged $10
million to kick-start the Environmental Assessment process, to continue community
and First Nations consultation and to resume the scientific and socioeconomic
studies that must now accompany major infrastructure projects. Though project
costs were estimated at $404 million dollars, Campbell felt justified in proceeding
based on the economies that would benefit from electrification. He claimed the NTL
would generate $15 billion investment dollars and spawn 11,000 jobs by providing
power to 10 major mining properties in development in northwest BC. The
numbers spoke for themselves, but Campbell’s projections were taken from a report
published on the same day as his announcement by a private mining industry lobby
group, the Mining Association of British Columbia. (The previous year, a competing

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industry organization, the Association for Mineral Exploration British Columbia, estimated that regional mineral projects could account for $3.5 billion in investment and 2000 jobs if the projects were built). Campbell was undeterred: the NTL would pay for itself several times over by stimulating prosperity and investment throughout the northwest.

**Figure 7.1** – Northwest Transmission Line Map. Source: BC Hydro. Image courtesy of BC Hydro

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Campbell’s government argued that the NTL would be a green energy project. It stressed that, by connecting the region to the grid, the line would reduce greenhouse gas emissions by removing northern communities from reliance on dirty diesel generators. This was also a major rhetorical component of an announcement made by Prime Minister Stephen Harper in September 2009. Harper pledged $130 million dollars from Canada’s Green Infrastructure Fund toward construction of the NTL. Speaking from Washington, D.C., Harper said, “[o]ur government is supporting environmentally-sound infrastructure and initiatives that promote cleaner, greener energy. The Northwest Transmission Line will facilitate the development of green energy and help provide British Columbia’s northern and remote communities with more sustainable and affordable power.”

Environmental groups expressed skepticism about the green effect of the NTL. The line will run for 344 kilometres from Skeena substation near Terrace to Bob Quinn Lake, essentially following the route of the Nisga’a Highway to Cranberry Junction before joining the Stewart-Cassiar Highway (Hwy 37). By ending at Bob Quinn, the NTL falls short of the communities of Iskut, Dease Lake and Telegraph Creek, the townsites that were ostensibly to be connected to the grid. The press widely reported the conflicting positions of vested interests. Campaigners from various groups were quick to condemn the plan as ‘greenwashing.’ A representative of the Dogwood Institute claimed, “this transmission line is about electrifying coal

and metal mines more than it is about clean, green energy.” John Horgan, the NDP energy critic, complained that “there’s no business plan, there’s no private sector partner and there’s no environmental approval.” In response, Blair Lekstrom, Minister for Energy, Mines and Petroleum Resources, modulated the green message: “If everyone is unemployed, I don’t think the air they breathe is going to matter much.” Colin Hansen, BC Finance Minister, stuck to the financial aspects of the deal: “this is going to open up a quarter of the province.” Campbell, Harper, Lekstrom and Hansen and other proponents of the NTL had allies in the business community. The B.C Chamber of Commerce, the Mining Association of B.C., mining industry representatives and various municipal governments all applauded the decision to proceed.12 Local voices were absent from mainstream accounts but they paralleled media representations of the dispute in their affiliation and temper. Locals may have been muted in the national arena but their polarized views on development, employment, tradition and environment reflected the complexity of energy futures in an out-of-the-way place.

How did such fractious debate emerge over a power line and how did Campbell avoid the debate to push the NTL through as a piece of policy and as the focus of a new energy corridor? How did the history of development failure inform planning and discussion over the line? How did the ‘unbuilt environment,’ itself a creation of the failed development projects that characterized the region, become something worth fighting over and fighting for?

**Partnerships**

The NTL was first imagined in 2004 but the ideas did not gain traction until several years later when the province (represented by BC Hydro and the BCTC) entered into a funding partnership with NovaGold, the developers of the Galore Creek property. The extent of the Galore Creek deposit had been known for years but nobody had managed to develop a cost effective business plan to deliver the ore to market. Power was the main stumbling block. Smaller mines in the area – Snip, Johnny Mtn., Golden Bear, Eskay Creek – had managed some success but the scale of Galore Creek coupled with its location resulted in projected start up costs that were too onerous for the consecutive junior mining companies that had optioned the property.
Figure 7.2 – Closed Mining Properties in the Stikine Area.

The line was originally part of a plan to connect Galore Creek to the port of Stewart. In October 2007, NovaGold committed $158 million to the construction of the line in exchange for a guaranteed supply of power needed to build and electrify the mine. Shortly before, in August 2007, NovaGold finalized a 50/50 partnership
with mining giant Teck Cominco, a much larger company with the capacity to fund the estimated $2.2 billion mine construction costs. Galore Creek was on track to be the first new operational mine in B.C. in over ten years. The availability of cheap power from the proposed line was at the root of the success. But as Teck began their own assessment process costs ballooned. In particular, the size of the ore body dictated that the tailings pond would have to be much larger than previously planned. It would still be located within a recessed glacial valley but the holding dam would have to be much larger to accommodate the increased tailings volume. There were also concerns about the construction costs for the mine service road that would connect Galore Creek to Hwy 37, including controversial plans to build access tunnels of varying lengths. When new prohibitive construction estimates closer to $5 billion were presented, the backers of Galore Creek pulled out of the NTL deal.\(^\text{13}\) Officially, the NTL was ‘on hold,’ but without a major private backer to offset public financing of the line it was unlikely to proceed.

Mining companies knew that power was essential to the success of the industry in the northwest. The mining industry lobbied for the extension of transmission service into the region. Companies coordinated under the Mining Association of B.C. (MABC) and the Association of Mining and Exploration of B.C. (AMEBC), who then partnered with a sequence of northern business groups to pressure the province to forge ahead with construction plans. The Northwest Power Line Coalition (sponsored in part by the MABC) and the Northern

Development Initiative Trust led the lobby effort and succeeded in keeping the idea of NTL afloat through the deflated economic years following the termination of the Galore Creek-BC Hydro partnership.\textsuperscript{14} Additionally, these groups used economic leverage to back the political party most likely to support mining and the large infrastructure spending they were hoping to see built. Critics have pointed out that lobbyists and mining companies have been very supportive of the BC Liberals. They contributed $1.5 million to party coffers and reelection campaigns between 1995 and 2005.\textsuperscript{15} Campbell’s use of the economic projections of MABC in his assessment of the viability of the NTL suggests a conjunction of perspectives between industry and government.

By the end of 2009, the NTL, with a fresh injection of capital financing through the Green Infrastructure Fund, seemed poised to go ahead. However, the project still lacked the private-public partnership necessary to build the line. Nevertheless, the province continued the environmental assessment funded by the $10 million grant provided by the Liberal government in September of 2008. The assessment was undertaken by the B.C. Transmission Corporation (BCTC), an


independent crown corporation that subsequently re-merged with BC Hydro and now functions as an affiliated arm of the utility. An extensive regime of environmental assessment took place over 2009 and early 2010 to supplement the work already undertaken in 2007. BCTC formally submitted an Application for an Environmental Assessment Certificate to the B.C. Environmental Assessment Office (BCEAO) on April 15, 2010 and it was accepted for review in early June. BCEAO had 180 days to review the application and make its recommendation to the BC environment and energy ministers who must approve before construction may commence. The BCEAO review stopped twice: once in June so that more data could be collected in anticipation of a small route alteration and again in December at the request of federal authorities from Infrastructure Canada (the federal agency supplying the $130 million for construction). The review ended on January 12, 2011. Expected to offer a judgment within 45 days, environment minister Murray Coell and mines and lands minister Pat Bell were currently deliberating whether to issue a certificate or not, or to ask for additional information. Federal authorities must approve the project as well, though they face no time limitations on their judgment.

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BC Hydro did not sit back while all of the data gathering and consultation was taking place. In June 2010, they announced a partnership with AltaGas of Calgary, the new principals for the Forrest Kerr run-of-river hydro project at the confluence of Forrest Kerr Creek and the Iskut River. As part of the $180 million agreement, AltaGas would build its own line to Bob Quinn substation to deliver its power (estimated at 200Mw generating capacity) to the provincial grid via the NTL. With a new private-public partnership secured, and official approval on the horizon, BC Hydro has since been negotiating with First Nations and accepting bids on construction and clearing contracts. After contributions from AltaGas and Infrastructure Canada, the province must fulfill the remaining cost of $94 million, though there are expectations that much of total will be covered by agreements with other companies seeking to tap into the power line as mines and IPPs make their own way through the BCEAO process.

Assessments

On the face of it, the BCEAO process is remarkably similar to the self-directed process undertaken by BC Hydro during its attempt to push forward the Stikine-Iskut project thirty years earlier. However, the depth of engagement in environmental and socioeconomic issues and the legal duty to consult clearly sets this process apart from its predecessor. The mechanics of the process are certainly more rigorous and have been institutionalized in a manner that provides a standardized template for assessment. Rather than a separate document for each

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component study, assessment is simplified into one document containing everything submitted for consideration by BCTC. The entire document is available to the public via the BCEAO website.\(^{19}\) Public engagement and consultation is also taken seriously. Supplementary catalogues of all of the public commentary from both individuals and registered interveners are available as well. The process gains partial transparency through this venue although the deliberations of BCEAO officials are not part of the public record.

The BCTC application to BCEAO is embedded in an increasingly standardized assessment structure broadly adopted by environmental agencies across the Global North. This format has not escaped the attention of scholars engaged in the critical appraisal of the convergence of science, policy-making and environmental governance. Issues of scientific authority and expertise are at the forefront of concerns raised by a diverse group of scholars working primarily within political ecology and science and technology studies (STS) frameworks. Scientists and bureaucrats exercise authority as they activate theoretical and practical knowledge about the natural world and codify information about the threats and risks attached to development. Authority is also challenged by interlocutors (contributors often eager to highlight other ways of knowing) through the foregrounding of scientific uncertainty and its possible links to political and economic interests. An understanding of science as a social construction, with a destabilized concept of objectivity, has contested the primacy of scientific authority. This has had knock-on

effects for environmental agencies as they seek to incorporate other ways of knowing into the increasingly uniform models of assessment.\textsuperscript{20}

The BCEAO process requires applicants to frame their submissions in a standard format and to collect data using standard methods. The provincial government tasked BCTC with establishing a baseline view of environmental components. In this case, the baseline consists of the status of present ecosystems and their component parts. Assessment and baseline cataloguing occurs because an alternative environmental use is envisioned. The imagined environment is produced through the ideological embrace of particular economic networks and this conditions the application of the assessment framework. The environmental assessment requires the selection of Valued Environmental Components (VECs): “key biophysical and human features of the environment chosen to focus the assessment on the issues of highest concern and/or relevance to the project.”\textsuperscript{21} In contrast to the standardized report format, the VEC selection process is unique to each project, incorporating scientific studies, local consultations, expert and


regulator advice as well as input from First Nations and Traditional Knowledge studies. Leaving aside the politicized dynamics of these relationships, the VEC selection process ostensibly strives to be inclusive of various forms of knowledge, experience and the broad spectrum of values attached to environment. The VECs selected for the NTL assessment were fairly comprehensive: Atmospheric Environment; Surface Water and Groundwater Resources; Terrain, Surficial Minerals, and Soils; Geotechnical Stability; Fish and Aquatic Habitat; Wetlands; Terrestrial Ecosystems and Vegetation; Wildlife and Wildlife Habitat; Archeology and Heritage Resources; Land and Resource Use; Socio-economics; Visual Resources and Aesthetics; Human Health; Transportation and Utilities. Most VECs are further reduced into subsections for more detailed analysis. The work is subcontracted to “environmental professionals”: engineers, scientists and bureaucrats with expertise in particular fields relevant to the specific area of study. This conforms to the conventions of Environmental Assessment, creating a standardized mode of appraisal where valuation of ecosystems and human-environment relationships is standardized in numbers and normalized in representation. Again, we see the reduction of complexity characteristic of development-driven environmental research.

Each subsection begins with a justification of why the VEC was chosen, demonstrating the relevance of gathered information for environment, social and cultural lives, regional economies or public safety. Atmospheric Environment was

22 BCTC, *Northwest Transmission Line*, XVI. VECs were selected by BCTC in consultation with local interest groups, including First Nations.
chosen “because it encompasses climate and air quality... [which is] vital to the health of humans, wildlife and vegetation, and influences water quality... [and] also has aesthetic properties in terms of visibility and odour.” The assessment then outlines the mitigating techniques to be employed by contractors: short helicopter trips, full truck loads, speed limit enforcement, equipment maintenance, use of better quality fuels, the application of water to control dust. The potential effects are then summarized. In this case, the reporters concluded there would be no effects beyond the short-term construction phase.  

This descriptive text exemplifies the power embodied within the definitions of terms of reference. There is nothing ‘wrong’ with the analysis undertaken on project effects on air quality but the boundaries drawn around scope of analysis preclude a full investigation of those effects. This section of the report does not mention the potential problem of electromagnetic radiation (EMR) to animals, humans or vegetation, for instance. A full discussion of EMR hazard appears in the Human Health section, but it is not highlighted as an environmental hazard. Associated with proximity to long-distance transmission lines, there is considerable disagreement about the long-term health risks of EMR.  

Dust mitigation, clear skies and GHGs are important, quantifiable and observable but radiation - risky, ephemeral and immediately dangerous - fall outside the environmental purview of the BCTC.

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24 BCTC, *Northwest Transmission Line*, XVIII.
The *Socio-economics* section illustrates the effects of liberal social values brought to the analysis by its reporters. Socio-economics was chosen “because it encompasses issues such as employment, education and training opportunities, and community well-being, which were identified through baseline research and consultation with the public, First Nations, and government agencies.”\(^{26}\) The reporters contend that the NTL would generate “benefits” and “economic opportunities” for area residents. In the short-term, this is undoubtedly correct, with construction work and contracts confined to the three-year window and an estimated seventy percent of workers coming in from outside the region.\(^{27}\) There is no discussion of detrimental socio-economic effects, such as potential social pressures stemming from the influx of temporary workers. Nor is there a discussion of the conceivable socio-economics effects of mining and other economic endeavours that are likely to follow the line as it opens up the northwest. Within this framework, development equates to economic opportunity and the movement towards more fulfilling involvement in an international, market-based economy.

Other sections are more comprehensive. The *Land and Resource Use* section “considered (1) how access to land use could be limited or improved by the Project, (2) how the quality of land use activities could be affected, and (3) how forestry activity important to the economy of the region could be supported or limited.”\(^{28}\) Effects during construction will be negligible, “short term and geographically limited.” In contrast to assessments around the Dease Lake Extension, there is full

\(^{26}\) BCTC, *Northwest Transmission Line*, XXVI.
\(^{27}\) BCTC, *Northwest Transmission Line*, XVIII.
\(^{28}\) BCTC, *Northwest Transmission Line*, XXV.
acknowledgement that “primary effects” will relate to increased access along right-of-way corridors, though this difficulty, along with “decreased visual quality” were regarded by reporters as “not significant.”29 This section also identified potential effects of “traffic from two mines, growing communities, and increased recreation and tourism” which might have “cumulative effects” though it was “dependent on timing.”30 *Land and Resource Use* changes are likely, but the particular constellation of effects is unknown, rendering assessment hypothetical.

While demonstrating a fuller approach, the *Human Health* section also embodies similar characteristics of exclusivity and shortsightedness. EMR (here rendered as electric and magnetic fields (EMFs)) is addressed in this section as an area of public concern. The reporters suggest EMR is found everywhere in daily life, and is therefore inescapable for humans. As EMR becomes normalized, perceived public risks are sanitized. They predict no adverse health effects on humans but do not mention possible effects on other living bodies.31 Drinking water and country foods might be affected by sedimentation of streams, metal leeching, acid rock drainage, spilled petroleum products or ‘weed control’ but a series of procedural safeguards will be implemented to render the “cumulative effects” negligible and localized to construction areas.32 Again, all living bodies are not considered within the same framework.

29 BCTC, *Northwest Transmission Line*, XXV.
30 BCTC, *Northwest Transmission Line*, XXV.
31 BCTC, *Northwest Transmission Line*, XXIX.
32 BCTC, *Northwest Transmission Line*, XXIX-XXX.
The assessment of risk is historicized while at the same time taking on a predictive element in attempts to understand and mitigate certain environmental effects. *Cumulative Effects* is the preferred terminology:

While an individual effect may be relatively inconsequential, two or more effects that cannot be fully mitigated (termed a residual effect), may combine to produce effects that could be considered significant; this is known as a cumulative effect. As part of the assessment, the anticipated residual effects of the Project were studied to determine if they would interact with the residual effects of the past, present, or probable future projects or activities in the area, and whether this would contribute to measureable cumulative effects.33

Past, present and “reasonably foreseeable” projects come under the purview of BCTC.34 All of the other proposed or envisioned industrial projects – mines, IPPs, wind power fields, potential settlement and accompanying human footprints – cannot be accessed within the *Cumulative Effects* framework because “their probability of proceeding is not sufficiently known” and there is “insufficient information” to advance possible effect scenarios.35 The attempt to offer full *Cumulative Effects* is circumscribed by the very economic forces that render these mines economically feasible. The fact that the construction of the NTL has a direct relationship to the potential florescence of the mining section in northwest BC, and therefore as the progenitor of exacerbated future *Cumulative Effects*, is not part of the methodology or analysis. Instead, the study offers a “conceptual best case”

33 BCTC, *Northwest Transmission Line*, XVII.
34 These are identified as “the Eskay Creek Mine; the Forrest Kerr power project; the Red Chris copper and gold mine project; the Galore Creek copper and gold mine project; forestry activities, such as Kalum, Nass and Kispiox Timber Supply Area; the communities of Terrace, Stewart, Gwathmey, Gitanyow, Rosswood, New Aiyansh, Gitwinksihlkw, Laxgalts’ap, and Gingolx; roads and vehicle traffic; provincial parks and tourism; the existing 1L381 and 1L387 transmission lines.” BCTC, *Northwest Transmission Line*, XVII.
35 BCTC, *Northwest Transmission Line*, XVII.
scenario, wherein four of the proposed projects (on top of Galore Creek, Red Chris and the Forrest Kerr IPP) will be up and running by 2015 as long as the NTL is operational on time in 2014.

Consultation with First Nations and local residents is a central component of the BCEAO assessment apparatus. First Nations are identified by the BCTC as the seven groups whose rights and title could be affected by the construction of the NTL.36 The Nisga’a Nation is dealt with separately, and is singled out, along with the Tahltan, as the most directly affected Nation. These consultations identified major concerns of First Nations: compliance with traditional laws, physical and biological environmental effects, cumulative effects, project route alternatives, economic benefit and employment, accidents, contamination, and emergency response plans, and human health effects. Each concern is addressed in turn, in the application with mitigation and minimization strategies highlighted. BCTC devoted considerable resources and inaugurated several partnerships to facilitate consultation and education protocols.

**Dialogues**

Consultations are one way to measure interactions around the NTL. BCTC has taken consultation seriously as a procedural element of its assessment apparatus but also as a consensus building mechanism. It has a legal duty to consult and accommodate based on constitutional precedent and in recent case law. In British Columbia, the two central cases involving the Haida and Taku River Tlingit have

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36 BCTC identifies “the seven First Nations” with potential interest in the NTL as Kitselas First Nation, Kitsumkalum Band, Metlakatla First Nation, Lax Kw’alaams, Gitxsan Hereditary Chiefs, Gitanyow Hereditary Chiefs and Tahltan Nations (as represented by the Tahltan Central Council).
consolidated the province’s duty to consult when there are potential infringements on Aboriginal rights and titles, even if claims have not yet been proved. The *Taku River Tlingit vs. British Columbia* involved a dispute over the Tulsequah Chief Mine near Atlin, BC, owned by Redfern Resources. The case cemented the duty of the Crown (both federal and provincial) to consult but also maintained that various assessment mechanisms had performed that duty appropriately.\(^\text{37}\) *Taku River Tlingit* set up the legal framework around consultation and assessment in which BCTC operates in its dealings with First Nations.

As part of the consultation protocol, BCEAO has documented and posted all of the commentaries received regarding the NTL Terms of Reference during the open comments period. They have been split into an “Aboriginal” comments section and a “Public” comments section. The Tahltan have engaged in the consultation process at the administrative level. Even though it has been confirmed that the touted tangible benefits of grid connection will not be extended to Tahltan communities in the Stikine, the Tahltan have consistently asserted their social, cultural, economic and spiritual stake in northwest BC alongside the highlighted environmental concerns.

Nalaine Morin, manager at the Tahltan Heritage and Resource Environmental

Assessment Team (THREAT) has been at the vanguard of this push.\(^{38}\) Her assessment of the Terms of Reference (TOR) promotes Tahltan interests and rights in the region. Representing the Tahltan Nation she asserts that “the social, cultural, spiritual and physical well being of the Tahltan people must be respected as guiding ethical principles in consideration of the development and implementation of the environmental assessment [or]... the Tahltan way of life will be at risk.”\(^{39}\) Morin holds the BCEAO accountable for addressing threats to Indigenous rights to land, livelihood and lifeways:

The cumulative impacts of the NTL, in combination with other existing or future development activities, on the social, cultural, and economic well-being of the Tahltan are of great concern to us. Our way of life is changing beyond our control in our own territory, in part because the Crown permits development projects without our consent. The BC Environmental Assessment process does not require thorough evaluation of these types of impacts, particularly the social and cultural impacts, and appears to give them lesser weight and/or significance than biophysical environmental impacts. Through our submission, we have highlighted areas of social and cultural impacts for the Tahltan Nation that we believe should be given equal consideration in the environmental assessment process and should be adequately detailed in the Terms of Reference process for the NTL.\(^{40}\)

\(^{38}\) Morin has since taken a leave from THREAT to work on the BCEAO file on the Prosperity Mine (Taseko Mines) in the Chilcotin. Prosperity planned to turn Fish Lake into a tailings pond. It was the first major proposal the BCEAO has turned down. THREAT employs Tahltan expertise to direct industry and government on how to better protect heritage, culture and resources of the Tahltan Nation. THREAT provides independent technical expertise to the Environmental Assessment process, linking between government and the Tahltan Nation to ensure Tahltan values are addressed.

\(^{39}\) BC Environmental Assessment Office website, 2009 Aboriginal (A9) Comments on the NTL Project Draft Terms of Reference, 16-17. 
http://a100.gov.bc.ca/appsdata/epic/documents/p299/1260404358142_5afbeac073c07828125ceed6a71cf5e955b8b3bf9fffc43d5b2f6c4b9dd327df.pdf

\(^{40}\) BC Environmental Assessment Office website, 2009 Aboriginal (A9) Comments on the NTL Project Draft Terms of Reference, 17. 
http://a100.gov.bc.ca/appsdata/epic/documents/p299/1260404358142_5afbeac073c07828125ceed6a71cf5e955b8b3bf9fffc43d5b2f6c4b9dd327df.pdf. Details of
BCEAO did not address these statements directly, instead resorting to the bureaucratic language of the Terms of Reference itself:

BCTC opted into the EA [Environmental Assessment] process for this proposed project and will consult with all potentially affected First Nations groups as to potential effects of the project. Cumulative effects assessment will be done in accordance with CEA Agency [Canadian Environmental Assessment Agency] guidelines and provincial requirements. Social and cultural effects are addressed in Section 6.12; Cumulative Effects are addressed in Section 10.41

In other words, Morin’s concerns would be addressed by BCTC, but the assessment would happen within the framework established by separate and detached government organizations, BCEAO and CEA. Moreover, BCTC emphasized that it chose to participate in the assessment process: it was not obliged to, but submitted to the process in the interest of satisfying public apprehension.

Morin raised specific concerns about the obfuscating power of vague language and lack of specificities in reference (or complete absence of reference) to social and cultural impacts on the Tahltan. She focused attention on important semantic issues: references to Tahltan ‘communities’ should be changed to the Tahltan ‘Nation’ to encompass common identity and territorial cohesion. She asked for clarification on the particularities of structures to be used in the NTL, route selection and right-of-way appraisal. She showed particular concern over perceived

this concern include, but are not limited, historical use and occupation of the land, summary of traditional use areas and resources, community values, value of fish and wildlife, access to traditional knowledge, demographic indicators, social, cultural and community issues and services, etc.

41 BC Environmental Assessment Office website, 2009 Aboriginal (A9) Comments on the NTL Project Draft Terms of Reference, 17. http://a100.gov.bc.ca/appsdata/epic/documents/p299/1260404358142_5afbeac073c07828125ceed6a71cf5e955b8b3bf9fffc43dbd2f6cf4b9dd327df.pdf
inadequacies in the assessment of potential damage to fish and wildlife populations.

Above all, Morin stressed the need for Tahltan involvement and expertise at all levels of the assessment process.\(^\text{42}\)

Morin was also troubled by the Cumulative Effects protocol to be included in the assessment, basing her judgment on past failures and inadequacies of the process and methodology:

The Tahltan are well aware of the weakness of the provincial and federal cumulative effects analysis from experience in other EA processes and THREAT could indicate again that unless changes are made to reflect Tahltan concerns, the Tahltan will not recognize the results or mitigations that may result from the analysis. In addition, the section should be based on past, present, and future projects identified by the Tahltan for their territory and the analysis modified to meet social, cultural and environmental criteria of the Tahltan. If an acceptable methodology for cumulative effects can be developed, then the EA Office should ask a third party to conduct the analysis to ensure an open and transparent process.\(^\text{43}\)

The BCEAO told her, in effect, that she was wrong, substituting the Tahltan experience for a generalized First Nations experience:

First Nations have provided and continue to provide input into the environmental assessment through the technical working group, public comments, traditional use/knowledge, and consultation.\(^\text{44}\)

Morin succeeded in airing Tahltan concerns at the outset of the consultation.

\(^{42}\) BC Environmental Assessment Office website, 2009 Aboriginal (A9) Comments on the NTL Project Draft Terms of Reference, 17. http://a100.gov.bc.ca/appsdata/epic/documents/p299/1260404358142_5afbeac073c07828125ceed6a71cf5e955b8b3bf9fffc43dbd2f6cf4b9dd327df.pdf

\(^{43}\) BC Environmental Assessment Office website, 2009 Aboriginal (A9) Comments on the NTL Project Draft Terms of Reference, 22. http://a100.gov.bc.ca/appsdata/epic/documents/p299/1260404358142_5afbeac073c07828125ceed6a71cf5e955b8b3bf9fffc43dbd2f6cf4b9dd327df.pdf

\(^{44}\) BC Environmental Assessment Office website, 2009 Aboriginal (A9) Comments on the NTL Project Draft Terms of Reference, 22. http://a100.gov.bc.ca/appsdata/epic/documents/p299/1260404358142_5afbeac073c07828125ceed6a71cf5e955b8b3bf9fffc43dbd2f6cf4b9dd327df.pdf
process. She did achieve tangible changes to the Terms of Reference, and therefore to the assessment process, but was countered by BCTC personnel on some important elements of her critique. Part of the disagreement resulted directly from the institutional nature of the BCEAO, part was because of the size of the assessment endeavor and the spread of concerns and interlocutors, and part stemmed from the restricted mandate of the BCEAO. Morin presented the case for Tahltan interests, but it is difficult to get a sense of how individual Tahltan feel about the likelihood of the NTL. A healthy skepticism characterizes relations with the mining industry, though some companies, particularly NovaGold, have made significant inroads in community engagement through consultation, negotiation and public relations efforts.45

In October 2010, BC Hydro Aboriginal Relations and Negotiations department published its *First Nations Consultation Summary*. They contracted Golder Associates, a Victoria-based consulting firm specializing in First Nations corporate engagement, to produce the report. The Tahltan section provides an executive-level view of responses to the NTL. BC Hydro was required to undertake this consultation with the Tahltan Nation (represented by the Tahltan Central Council) as well with other First Nations as part of the BCEAO process. Tahltan concerns here paralleled the concerns raised by Morin in her earlier challenges to the BCTC Terms of Reference: acknowledgement of socio-cultural values, skepticism about the cumulative effects framework, concern about fish and wildlife, habitats, ecosystems and wetlands, and general concern about Tahltan involvement in the

45 See, Fidler “Aboriginal Participation in Mineral Development”.
process. BC Hydro provided funding for the Tahltan to complete a Traditional Knowledge/Traditional Use (TK/TU) study, which was included as an appendix in the final draft of the Environmental Assessment Certificate Application. Hydro seemed receptive to Tahltan concerns regarding cumulative effects. The utility agreed to a supplemental cumulative effects assessment which was requested by responsible federal authorities, the Department of Fisheries and Oceans, Infrastructure Canada and the Environmental Assessment Office. The report, unavailable to the public, incorporated regional concerns as well as the Tahltan TK/TU study. According to the Golder Associates report, BC Hydro “will take the findings of these reports into account in the development of the Access Plan, construction Environmental Management Plan, and other planning documents.”

Public concerns and messages of support for the NTL were also posted by the BCEAO following the publication of the Terms of Reference. In general, local business people and government representatives wrote in support of the line, stressing the economic opportunity they anticipate could follow in its wake. Lael McKeown of Progressive Ventures suggested that the “project, once completed will be a transformational project for the future of northwest British Columbia and the province as a whole.”

Dave Pernarowski, Mayor of Terrace and current Chair of the Northwest Powerline Coalition, was equally effusive:

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The prospect of this line is one of hope for jobs and sustained economic growth in our area. We believe the NTL would provide much needed high-voltage electricity to the Northwest to spur economic growth and development. Reliable, clean electricity has the power to transform the Northwest economy through mining and other industrial development opportunities, as well as provide employment within the service and support sectors as projects develop and the area’s economic base diversifies. We also believe the project will provide an improved standard of living for First Nations and others in the area through improved social and economic benefits. The NTL will provide a cleaner alternative to diesel generators and greater opportunities for independent power projects to connect to the line.48

Overall, the majority of the comments favour the construction of the mine, almost uniformly for the reasons stated above. There was some considerable concern, however, about the environmental cost borne out of such a line. They range from general comment about protecting the earth to more measured commentaries on the potential impacts of large-scale copper extraction to be facilitated by the NTL.

While British Columbians debate the merits of the NTL, Alaskans appear ready to embrace the concept and the possibilities it creates for the development of untapped hydroelectric generating capacity in Southeast Alaska. The long-mooted Southeast Alaska-BC electrical intertie could become a reality if the NTL proceeds. Several Alaskan energy interests (many with ties to Native communities) appear in the public comments minutes: Duff Mitchell (Cascade Creek LLC), Peter M. Naoroz (Kootenoowoo Inc.), Robert W. Loescher (Sealaska Corp) and Peter Frisbay (Central

Council Tlingit and Haida Tribes of Alaska). Alaskan hydro power interests have come together in an umbrella lobby group of their own, the Alaska-Canada Energy Coalition (ACE Coalition). There are over 80 potential small-scale hydro sites identified in southeast Alaska with approximately 3000Mw generating capacity. The primary stumbling block for Alaskan energy entrepreneurs is access to the North American grid. The NTL endpoint at Bob Quinn Lake is only 80 kilometres from the nearest potential hydro site in Alaska. The ACE Coalition is particularly strong in Wrangell, at the mouth of the Stikine, where city councilors and the local business community have long sought access to the continental interior through roads and/or an electrical intertie. Of course, Alaskan interests have a staunch ally in the BC mining lobby and its associated public vehicles. Janine North, CEO of the Northern Development Initiative Trust and former Co-Chair of the Northwest Powerline Coalition (NPC), has offered support for the NTL. She claimed that “Northern BC Communities were Electrified” over the NTL. The NPC had much support from local business elites. In North’s view:

Mine development has the strongest potential for economic diversification of central and northwest BC in the short to medium term. Mining and renewable energy projects present an opportunity for sustainable economic development on First

49 BC Environmental Assessment Office website, 2009 Public (P9) Comments on the NTL Project Draft Terms of Reference.
http://a100.gov.bc.ca/appsdata/epic/documents/p299/1260404496735_5afbeac073c07828125ceed6a71cf5e955b8b3bf9ffe43d2f6cf4b9dd327df.pdf
52 The Northwest Powerline Coalition produced a short promotional video that can be seen online at: http://youtube.com/watch?v=kVe915Cykyw
Nations traditional lands including joint ventures and contracts that are so important to the supply sector in northern communities, but, only if there is power. Along with other major stimulus investment across northern BC, this is the right investment at a time when it’s needed most.53

At this point, so near to its approval, the social and economic influence of the has reached far beyond the confines of northwest BC. It is conceived of as a vital resource conduit for the province and in the international arena. The Tahltan and other Stikine locals face real challenges to ensure that their interests in land, environment and resources are not subsumed.

Connections

The stated aim of the NTL is to electrify the northwest. The BCEAO assessment process is designed to measure the effects of the line itself, construction and maintenance. But, in spite of its attempt to address cumulative effects, the assessment fails to consider the consequences of the potential industrial connections that may spread across the northwest as a result of the availability of cheap power. The environmental outcomes of the movements of modern mining into a region are calculable. Earth and rock are displaced, valued minerals are removed, industrial chemicals are processed, ecosystems are disrupted and measurable pollution, in the form of acid rock drainage, tailings ponds or GHGs, is produced and accumulated. The socioeconomic effects of such a move are harder to determine. In the Stikine, there is considerable excitement about the opportunities

presented by the new mining economy just as there is tangible reticence regarding the potential social, economic and environmental dislocations that often accompany the rapid infusion of resource investments beyond the capacity of local infrastructures to integrate it.

Figure 7.3 – The Stikine and Area Showing Major Mining Properties, Settlements, the Proposed NTL, Dease Lake Extension and Highway 37.
The Tahltan have been building capacity for dealing with the mining industry, particularly over the last ten years. Many Tahltan worked at Cassiar Asbestos, as well as other area mines that had shorter lifespans (Golden Bear, Eskay Creek, Snip, Johnny Mtn.). Tahltan marginal employment experience at those mines prompted leadership to evaluate local relationships to mining companies as well as rights and entitlements as they related to the construction and maintenance of operational mines in Tahltan Territory. The first major initiative to address the issue around mining and sustainability was the Tahltan Mining Symposium held in the summer of 2003, the outcome of which was published the following year under the title *Out of Respect.* The symposium, coordinated by the International Institute for Sustainable Development (IISD), brought community members together with government officials and mining companies to discuss legacy issues and the reformulation of the previous guiding document, the Resource Development Policy (1987). *Out of Respect* set up a template under which the Tahltan could move forward in conjunction with mining development. The stated goals were to ensure that mining progressed alongside Tahltan values, that Tahltan involvement in employment and co-management was assured and to guarantee that Tahltan were suitably compensated for work on their territory. THREAT was inaugurated in 2005 to further facilitate the relationship between the Tahltan and the mining industry.

The Tahltan mining framework was vital. There are currently eleven major properties in various stages of environmental assessment. Most are copper mines.

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54 Tahltan First Nation and International Institute of Sustainable Development, *Out of Respect: The Tahltan, Mining, and the Seven Questions to Sustainability* Report of the Tahltan Mining Symposium, April 4-6 2003, Dease Lake, BC.
Copper prices have fluctuated historically: prices are currently very high, hovering between 700 and 1000 US Dollars an ounce over the last three years. It has also become profitable to mine the coalfields in the southeast quarter of the Stikine, first recognized almost a century ago by surveyors from the Geological Survey of Canada. Copper and coal are big business but a great deal of risk attends that extraction. Many identified sites have changed hands repeatedly over the years as development dreams fail and are revitalized.

<table>
<thead>
<tr>
<th>MINE</th>
<th>COMPANY</th>
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<tbody>
<tr>
<td>Galore Creek</td>
<td>NovaGold and Teck Cominco</td>
</tr>
<tr>
<td>Red Chris</td>
<td>Imperial Metals</td>
</tr>
<tr>
<td>Mount Klappan Coal</td>
<td>Fortune Minerals</td>
</tr>
<tr>
<td>Kutcho Creek</td>
<td>Capstone Mining Corp.</td>
</tr>
<tr>
<td>Storie Molybdenum</td>
<td>Columbia Yukon Explorations</td>
</tr>
<tr>
<td>Bronson Slope</td>
<td>Skyline Gold</td>
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<tr>
<td>Schaft Creek</td>
<td>Copper Fox Metals</td>
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<td>Snowfields</td>
<td>Silver Standard Resources</td>
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<td>GJ (Kiniskan)</td>
<td>Canadian Gold Hunter</td>
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<tr>
<td>Kerr-Sulphurets-Mitchell (KSM)</td>
<td>Seabridge Gold</td>
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<tr>
<td>Turnagain</td>
<td>Hard Creek Nickel</td>
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Table 7.1 – Selected Potential Northwest BC Mining Projects. Note: This is not a comprehensive list. Many potential mining sites have not been included and exploration is ongoing. Listed above are the eleven mines/companies that entered into ‘earlier stage’ testing (or greater) where some geological information is available that will likely result in economic studies in the future.

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Figure 7.4 - Mineral Potential in the North. A Slide from the BCTC RFQ Information Meeting, May 26, 2010. Source: http://transmission.bchydro.com/nr/rdonlyres/4aa6538b-fb50-4037-befe-2d6ff996df2d/0/may26_final_postedtowebsite.pdf

This is the Golden Triangle that has captured the imagination of prospectors and stimulated the interest of investors over the last decade.

Galore Creek has been at the center of the push north. Controlled by a jointly owned company, Teck/NovaGold Resources, the project has been revived after the postponement of 2007. Economic, environmental and design feasibility studies are ongoing. NovaGold and the Tahltan Central Council, under then president Curtis Rattray, negotiated a Participation Agreement (PA) in 2006 when mine prospects were promising. The PA contained employment provisions and a guaranteed annual contribution of one million dollars into a Tahltan Heritage Trust Fund, to be
administered at the discretion of the TCC. The rights of both the Tahltan and NovaGold were set out in the agreement that recognized Tahltan inherent Aboriginal Rights as well as NovaGold’s rights to develop their mineral tenure. Though it created some dissention within the Tahltan Nation, the PA was the first concrete application of the Out of Respect protocols, though it lapsed when operations were suspended.⁵⁶

The Galore Creek deposit was first discovered in the mid-1950s and was subjected to geological testing and exploration by various companies in the 1960s, 1970s and 1990s before NovaGold optioned the property in 2003 and developed plans for an open-pit mine to extract copper, gold and silver. Before the suspension of operations in 2007, the project’s design had won approval, though reconfiguration of the mine model will require the Galore Creek proponents to re-submit a feasibility study and project execution plan amendments for an updated Environmental Assessment Certificate. The mine life is estimated at 18-20 years with significant power demands.⁵⁷ At present, NovaGold expects their current pre-feasibility study (fully funded by Teck as per their partnership agreement) will be completed by mid-2011 with a decision on whether to proceed to permitting and feasibility depending on results.⁵⁸ There has been some disagreement over road construction, particularly over placement and tunnel construction, but in general

⁵⁶ Fidler, “Aboriginal Participation in Mineral Development”.
NovaGold has enjoyed a productive relationship with the Tahltan over the term of its involvement in the Stikine.

Red Chris is the property closest to active status but also the property that has drawn the most controversy. Imperials Metals acquired Red Chris, located 17 km from Iskut, from bcMetals in 2007 with a bankable feasibility study already complete and the Environmental Assessment approved by BCEAO and federal authorities. The assessment differed in this instance. Red Chris had been subjected to a ‘screening’ assessment without public input, wherein individual components of the project are assessed on their own. The assessment split the project into parts. Impacts from the tailings pond, the campsite, the explosives facility and water diversion system were assessed individually while the mine and mill were not assessed at all. Red Chris is situated on the Todagin Plateau, a critical lambing habitat for the unique Stone Sheep. Todagin lies adjacent to the Spatsizi Plateau Wilderness Park, often referred to as “B.C.’s Serengeti” for its abundant wildlife values. It is also the site of traditional Tahltan hunting and fishing grounds.

At the root of the discord over Red Chris is the plan for the disposal and storage of tailings, the accumulated rock sludge/toxic mine waste left over after the ore has been processed. Red Chris plans to build three dams to impound nearby

59 Stone Sheep (sometimes called Stone’s Sheep) are named for Andrew J. Stone, hunter-naturalist with the American Museum of Natural History. Stone ‘discovered’ a black sheep (subsequently called the Stone sheep) that was different from the Dall sheep, its more northerly counterpart. See, Andrew J. Stone, *Journals of Andrew J. Stone: Expeditions of Arctic and Subarctic America after Wild Sheep, Grizzly, Caribou, and Muskoxen,* ed. by Margaret R. Frisina (Long Beach, CA: Safari Press, 2010); British Columbia. Ministry of Environment, Land and Parks, BC Parks Division, *Stikine Country Protected Areas Technical Background Information Summary, Draft Copy,* July 31, 2000.
Black Lake (the largest and central lake in the Ealue Lakes chain) and ‘reclassify’ it into a 2700-hectare tailings dump. The ramifications for Black Lake are obvious, but the likelihood is that damming will significantly alter local aquatic ecosystems, potentially ‘killing’ adjacent lakes and fish-bearing streams as well. It could also impact the nearby Iskut and Klappan Rivers. There are also significant social impacts apparent from the mine. Despite promises to keep workers on site, Imperial Metals has been lodging “hard-to-house” drillers and other temporary personnel at Tatogga Lake, located on the Stewart-Cassiar Highway 13 km from Iskut. There is considerable concern about socio-economic impact on the reserve at Iskut. An impact and benefit agreement is being negotiated.

MiningWatch Canada (represented by Ecojustice, a Vancouver-based environmental law firm) filed suit alleging Department of Fisheries and Oceans breached its assessment responsibilities by not conducting a ‘comprehensive study’ of Red Chris. The Canadian Environmental Assessment Act requires that any metal mine producing over 3000 tonnes of ore per day undergo a comprehensive study including public consultation. Red Chris, with daily production estimates at 30,000 tonnes over 25 years, met the criteria. Yet because the DFO (and consequently Red Chris), had defined the ‘project’ to exclude the actual mine and simply focused on singular elements of mine infrastructure, no comprehensive study was undertaken. The Canadian Environmental Assessment Agency agreed to the redefinition and Red Chris was approved on those grounds in 2005. In January 2010, the Supreme Court ruled that the DFO did not act in good faith in its assessment of Red Chris. The loop-

hole was closed and future assessment will have to abide more closely to the
intention of the Canadian Environmental Assessment Act. However, MiningWatch’s
victory was only partial. The Supreme Court’s ruling is not retroactive, so Red Chris’
Environmental Assessment Certificate, along with the impoundment of Black Lake,
remains valid.61 Red Chris will need 40 Mw from the NTL to process its ore. In
doing so, it will produce an estimated 180 million tonnes of tailings and 300 million
tonnes of waste rock over its life span.62 Construction is slated to begin in 2012.

Fortune Minerals’ Mount Klappan is another property that has raised
concern: it is close to being operational. Elements of this project’s transportation
strategy have been discussed in Chapter Five. Fortune has a plan in place to
upgrade the rail bed left after the abandonment of the Dease Lake Rail Extension to
haul coal to port at Prince Rupert. Fortune released an updated bankable feasibility
study in November 2010, suggesting the Mount Klappan deposit at the head of the
Little Klappan River contains more anthracite coal than any other source in North
America. But coal is cheap; the rail transport plan is just the latest in a long line of
use plans developed by the company.

61 Janice Tibbetts “Environmental rules broken but mine can proceed, high court
rules,” Canwest News Service, January 21, 2010,
http://www.canada.com/technology/Environmental+rules+broken+mine+proceed+
+high+court+rules/2468163/story.html, Accessed, January 22, 2010; No Author,
“Red Chris Mine: An environmental law victory can still be a loss for the
environment,” West Coast Environmental Law Newsletter, January 21, 2010,
http://wcel.org/resources/environmental-law-alert/red-chris-mine-
Amanda Follett, “Feds cutting corners on environmental assessments: Supreme
Court,” http://thetyee.ca/Blogs/TheHook/Environment/2010/01/21/RedMine/
The_Tyee, January 21, 2010.
62 Christopher Pollon, “Report from the Edge of BC’s Copper Rush: The Tyee, Jan 13,
Fortune entered into an Environmental Assessment cooperation agreement with the Tahltan on their way to achieving an Environmental Assessment Certificate. But relations were not always conciliatory. In 2005, Fortune received a court injunction in order to remove a blockade from the access point of Ealue Lake Road. Arrests were made, including the forced removal and temporary incarceration of Iskut elders. This certainly damaged relations between Fortune and the Tahltan, though they appear to have improved recently.

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Figure 7.5 – Location of Mount Klappan Coal Deposit. Note location of Shell CBM tenure claim as well. Source: [www.fortuneminerals.com](http://www.fortuneminerals.com). Image courtesy of Fortune Minerals.

Shell's coal bed methane (CBM) tenure claim has garnered the most public attention outside the Stikine due to the sensitive ecological dynamics of the area and potentially serious damage from the controversial gas extraction method to be employed. On February 15, 2011, the provincial government, running against
speculation of industry insiders and environmentalists alike, extended the moratorium on coal bed methane exploration in the Klappan. Shell spokesman Larry Lalonde suggested the company had voluntarily decided to continue its suspension of operations in the Sacred Headwaters, first agreed to in December 2008 in the face of mounting international criticism and conflict with the Tahltan.

The original 2008 moratorium, intended to last for two years, was designed to build better relations between the parties, to engage in further environmental testing and to allow the Tahltan to better familiarize themselves with the economic opportunities and environmental hazards inherent in CBM extraction.64

Shell began exploration in in the Klappan in 2004, drilling 3 wells in its first year. They are licenced to drill up to 14 more wells but have faced steadfast resistance from Tahltan opposed to CBM development on their territory and from a growing coalition of environmental organizations. The Klabona Keepers Society, a Tahltan group led by Iskut elders, have set up blockades to halt Shell equipment and personnel from entering the Klappan.65 Originally active in 2005, the Klabona Keepers were part of the occupation of the Telegraph Creek Band Office instigated to remove Chief Jerry Asp. Many Tahltan elders considered Asp’s relationship to mining companies, Shell in particular, to be too close.66 Klabona Keepers issued

their own moratorium to Shell and have asserted their rights through the “Klappan Declaration” of September 16, 2005. The Skeena Watershed Conservation Coalition (SWCC) along with other metropolitan ENGOs (Dogwood Initiative, Pembina Institute and Sierra Club B.C. among others) have called for a much longer moratorium so that the full impacts of CBM extraction can be tested. This past summer, SWCC partnered with the International League of Conservation Photographers to organize a RAVE (Rapid Assessment Visual Expedition) designed to document the region for the publication of a book of photography in the Fall of 2011.

Pembina has led the charge in Canada against CBM extraction and the controversial method of removal, Hydraulic Fracturing, or Fracking. Fracking involves the injection of a mixture of water and an undisclosed blend of industrial chemicals into wells. The solution cracks the methane-bearing rock, releasing the gas which is collected at the surface. The remaining contaminated water is then pumped back out of the well and dispersed. It often enters back into the water system through groundwater or nearby lakes and streams. There is considerable anxiety that Shell’s CBM efforts will contaminate the headwaters of the Stikine, the Skeena and the Nass, jeopardizing three of B.C.’s largest remaining salmon runs.


http://www.firstnations.de/media/05-3-klappan.pdf

Additionally, gas fields have significant surface impacts through the construction of an elaborate system of wells, each of which require pads about the size of a football field, and the network of roads required to connect the drilling infrastructure together. Shell faces a vigilant, organized and increasingly well-informed opposition to its methane-based plans in the Klappan. The NTL may not be enough power to bring its extraction goal to light.

These are four of the industrial opportunities on stream in the Stikine. There are several others waiting for power and approval. Schaft Creek rivals Galore Creek in size, likely tapping in to the NTL for 121 Mw of power to extract its 1.4 billion tonnes of ore. Environmental and economic feasibility studies are underway at Turnagain, where they are eyeing a 2014 operational start up that will require 150 Mw of power. Kutcho, GJ, KSM, Snowfields and Bronson are all smaller but have been building mine plans on the availability of power from the NTL.\(^{69}\) The industrial future of northwest BC is tied directly to the Northwest Transmission Line.

**Transmission**

_We can’t support this type of project if they are going to come and rape and pillage our territory. With current metal prices, and economic climate changing to positive again, it’s a very real concern of ours that 11 projects may come on line and into production by 2016 or 2017. It’s a huge concern, and that’s why we’re working hard at this government to government table to lessen the impacts and decide which projects come on line and which don’t._\(^{70}\)

Rick McLean, Chief of the Telegraph Creek band

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None of these mine and energy projects can happen without the Northwest Transmission Line. They have tried and failed to develop power alternatives. The Tahltan are currently negotiating an Impact and Benefit Agreement with BC Hydro, the very nature of which exposes the duality of consequences that are likely to emerge from the NTL. There will be employment, on the line and in the mines that connect to it, and downstream economic effects in Stikine communities through high salaries and new embedded opportunities afforded to Tahltan in the mining sector. Many Tahltan, especially young men, are excited about the prospect of high paying jobs that would allow them to stay in Tahltan Country.\textsuperscript{71} Everyone is also aware of the potential social and cultural dislocations that often trail behind large infusions of investment capital into out-of-the-way places. The accounts of abuse and misconduct from Iskut and Tatogga Lake this summer were grim reminders of similar remembrances from the days of Golden Bear and Eskay Creek. Many became temporarily wealthy, but when Barrick Gold shut down Eskay Creek, according to Iskut resident Oscar Dennis, they left with billions of dollars in mineral wealth and the Tahltan were emptyhanded.\textsuperscript{72} There is a constant stream of rhetorical questions in the air in Iskut and Dease Lake: “Where is the ice rink? Where is the community centre? Where is the hospital? Where is the...?” The towns are too small to need directions. Residents are asking why those things have


never been built and making sure those community infrastructures and other social benefits are part of the next generation of agreements negotiated with Imperial Metals, Teck/NovaGold, AltaGas and the others.73

The Tahltan have a sophisticated negotiation protocol with firmly defined goals backed by an awareness of their Aboriginal Rights and Title and the geographical scope of their territory. But they face a great deal of uncertainty around how much development will happen within what timeframe. The Tahltan have some measure of control over which projects move forward. Mining companies need Tahltan approval to proceed, as much from a public relations standpoint as from a legal one. The “stranded resources” of the Stikine, the low-grade copper deposits known about for decades but inaccessible due to high production costs, are all of sudden on the cusp of being at the epicenter of a new mining boom that could be the engine of B.C.’s economy for the next several decades. It would seem that this latest infrastructure dream, the Northwest Transmission Line, if it is successful as expected, will ultimately transform the unbuilt environment of the Stikine from one characterized by ambitious failures to one highlighting the escalating profits to be made on the commodity markets. The unrealized megaprojects of past years, still visible in the Stikine, still legible even in their immateriality, have allowed the Stikine to remain a virtual place apart. This new megaproject, which stops just short of the watershed boundaries, will bring the Stikine and its residents into much closer connection with global capitalist development and all of the opportunities, risks and distortions that follow.

**Postscript**

Currently, the Stikine is a premier North American resource frontier: the Mining Association of BC claimed that northwest BC was “the next great frontier for mining.”\(^{74}\) The responsible provincial ministers sanctioned the Northwest Transmission Line, the principle subject in the final chapter, on February 23, 2011 and the BC Environmental Assessment Office granted an environmental assessment certificate the following day. It was claimed that the project would generate $97 million tax dollars and 860 person-years of direct employment (and knock-on indirect employment) during the three-year construction phase. Seventy-one “commitments” were included as conditions of the approval. BC Hydro would have to consult with affected First Nations and with the Department of Fisheries and Oceans on fish habitat and wetland management plans. Hydro would also have to ensure that the final alignment did not impede sensitive habitats, game trails or significant food sources and implement a program of moose and goat surveys. Additionally, Hydro would have to develop an “environmental monitoring program” and coordinate with First Nations on work and excavation in culturally significant areas.\(^{75}\)

Infrastructure Canada announced on May 6 that their assessment concurred that the NTL is not likely to cause adverse environmental damage and would


therefore receive conditional federal endorsement. With secure provincial and federal approval the NTL will go ahead and, under the current construction schedule, be on line by December 2013. Industry and lobby groups were quick to celebrate the announcement. Imperial Metals has announced that Red Chris will coordinate its construction schedule with that of the NTL in order to begin operations at the end of 2013. Gavin C. Dirom, president and CEO of the Association for Mineral Exploration BC suggested that, “investment and job creation from this transmission line will support regional economic development as well as provide important tax revenue for health, education and other important services.” And Gordon Loverin, operating in a dual capacity as President of the Tahltan Business Council and Co-Chair (along with Dave Pernarowski, mayor of Terrace) of the Northwest Powerline Coalition, claimed that the NTL would “be a catalyst to create

76 Canadian Environmental Assessment Agency, “British Columbia Northwest Transmission Line Project: Decision” http://www.ceaa-acee.gc.ca/050/details-eng.cfm?evaluation=51726, accessed, May 6, 2011. The decision is not a carte blanche for BC Hydro to proceed. It contains language to ensure that the “implementation of mitigation measures is required for the project to address: amphibians and/or their habitat; birds and/or their habitat; fauna at risk (as defined under the Species at Risk Act); fish and/or their habitat; flora at risk (as defined under the Species at Risk Act); mammals and/or their habitat; current use of land and resources for traditional purposes by aboriginal persons; human health and safety; physical and/or cultural heritage; socio-economic impacts; structure, site or thing of historic, archaeological, paleontological or architectural significance; air quality; climate change; noise levels; sedimentation; soil quality; surface and bedrock features; vegetation; water quality; water quantity.”

cooperation among First Nations to the benefit [of] all peoples of the north.” Many others envisioned further benefits accruing in the future from increased exploration and investment. Elmer Stewart of Copper Fox, the developer of the copper-gold-molybdenum project at Shaft Creek, told a Canadian Press reporter that his company was anticipating the advent of a large, active mining district in northwest BC. Stewart expected that the NTL would usher in a new era of exploration: “Up there a lot of people have focused only on known deposits, which were probably found in the 1960s. I do feel with exploration there are more deposits that will be found.”

Officially, the Tahltan are in support of the line. In mid-April, Tahltan membership voted 82% in favour of ratification of a series of agreements between the provincial government and the Tahltan Nation (negotiated by the Tahltan Central Council) that provided cash payments, employment and training opportunities and a commitment to shared decision-making and a stake in future energy development connected to the NTL. Subsequently, BC Hydro and the Tahltan negotiated an impact benefit agreement that provides a management template for mitigating impacts while systematizing the benefits that will accrue to

the Tahltan and its membership. Tribal Chair of the Tahltan Central Council, Annita McPhee, asserted that the two, agreements will enable us to foster social, cultural, economic and environmental health within our community. It will be a delicate balance to manage economic development and maximize the benefits to our people, while also protecting our culture and way of life and minimizing impacts to our land. But it is a commitment we have made to our people and one that we are confident we can deliver.81

Since late 2010, BC Hydro has negotiated impact benefit agreements with six of the nine First Nations whose land the line touches.

However, despite the overwhelmingly positive voter response, ratification of the agreements with BC Hydro and the provincial government has sparked controversy within Tahltan communities. Most prominently, Curtis Rattray resigned from his position as Cawtooma family representative on the Tahltan Central Council over concerns about the process of negotiation, the nature of the agreement and ratification vote itself. A number of open letters, including one by Rattray, have been circulating among the Tahltan membership. Other First Nations have also expressed discontent with the process and with the NTL. The Gitanyow First Nation recently signed an impact benefit agreement with BC Hydro after a successful face-to-face negotiation with Greg Reimer, executive vice-president of transmission and distribution. Previously, the Gitanyow had formed a coalition to oppose the NTL with the Lax Kw’allams First Nation in protest against what they perceived to be a negotiation template that did not adequately address the

particular circumstances of individual Nations’ needs. Like the agreement with the Tahltan, the Gitanyow-BC Hydro agreement provides a cash payment, employment guarantees and greater protection of land and wildlife resources within a ‘cumulative effects’ framework. In spite of a small but vocal opposition, construction has begun, and negotiations with other affected First Nations continue and are not expected to delay the completion of the line. For several years, it appeared as though the NTL would remain an unbuilt environment, imagined and engineered but ultimately unrealized as an infrastructure strategy for opening up the Stikine to investment and opportunity. The region would remain unbuilt, until commodity prices and the energy needs of prospective mines conspired to make it necessary in the eyes policy-makers and the political establishment in BC. The case of the NTL shows that unbuilt environments are not static. They are created by and subject to outside forces at every turn. The knowledge created and expertise established through one development effort, even unsuccessful ones, can be mobilized for following projects.

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Chapter Eight: Conclusion – The Tumbling Geography

Two years later, in 1968, I went back again and found the circle of wilderness taking a terrific pasting. The damming and flooding, the logging and road-building, the hundred helicopter bases were leaching it from every angle. Though it was still good ground for a novelist, an alarming number of the oldtimers had been dispersed to hospitals, and my memory of this later summer is a cacophony of get-rich schemes, of white-Indian disparagement and conflict, and Californians immigrating and buying up the homesteads, buying whole chunks of valleys, even to the trading posts and weather stations. There is a frank new air of rapine.¹

In 1966, a young American novelist spent the summer in the Stikine, trying to locate the vestigial remains of a fleeting frontier. In his search for the last wilderness, Edward Hoagland anticipated “the tumbling geography” and long, bright nights “talking to the doers themselves, the men who no one pays attention to until they are dead, who give mountains their names and who pick the passes that become the freeways.”² Tucked away in a corner of northern Canada, far from the stratified air of New York City, the Stikine was the ultimate moment in the passing of a continental phenomenon subsumed under development and the progress of the modern. By invoking the frontier mythology, Hoagland deliberately placed himself amid a tradition of American historians and geographers, from Francis Parkman to Frederick Jackson Turner, and the litany of western boosters and tycoons who used the frontier image to both lament an idealized and disappearing way of life and to entice newcomers to the newest next, best west.³ He could hardly have been too familiar with the Canadian adaptation of the frontier theories of Harold Innis and J.

² Hoagland, Notes from the Century Before, 15.
M. S. Careless that emphasized the intimate commercial connections between metropolitan centres and the northern resource hinterlands that provided the raw materials that circulated in the emerging market economies. However, for Hoagland, the Stikine embodied the mythic potential of two North American coordinates, west and north, equally objects of intrigue and investment and, throughout the twentieth century, subject to lasting development pressures and colonial burdens.

The mythic Stikine of the frontier was still tangible in 1966. After the busy years of the Second World War, the Stikine had again lapsed into a sluggish and stoic state that always followed the intermittent years of construction and extraction. The fur trade was still a functioning economy for the Tahltan, the occasional settler still worked the creeks for remnant placer gold and there were several flourishing hunting and guiding operations but, for the most part, the watershed was removed from the quicker pace of change that characterized urban cultures and economic relations. Cassiar Asbestos was ramping up production, providing work for adventurous locals and importing labour from afar, but the mine’s orientation was elsewhere, facing north through its transportation routes and seeking global markets for its fibres. There were no other operational mines and the great exploration rush was still a patter. Neither the Dease Lake Extension nor the Stikine-Iskut Hydroelectric scheme had begun. In 1966, Hoagland found a seemingly forgotten landscape, a place apart, just outside of the reach of resource

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entrepreneurs and the improvement-minded bureaucrats of state institutions. When he returned in 1968, to gather more stories and reacquaint himself with the frontier dreams of eastern mythology, he could feel that the Stikine was on the cusp of profound changes. These changes – and the earlier changes that set the conditions of development – have been the subject of Unbuilt Environments.

Hoagland recognized that a particular way of life was threatened in the Stikine. But he was mistaken in his rush to declare the closing of the frontier. Like Hoagland, I am most directly concerned with changes to and manipulations of the environment. But in the Stikine there is a long history of human interactions with nature. Tahltan use of nature long predates the period examined in this dissertation and remains significant. In spite of their historical prominence, Tahltan positions have not been at the centre of my analysis. In part this absence can be explained by the nature of my sources. I primarily use state reports and documents corporate data and settler accounts to understand the process of environmental change. Where Tahltan accounts are available I attempt to incorporate them into my analysis; however, these accounts are often only those visible within this same sanctioned historical record. The archive is necessarily partial; it is a composite of what has been deemed important to save. Moreover, as in all historical analyses, my own engagements with the archives are subject to my own critical faculties, interpretations and recreations of the past. To assert partiality is not to undermine my interpretation and analysis. Instead, it is an acknowledgement of the role of

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narrative and of my own position as a university researcher engaging with issues of environmental change and ongoing colonialism in an area of BC removed from the heart of provincial economic and political power. I am responsible for the limits and opportunities contained within the knowledge claims made in the project and for the integration of different types of knowledge when the possibility existed. I do not try to speak for the Tahltan. Others are in a much better position to do so. Ultimately, my goal has been to interrogate the archives of the Stikine, and to think critically about their many absences and elisions.

The contemporary human and environmental landscape of the Stikine is a reflection of its historical antecedents. Considerable effort has been made to ensure that the Northwest Transmission Line was a successful development initiative. Governments, crown corporations, corporate interests and First Nations representatives worked together to make sure the necessary work was undertaken to justify the line and to prove its efficacy. Ultimately, the NTL is a counterpoint to the other failed development case studies that push the narrative of this dissertation. In this respect, the NTL acts as a challenge to the narrative of failure and the claims about the analytical importance of unbuilt environments. However, I contend that this exception substantiates the analytical framework I have drawn around the interactions of failed development megaprojects and the environment in the Stikine. I have shown that both ‘failed’ and ‘successful’ megaprojects in the Stikine generate related and linked effects through the planning, negotiation, debate and investment that go into them. I am interested in the creation of the conditions that make these projects possible or render them unfeasible. My aim has been to
show how the tools of developers, improvers and entrepreneurs have pushed environmental change in the Stikine. The false dichotomy of failure-success is transcended by the focus on the side effects of development.

The example of the Northwest Transmission Line highlights some curious overlaps with the moments covered in the previous chapters. I have shown how the NTL will facilitate the exponential growth of mining in the area. As Terry Mulligan, president and CEO of the Mining Suppliers Association of BC points out, “[t]here are at least six mining projects with complete bankable feasibility studies that stand to benefit from access to this transmission line.” Mulligan is being modest in his assessment. Many of these six operations could not run profitably without access to cheap power and, in any event, it is likely that far more than six projects will benefit from the line. The opportunities for industrial development are likely to have far-reaching consequences for communities and the environment in the Stikine as the exploration, assessment and enumeration of resources escalates.

Improved transportation networks will be a corollary of industrial expansion. There has been significant focus on the rail bed left over after the abandonment of the Dease Lake Extension. The Extension is currently in use as a road by mining and energy companies who have upgraded sections to facilitate exploration and operations. It has been mooted as a potential resource road to expedite the movement of ore to smelters, refineries and markets beyond the boundaries of the watershed. Alaskan business interests have suggested that the

Extension might be a convenient (and cheaper) pathway for a rail line that connects the northern state to its continental partners. The existence of the raised gravel bed and an established right-of-way, free from the constraints of negotiation, assessment and compromise, are surely appealing characteristics for advocates of a resumption of construction. Further west, the old Cassiar Central Railway has not been revived although a different kind of resource highway is in the conceptual stage. There is substantial support in southeast Alaska – particularly in Wrangell – for an electrical intertie through the Bradfield Canal and then through the Iskut Valley, just south of both the Shaft Creek and Galore Creek mines. This would allow Alaskan power companies to access the North American grid and begin to exploit their considerable potential for small-scale run-of-river hydroelectric generation. A resource road would likely follow. This hypothetical road has many in the Stikine leery about the loss of revenue through the bypassing of Canadian ports by resource traffic, not to mention the potential environmental impacts of a road and transmission line through the Craig River Protected Area.7

Much like the Dease Lake Extension, the Stikine-Iskut Project has long been abandoned. However, small-scale hydro schemes are emerging as a significant alternative practice. The Forrest Kerr Project will deliver 195 Mw of ‘clean energy’ to the new BC Hydro substation at Bob Quinn Lake. After construction is completed in 2014, Forrest Kerr will build a $180 million dollar transmission line to connect the project to the NTL. Altagas, the proponent of Forrest Kerr, also plans to build a

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55-70 Mw generating facility ten kilometres downstream on McLymont Creek. A further 15-18 Mws would be generated from Volcano Creek, also a tributary of the Iskut. BC Hydro’s big generating dreams may be gone from the area but they have been replaced by smaller, more logistically manageable and low-profile run-of-river projects that allow water flow to continue unabated and, proponents argue, have less ruinous environmental consequences. There is an interesting footnote to the story of hydroelectric development in the Stikine. The current Forrest Kerr project is located at the same site as the Forrest Kerr Creek diversion dam originally proposed by BC Hydro in the 1970s. Altagas was able to prove the project’s feasibility and secure its environmental assessment certificate partially on the basis of 40 years of river flow data available for the Iskut River. This information was originally complied as part of Hydro attempts to substantiate the Stikine-Iskut Project. In this sense, unbuilt environments can have long-term and unanticipated effects.8

Mining and energy projects, and infrastructure that is developed as a result, will have broad effects on the one economy that has persisted in the Stikine since the days of the Klondike gold rush, the hunting and guiding industry. Family-owned hunting territories are not protected from the effects of development projects. Traplines are similarly threatened. Furthermore, many residents are concerned about the impacts that an exponentially increased population might have on sensitive habitats and on animal populations. Hunting is an important economic

8 For information on these projects, see the Altagas Ltd. website, http://www.altagas.ca/
and cultural activity in the Stikine but it seems clear that the nature of hunting will change fundamentally with the advent of the new resource economy in the region.\(^9\)

Cassiar is still somewhat removed from this new resource frontier as it is situated several hundred kilometres northward of the end of the NTL at Bob Quinn. However, the little infrastructure that still exists at the former townsite will likely contribute to a further increase in prospecting and exploration predicted for the region. There has been intermittent interest in the contents of the tailings pile, particularly in the high concentrations of manganese in the waste rock. The underground mine at McDame seems destined to remain closed as health concerns around the use of asbestos are prominent in public discourse and debate. The online presence of the community is still strong and continues to broaden through social networking sites and a new photography partnership project with the Northern Archives at UNBC. The Cassiar Archives themselves are currently being re-organized and many of the impediments to research are sure to be removed. Enhanced access will improve research opportunities for interested scholars and the public.

These new developments amount to the unsettling of the unbuilt environment in the Stikine. My project has been to outline environmental and social change in the Stikine in the twentieth century. In following the specific development dreams brought to the Stikine, I began to question why these dreams met with failure and what effects those failures had, both on the physical

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environment and on the way people engaged with nature in the Stikine. My aim has been to show that the conditions of development – all of the assessments and intrigues, the data and debates, the engineering mistakes and community responses – are critical to understanding how and why environmental change occurs and to detailing the breadth of those changes. Failure and success are two sides of the same coin; in terms of development, they are simply different outcomes of the same process. It is worth reiterating, however, that my conceptualization of the unbuilt environment does not assume a blank slate to be built upon. I reject any attempt to use this concept of the analysis provided in these pages to provide cover for development interests against those of First Nations in Canada or of the Tahltan in the Stikine.

Within the new frontier mythology, development will no longer be unsuccessful in the Stikine. Whereas the Stikine used to be too far removed from the economic and cultural centre to mobilize successfully its resources, it is now perfectly placed on the periphery, ready to be improved enough to play a prominent role in BC’s economic future. What does this mean for the concept of the unbuilt environment? These case studies have shown that even unbuilt environments show persistent effects. Each historical example of an unbuilt environment has allowed for the growth of ideas about what the Stikine could look like, what it could produce or what could be taken from it. These studies have highlighted potential connections between the Stikine and others places and between Stikine residents and others looking to engage with its environment. Newcomers came to the Stikine either to take something out of it, to harness something of value or to create
something that would facilitate movement through its environment. Each time a
new development dream was brought to the Stikine, it added further layers to the
material understanding of physical nature of the area. In effect, unbuilt
environments show as much about the process of development as they do about the
material outcomes.

Early on, it was knowledge about animals that was important. Miners,
hunters and guides valued animals for different reasons, but their interactions with
the natural environment commodified bodies and brought about ambitious plans to
move people and goods across the watershed. The Stikine remained largely unbuilt
in the first decades of the twentieth century, but these early development efforts
were important because they set up the prospect of improvement and allowed the
Stikine to be considered as a place where progress could be achieved. Large-scale
industrial development soon followed. Cassiar Asbestos achieved measurable
economic success and created a new built environment that, at first blush, would
appear to challenge the unbuilt environment concept. The mine’s closure and the
town’s abandonment showed the ephemeral nature of development in the Stikine,
challenged the connections that people had forged and eroded the economic
stability of the region. Cassiar was literally un-built when the community was
demolished, yet residents found a way to maintain their interest and sense of place
by building a new site of connection.

Different aspects of the unbuilt environment concept are highlighted in the
Dease Lake Extension example, where initial construction achievements were
undone by economic and environmental concerns mixed with political wrangling
and administrative complexities. The Extension only became an unbuilt environment when it was abandoned and left unremediated along its route beside the Klappan River. Yet, the ecological side effects of its failure have been profound and, perhaps more importantly from the perspective of the unbuilt environment, the route remains an artery of development in the region. A concurrent development dream, BC Hydro's Stikine-Iskut Hydroelectric Project, never reached the construction phase. However, more than any of the attempts that preceded it, the Stikine-Iskut Project ushered in a process of cataloguing, calculating and administering the biophysical data of the watershed. The dams may have remained unbuilt, but they did enable a different way of knowing and assessing the river and its surroundings, one that opposing groups had to adopt in order to advocate their various beliefs about how the river should be used. Variations of these new assessment practices are in evidence in the discourse and debate around the Northwest Transmission Line. It appeared that the NTL would remain unbuilt and, as a result, all of the envisioned mining and industrial developments in northwest BC would again be set aside for a time when local infrastructure could provide adequate support to entrepreneurs and investors. Indeed, it seemed as though the NTL would follow a pattern similar to the other development initiatives in the Stikine in the twentieth century. At the time of writing, the NTL is still an imagined and unbuilt environment. Yet it is very likely to be built and, when it is, it will provide the impetus for the radical alteration of the built environment in the Stikine.

More than forty years ago, Edward Hoagland could already see the frayed edges of the unbuilt environment. Though he was lamenting the close of a whimsical
vision, the potent dream of the frontier, he was perceptive enough to see that the Stikine was on the precipice of social upheaval and environmental challenge. The end of the frontier took longer than he expected. Yet his prescient question remains poignant today: "In the confusion of helicopters and mineral promotions, the question in British Columbia has become the same as everywhere else: How shall we live?"10 The Stikine is faced with the prospect of change. Its residents are well versed in their own history. They know their environment and have asserted a meaningful voice that can dictate the pace of change. In the Stikine, the question of ‘how shall we live?’ remains but there is opportunity to create a vision of the future that is not simply subject to development dreams. It should be informed by a difficult past of development failure and mindful of the possibility of a prosperous and just future.

10 Hoagland, “Notes from the Century Before,” 15.
Bibliography

**Primary Sources**

British Columbia Archives

- BCA, GR0446, BC Provincial Game Warden Records, 1905-1922.
- BCA, GR 1085, Northern British Columbia Fish and Wildlife Branch records, 1922-1972
- BCA, GR 1095, BC Department of Mines, Gold Commissioner Records, 1898.
- BCA, MS0051, Edmund Duchesnay fonds, 1897.
- BCA, MS0098, George Ball Fonds, 1927-29.
- BCA, MS0516, T. F. Harper Reed fonds, 1918-1975.
- BCA, MS0908, T. F. Harper Reed fonds, 1901-1903.
- BCA, MS 0947, Edward Durban Sheringham, n.d.
- BCA, MS 2052, Jan Krueger, Shane Conn and Beth Moreau, “Tahl Tan Mission Study” Opportunities for Youth Project, 1971.
- BCA, MS2167, Roger C. Hays Hicks fonds, 1898-1899.
- BCA, MS2185, Ball Family fonds, 1920-1981.
- BCA, E/C/P63, Warburton Pike fonds, .

Yukon Archives

- YA, MSS361 (2006/163), Thomas Frederick Seldon fonds, 1898-1899.
- YA, MSS207 (90/48), O.T. Switzer fonds, 1897-1900.
YA, MSS169 (81/101), Robert Hunter Fitzhugh fonds, 1897-1899.

YA, MSS169 (81/145), Henry W. Franklin fonds, 1898.

University of British Columbia Archives


University of Washington Libraries

UWL, Callbreath, Grant and Cook, merchants: Letterpress Copy Book, 1878-1898.

City of Vancouver Archives


Library and Archives Canada

LAC, RG10, Department of Indian Affairs, Black Series Collection.

LAC, MG31, H94, Frederick Inglis fonds, MG31-H94, R6333-0-4-E

Northern British Columbia Archives

Cassiar Asbestos Collection

British Columbia Legislative Library

BCLL, BC. Legislative Assembly. Sessional Papers of the Province of British Columbia, 1876-1982.

Newspapers and Journals

Alaska
Alaska Canada Rail Link Newsletter
The Alaska Sportsmen
The Asbestos Sheet
The Beaver
BC Business
Cassiar Courier
The Cassiar Reporter
Friends of the Stikine Newsletter
The Globe and Mail
Harrowsmith
The Northern Miner
Pacific Travel Monthly
Prince George Citizen
Ottawa Citizen
Telkwa Foundation Newsletter
Terrace Standard
Toronto Globe
Transport Times
The Tyee
Vancouver Sun
Vancouver Province
Western Business & Industry
Whitehorse Star

Case Law


Secondary Sources


Alaska Canada Rail Link. Alaska Canada Rail Link Newsletter Issue 1, January 2006.


Albright, Sylvia. Tahltan Ethnoarchaeology (Burnaby, BC: SFU Department of Anthropology publication no. 15, 1984).


Altagas Ltd. http://www.altagas.ca/


Ball, Georgiana ”The Peter Martin Case and the Provisional Settlement of the Stikine Boundary,” BC Studies 10.3 (Summer 1971), 35-55.

---------. “Stikine History: Freighting to Watson Lake Aerodrome along the Stikine-Dease Corridor, 1941-43” (Telegraph Creek: Stikine Community Association, 1992).


Bassett, Lamont. “Spatsizi: One of B.C.’s Last, Great Wilderness Areas is at the Centre of an Ecopolitical Debate” Western living 15.7 (July 1985), 54-55, [57]-58, 86-87.

BC Hydro (Hydroelectric Design Division), *Hydroelectric Development of the Stikine River Overview Study* (Victoria, January 1978).


BC Utilities Commission Hearings, *In the Matter of the Utilities Commission Act and in the Matter of an Application by BC Hydro and Power Authority Proceeding no. 48*, (Vancouver, June 1, 1982).


Bradley, J. R. *Hunting big game in far northwestern British Columbia* (New York: Mail and Express Job Print, 1904).


Bustard, David R. Environmental Problems Associated with the Abandonment of the Dease Lake Extension of B.C. Rail (Smithers: B.C. Fish and Wildlife Branch, 1977).


Canada. “Official report of the debates of the House of Commons of the Dominion of Canada: third session, eighth Parliament ... comprising the period from the third day of February to the twenty-first day of April inclusive”’ (Ottawa: S. E. Dawson, 1898).  


Carpenter, R. R. M. *Game trails from Alaska to Africa* ([New York ?]: R.R.M. Carpenter, c1938);

Cassiar Asbestos Company Limited, “Annual Report 1952"

Cassiar, “Annual Report 1953”

Cassiar, "Annual Report 1954”.


Cassiar Asbestos Corporation, “Cassiar Annual Report 1957”

Cassiar Asbestos Corporation Limited, “A Submission to the Pollution Control Board of British Columbia for the Public Inquiry” (Vancouver: January 1978).
Cassiar Mining Corporation, “Submission of Cassiar Mining Corporation Regarding Proposed Occupational Safety and Health Regulation of Asbestos” (Prepared for the Workers’ Compensation Board of British Columbia, January 1989).


Creighton, Donald. The Commercial Empire of the St. Lawrence 1760-1850 (Toronto: The Ryerson Press, 1937).


----------. Life Lived Like a Story: Life Stories of Three Yukon Elders (Vancouver: UBC Press, 1998, Keith Basso, Wisdom Sits in Places:


Elliott, Thomas A. “A Strategic Road to the North” Western Business & Industry (December 1964), 20-21.


Envirocon Ltd. and Pearse-Bowden Economic Consultants. The Socioeconomic Effects of the B.C. Rail’s Dease-Lake Extension on the Sturat-Trembleur Lakes Indian Band

Farrow, Moira. “BC plans five hydro dams: three new towns” The Vancouver Sun, (December 17, 1973).


French, C. W. “Big Game in British Columbia: The Caribou, the Moose, the Mountain Sheep and Bear; How They are Hunted and Their Economic Value to the Indians,” The Beaver (June 1921), 8-9.


Hayball, Gwen. Warburton Pike: An Unassuming Gentleman (Poole, Dorset: Gwen Hayball, 1994).


---------. *Settlement and the Mining Frontier* (Toronto: MacMillan, 1936).


Keeling, Arn, and John Sandlos, “Environmental Justice Goes Underground?: Historical Notes From Canada’s Northern Mining Frontier” Environmental Justice 2.3 (2009), 117-125.

Keeling, Arn. “‘Born in an Atomic Test Tube’: Landscape of Cyclonic Development at Uranium City, Saskatchewan” The Canadian Geographer 54.2 (2010), 228-252.


Klingle Matthew W. “Spaces of Consumption in Environmental History,” History and Theory 42:3 (December 2003), 94-110.


Landucci, Janet M. “An Environmental Assessment of the Effects of Cassiar Asbestos Corporation on Clinton Creek, Yukon Territory” Department of Environment, Environmental Protection Service, Pacific Region (Regional Program Report no. 79-13), June 1978.


Lawrence, Guy. Forty Years on the Yukon Telegraph (Quesnel: Caryall Books Ltd., 1965).

Le Baron, Bentley. Stikine-Iskut Project: Social and Economic Impacts, prepared for BC Hydro and Power Authority, (Vancouver, August 1982).


---------, “Disturbing the Peace: Environmental Change and the Scales of Justice on a Northern River” Environmental History 12 (2007), 895-919.


MacBride, W. D. “From Montana to the Klondyke,” Caribou and Northwest Digest 7 (April 1951) 8-9, 16a-19 & (May 1951), 6-9, 19-28 & (June 1951), 20-35.


Osbaldeston, Mark. Unbuilt Toronto: a History of the City that Might Have Been (Toronto: Dundurn, 2008).


Piper, Liza. The Industrial Transformation of Subarctic Canada (Vancouver: UBC Press, 2009).

----------. *Through the Subarctic Forest: Down the Yukon by Canoe in 1887* (New York: E. Arnold, 1896).


Pojar, Rosamund. “Transmission links: more links moved into place” *Telkwa Foundation Newsletter* Vol.3 No. 3 (Fall 1980).

----------. “Wildlife impact: only Hydro knows” *Telkwa Foundation Newsletter* Vol3, No. 2 (Spring 1980).


---------, http://www.shell.ca/home/content/caen/aboutshell/our_business/business_in_canada/upstream/e_and_p/e_and_p_canada/klappan/


---------, “B.C. power line plans have Alaskans buzzing,” Vancouver Sun, January 13, 2010, http://www.vancouversun/health/power+line+plans+have+Alaskans+buzzing/2435360/story.html, accessed, January 13, 2010,


Singer, Daniel J. Big game fields of America, North and South (London: Hodder and Stoughton, 1916).


Strom, Steven R. *Houston: Lost and Unbuilt* (Austin: University of Texas Press, 2010).


Tahltan First Nation and International Institute of Sustainable Development, *Out of Respect: The Tahltan, Mining, and the Seven Questions to Sustainability* Report of the Tahltan Mining Symposium, April 4-6 2003, Dease Lake, BC.


Taylor, Melvin S. “The Environmental Control Structure Required to Establish Corporate Policy, Communications, Corporate Environmental Management, and to Meet all Guidelines for a Safe and Healthy Environment at Cassiar Asbestos Corporation Limited in Cassiar BC” (Prepared for Cassiar Asbestos Corp, April 1987).


“Tahltan Tales” *Journal of American Folklore* 34.133 (1921), 223-253.

“Tahltan Tales” *Journal of American Folklore* 34.134 (1921), 335-356.


Utzig, Gregory, et. al (Pedalogy Consultants), Biogeoclimatic Zonation of the Stikine Basin, Prepared for the Association of United Tahltans (Calgary, November 1982).

Walker, Peter A. “Political ecology: where is the ecology?” Progress in Human Geography. 29.1 (2005), 73–82.

----------. “Political ecology: Where is the policy?” Progress in Human Geography 30.3 (2006), 382-395.


----------. “Provincial Game Warden Report 1907,” BC Sessional Papers 1908 Victoria: King’s Printer.


----------. Game Trails of British Columbia: Big Game and Other Sport in the Wilds of British Columbia (New York: Charles Scribner’s Sons, 1925).


No Author. “Employee Information Booklet” Cassiar Asbestos Corp. Ltd., N.D.


No Author. “Cassiar Output Starts in Fall” The Northern Miner, July 31, 1952.


No Author, “Cassiar Completes First Shipment” The Northern Miner (Feb. 28 – Mar. 5, 2000).


No Author, “The Stewart-Cassiar Highway” The Cassiar Courier (December 1979), 19.


**Theses and Dissertations**


Martin, Jason Grek. “Making Settler Space: George Dawson, the Geological Survey of Canada and the Colonization of the Canadian West in the Late 19th Century” PhD Dissertation, Queen's University, 2009.


Appendix 1: Laws and Regulations Relating to Hunting, Guiding, Trapping and Conservation in British Columbia Between 1905 and 1934

<table>
<thead>
<tr>
<th>Year</th>
<th>Changes to Statute Law</th>
</tr>
</thead>
<tbody>
<tr>
<td>1905</td>
<td>- BC Game Act Amendment strengthens enforcement to prevent poaching, control out-of-province Indian hunting, restore game herds, maintain the economic return from trapping and guiding of non-residents, and provide recreation from hunting and fishing based on ‘fair’ rules of chase.</td>
</tr>
<tr>
<td></td>
<td><strong>Changes to Personnel</strong></td>
</tr>
<tr>
<td></td>
<td>- Arthur Bryan Williams appointed Provincial Game and Forest Warden; granted authority to conduct prosecutions and enforce laws but not allocated a budget.</td>
</tr>
<tr>
<td></td>
<td>- Sixteen temporary Deputy Game Wardens (DGWs) appointed; most were volunteers recommended to him by members of the legislature of by game associations. Any salaries received or expenses claimed were paid by local game associations.</td>
</tr>
<tr>
<td></td>
<td><strong>Changes to Policy</strong></td>
</tr>
<tr>
<td></td>
<td>- A non-resident hunting license implemented at $5/week of shooting, or $50/season. This was the only source of revenue at Williams’ disposal.</td>
</tr>
<tr>
<td></td>
<td>- Bounties set on lynx, cougars, wolves and coyotes.</td>
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<tr>
<td></td>
<td>- Prospectors and surveyors allowed to kill game at any time of year for personal use (a provision not removed until 1966).</td>
</tr>
<tr>
<td></td>
<td><strong>Prosecutions</strong></td>
</tr>
<tr>
<td></td>
<td>- 23 convictions relating to wildlife offences in the province.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Changes to Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1907</td>
<td>- Provincial Game and Forest Warden (Williams) receives an allocation for an office assistant.</td>
</tr>
<tr>
<td></td>
<td>- Government appoint 18 DGWs; they are also cross-appointed as Fire Wardens.</td>
</tr>
<tr>
<td></td>
<td><strong>Changes to Policy</strong></td>
</tr>
<tr>
<td></td>
<td>- Full provincial closure on beaver trapping (some exemptions).</td>
</tr>
<tr>
<td></td>
<td>- Bounty on wolves raised to $5 across the province.</td>
</tr>
<tr>
<td></td>
<td>- First provincial game reserve set up (Yalakom Reserve in Lillooet district).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Changes to Policy</th>
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</thead>
<tbody>
<tr>
<td>1908</td>
<td>- Non-resident license fee raised to $100 per season.</td>
</tr>
<tr>
<td></td>
<td>- Poison used in the destruction of eagles and coyotes in Lillooet area.</td>
</tr>
<tr>
<td></td>
<td>- Elk River Reserve set up in Fernie District. This was the first Game Reserve in BC.</td>
</tr>
<tr>
<td></td>
<td><strong>Changes to Personnel</strong></td>
</tr>
<tr>
<td></td>
<td>- First Deputy Game Warden hired in the Stikine – only available for six months.</td>
</tr>
<tr>
<td></td>
<td><strong>Allocations</strong></td>
</tr>
</tbody>
</table>
- Game Branch allocated first budget of $10,000. Along with revenue from the licenses, salaries could now be paid to DGWs and several more were hired across the province.

### 1909

**Changes to Policy**
- Spring non-resident bear hunting season established.
- Non-resident bag limit in 1909 was two moose, one wapiti, two sheep rams of any one species and no more than three in all, three goats, three caribou, three deer of any one species and no more than five in all, and 250 ducks.

**Allocations**
- Game Department gets first gasoline-powered boat to patrol coastal waters for poachers. It operated out of Campbell River.

### 1910

**Changes to Policy**
- The first non-resident angler’s fee of $5 was established.
- 269 non-resident hunting and fishing licenses sold.
- Wolf bounty increased to $15.
- Bounties introduced on golden eagles and great-horned owl.
- Third reserve set up near Fort George.
- Game Branch removed from Department of Lands and Works and placed under the Attorney-General.

**Changes to Personnel**
- Arrangements made for C.A. Tervo (customs collector, Glenora) to be moved to the border and made Deputy Game Warden and Provincial Constable.

**Convictions**
- 54 convictions for violations of the Game Act in the province.

**Allocations**
- Game Branch budget raised to $18,000.

### 1911

**Changes to Policy**
- Closed season on beaver ended.
- Short closed season introduced on grizzly and black bears.
- Animals killed for bounty in the previous year: 581 wolves, 277 cougars, 3653 coyotes, 2285 big-horned owls and 73 golden eagles.
- Note: Cougars were bountied between 1905 and 1954, cougars between 1906 and 1957 and wolves between 1906 and 1955.

### 1912

**Changes to Policy**
- Another closed season on beaver imposed. Indigenous peoples in Stikine, Liard and Peace districts exempted.
- Supervision on bounty payments handed over to Williams and Provincial Game Office.

### 1913

**Changes to Statute Law (Licensing)**
- Game Act Amendment required resident hunters and guides to take out annual licences. Indigenous peoples exempted from resident hunters licences.
- Hunters bought a $2.50 Ordinary Firearms Licence to hunt birds and
deer or a $5 General Licence to hunt game birds and animals. Residents needed this licence to carry firearms and traps.
- Guides bought a General Licence for $5. It was the guide’s responsibility to ensure that his whole party carried the required licences. After the trip was completed, the guide submitted to the game department a statement showing the number of hunters he guided, the number of hunting days, and the number and species of animals killed. This was the first formalization of guiding.
- Introduction of the $10 trapper’s licence. Indigenous peoples not required to buy trapper’s licence.
- All fur traders had to report annual returns of pelts, furs or skins bought, sold or traded.
- The government estimated that 12,000 would be sold; 32,000 were sold, resulting in almost $100,000 in revenue.

**Changes to Policy**
- Enactment of open winter season on the beaver.

<table>
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<tr>
<th>1914</th>
<th>Changes to Statute Law</th>
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<tbody>
<tr>
<td></td>
<td>- New Game Act passed in BC – granted open seasons on protected animals and added fox, marten, fisher, mink, muskrat, raccoon and weasel to the list of fur bearers seasonally protected.</td>
</tr>
<tr>
<td></td>
<td>- Prohibition of the same or purchase of any parts of big game animals or game birds to or by any commercial establishment (some exceptions).</td>
</tr>
<tr>
<td></td>
<td>- Pit-lamping outlawed completely.</td>
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<tr>
<td></td>
<td>- Wolf poisoning introduced on Vancouver Island.</td>
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</tbody>
</table>

**Personnel**
- 36 Deputy Game Wardens on staff.

<table>
<thead>
<tr>
<th>1916</th>
<th>International Treaty Agreements</th>
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<tbody>
<tr>
<td></td>
<td>- Treaty for International Protection of Migratory Birds enacted. BC received many concessions, such as the right to set the dates of many open seasons and exemptions from ten-year closed seasons on swans, cranes and curlews.</td>
</tr>
</tbody>
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<thead>
<tr>
<th>1918</th>
<th>Changes to Statute Law</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>- Game Act Amendment passed – removed Williams from position of Provincial Game Warden, to be replaced by a Game Conservation Board consisting of the Provincial Museum Curator, a Chief Game Inspector, and three other appointed members. One of the staff of the Provincial Police would be appointed Chief Game Inspector and the Superintendent of the Provincial Police was to be the Provincial Game Warden.</td>
</tr>
</tbody>
</table>

**Personnel**
- 256 convictions for violations of the Game Act in the province.
- Game Department personnel disbanded – 60 people on staff, 33 salaried deputies. Enforcement of the game laws was now the sole
responsibility of the Provincial Police.  
*Changes to Policy*  
- Farmers allowed to hunt without licence on their own property.  Pit-lamping becomes a prison offence.

<table>
<thead>
<tr>
<th>Year</th>
<th>Changes to Policy</th>
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</thead>
</table>
| 1923 | *Changes to Policy*  
- BC introduced first registered trapline system in North America. Put into effect incrementally over the next ten years. Crown lands claimed by trappers. The registered trapper then had exclusive rights over traplines laid on those lands. Trappers were responsible for managing animal populations for sustained yield on their registered lands. |
| 1926 | *Changes to Policy (Licensing and Trapping)*  
- Royalty on furs introduced.  
- Fur Trader’s Licence introduced - $20 for residents and $200 for non-residents.  
- Specific trapping territories apportioned and allotted to individual trappers. These rights of tenure were transferrable to a successor. |
| 1929-34 | *Changes to Policy*  
- Williams re-appointed as Commissioner of the Game Branch. |
## Appendix 2: BC Hydro studies commissioned for the Stikine-Iskut Hydroelectric Project

<table>
<thead>
<tr>
<th>Author</th>
<th>Title</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC Hydro (Hydroelectric Design Division)</td>
<td>Hydroelectric Development of the Stikine River Overview Study</td>
<td>January 1978</td>
</tr>
<tr>
<td>BC Hydro</td>
<td>Prospectus: Northern Transmission Studies; Electrical Energy Transmission from Potential Hydroelectric Generation Projects on the Stikine/Iskut and Liard Rivers</td>
<td>July 1980</td>
</tr>
<tr>
<td>BC Hydro</td>
<td>Stikine-Iskut Rivers Hydroelectric Project Environmental Feasibility Studies; Economic Geology</td>
<td>December 1980</td>
</tr>
<tr>
<td>Beak Consultants Ltd.</td>
<td>Preliminary Analysis of the Potential Impact of Hydroelectric Development of the Stikine River System on Biological Resources of the Stikine Estuary for BC Hydro</td>
<td>September 1981</td>
</tr>
<tr>
<td>BC Hydro</td>
<td>Stikine-Iskut Hydroelectric Development Feasibility Study: Hydrology, River Regime and Morphology</td>
<td>October 1981</td>
</tr>
<tr>
<td>BC Hydro</td>
<td>Stikine-Iskut Hydroelectric Development: Exploration Program and Access Requirements</td>
<td>December 1981</td>
</tr>
<tr>
<td>E.J. Kermode</td>
<td>Climatology of the Iskut-Stikine Basin’ BC Hydro, Environmental and Socio-Economic Services</td>
<td>January 1982</td>
</tr>
<tr>
<td>Aresco Ltd.</td>
<td>Stikine-Iskut Hydroelectric Project Heritage Impact Assessment 1980-81</td>
<td>March 1982</td>
</tr>
<tr>
<td>Author</td>
<td>Title</td>
<td>Year</td>
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<tr>
<td>Talisman Land Resource Consultants</td>
<td>Stikine-Iskut Hydroelectric Development Wildlife Habitat Mapping Study</td>
<td>May 1982</td>
</tr>
<tr>
<td>Bentley Le Baron, Canadian Resourcecon Ltd.</td>
<td>Stikine-Iskut Project: Social and Economic Impacts</td>
<td>August 1982</td>
</tr>
<tr>
<td>P. McCart, et al., (Aquatic Environments Ltd.)</td>
<td>Tahltan Fry Enumeration Study</td>
<td>August 1982</td>
</tr>
<tr>
<td>BC Hydro</td>
<td>Preliminary Route Engineering Assessment of the Stikine-Iskut Transmission System’ Transmission Projects Division</td>
<td>October 1982</td>
</tr>
<tr>
<td>Donald Blood and Gary G. Anweiler</td>
<td>Stikine-Iskut Hydroelectric Projects, Supplementary Wildlife Studies</td>
<td>June 1982</td>
</tr>
<tr>
<td>BC Hydro</td>
<td>Stikine-Iskut Development Status Report</td>
<td>October 1982</td>
</tr>
<tr>
<td>BC Hydro</td>
<td>Stikine-Iskut Hydroelectric Development : investigations outline, 1983</td>
<td>1983</td>
</tr>
<tr>
<td>Gregory Utzig et al, (Pedalogy Consultants),</td>
<td>Biogeoclimatic Zonation of the Stikine Basin</td>
<td>1983</td>
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