Unbuilt Environments

Tracing Postwar Development in Northwest British Columbia

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FOREWORD BY GRAEME WYNN

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The Stikine Watershed and the Unbuilt Environment

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

> *Hugh Brody,* Stikine: The Great River

THE STIKINE WATERSHED – the traditional territory of the Tahltan First Nation encompassing 52,000 square kilometres in northwestern British Columbia – is under immense and unrelenting development pressure from mineral, metals, and energy companies. In the past decade, the rush to exploit the resources stranded in the bedrock or locked away in tightly compressed shale formations has lured dozens of resource companies and utilities. The area boasts massive mountaintop anthracite coal seams, coalbed methane trapped in the geology beneath ecologically and culturally sensitive landscapes, world-class copper reserves with their own potential tagalong metals economies, water diversions through run-of-river hydro developments, and transportation networks and transmission infrastructure to make it all go. Where these dreams encounter places and peoples, they produce opportunity and hardship in equal measure. The tensions that follow visions of industrial development are nothing new in the Stikine, but they have exacerbated ambivalences in local communities trying to balance the promise 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 predetermined 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.

Dreams of development in places like the Stikine reveal an ambivalent relationship with nature. Consider the conflicted position of conservationist Tommy Walker, who described the Stikine as a place of pristine wilderness imperiled by the onslaught of "the industrial octopus."[1] He arrived in the area in the late 1940s to start an outfitting business and fulfill his dreams of economic independence. By 1960 he was writing to a colleague,

> I am afraid we have seen the best of the north country. From now on changes in methods of travel and communication will make access so much easier and there will not be any real wilderness left. It is just one of those things that have to happen. I just love a wild uninhabited country and I am so thankful that I have known some of our wilder areas before they become ruined by the encroachment of civilization.[2]

The tension between dreams of wealth and nostalgia for a world he had helped to destroy is threaded through Walker's archive. Although he dedicated much of his life to preserving the Spatsizi Plateau as a park, he never questioned the dispossession of those who had previously used the land on which his outfitting business depended.[3] Similarly, aspiring novelist Edward Hoagland, seeking an antidote to the stultifying effects of his New York City life, came to northwest British Columbia in 1966 on a naturalist's whim, "because people will want to know what these wild places were like when there are no more wild places."[4] Fifty years later, leading public advocates are saying essentially the same thing about the northwest. As David Suzuki has lamented, "This beautiful and pristine wilderness area is under industrial threat … that is occurring in a vacuum of silence."[5]

The Stikine, like many places at the margins, has often been the focus of the romance and nostalgia associated with "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 its residents have drawn adventurers, prospectors, ethnographers, and settlers to the region. From John Muir scrabbling over its glaciers in the 1870s to 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 recent attempts to harness coalbed methane concealed beneath the "Sacred Headwaters," the Stikine has seen numerous interlopers, all searching for

a particular experience or enterprise embodied in the river and its surrounding plateau.[6] It 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 development of the Stikine and its connections to other places? How did individual, corporate, bureaucratic, and state actors relate abstract notions of nature and environment to the practical work of mining, hydro-power development, and road-building? How did these things affect the cultural understandings of the area's original inhabitants?

Another more populist rendering of the Stikine frames the region as a geographical legacy of grand dreams and even grander failures. Many accounts of northwest British Columbia make much of the rhetorical use of "failure" and "marginality" in discussing problems of and prospects for development in the region. Much like American journalist Joel Connelly, visitors have tended to see the Stikine as "a land of big dreams, and at times, big failure."[7] John Faustmann, with a wink to the region's gold-mining history, interprets northwest British Columbia as a place that has seen "a string of big plans that never panned out."[8] Ethnobotanist and National Geographic explorer Wade Davis, who perhaps more than anyone has sounded the alarms about "the tsunami" of industrial development awaiting the Stikine, claims to be almost "numb to the endless series of grandiose, if ill-conceived megadevelopment plans" that have been brought to the Stikine from outside.[9] 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."[10]

A sense of frustrated progress resounds through accounts of the region and its distinctiveness. Explorer and entrepreneur Warburton Pike offered a particularly egregious example early in the twentieth century: "apart from minerals this country is absolutely worthless."[11] Repeated over the years, such opinions consolidated "the story of the Stikine" as a self-consciously failed landscape removed from modern standards of industrial progress. Failure in this instance is contingent on an understanding of marginality created by acclamation rather than being based in any biophysical reality. As Bonnie Demerjian has it in her popular account of the river and its environs, "The inaccessibility has always challenged those

who wished to exploit its riches."[12] I take these claims of failure seriously to see what emerges from unsuccessful development projects and unrealized infrastructure programs.

To understand why the Stikine is so often regarded as a graveyard of development dreams, this book examines evolving patterns in interaction between the physical place and human societies anxious to represent, understand, and use an out-of-the-way area increasingly open to outside influences. Plans for development begin in people's imaginations. Indeed the area was mostly unfamiliar to the state – and known (other than to its Indigenous inhabitants) to only a few hundred prospectors, traders, and missionaries until the discovery of gold in the Yukon in 1896. By popular reckoning, the area has remained in the shadows. To borrow a phrase from Julie Cruikshank, it is a place of "imaginative possibilities."[13] Yet, like any other place, the Stikine is complicated by the memories and the meanings and representation that people ascribe to it. Place-making here was a crucial site of political contest and of the production of cultural meaning. The interconnections between the complex concerns of colonialism, ecology, and the movements of capital make the Stikine an important site of historical and environmental inquiry. This book is a historical geography of the failure of infrastructure development and extractive potential in northwest British Columbia. I look at railway projects, gas export, hydro-electric development, mining, and energy transmission to interrogate the altered meanings of nature and place and to understand changes to the relations among nature, local societies, and outside forces.

Visions of a northern landscape dotted with 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. These schemes have transformed the environments, economies, and social lives of northerners. But for every successful megaproject, there are dozens that survive only on paper, abandoned before completion, or that operated only for a short time. These visionary projects can be conceptualized as unbuilt environments, a term that 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. I develop the unbuilt environment concept to question the social meaning and environmental effects of resource development failure in the Stikine watershed.[14]

Unbuilt environments can be recovered through archival evidence, material remains, and a careful appraisal of both altered perspectives of
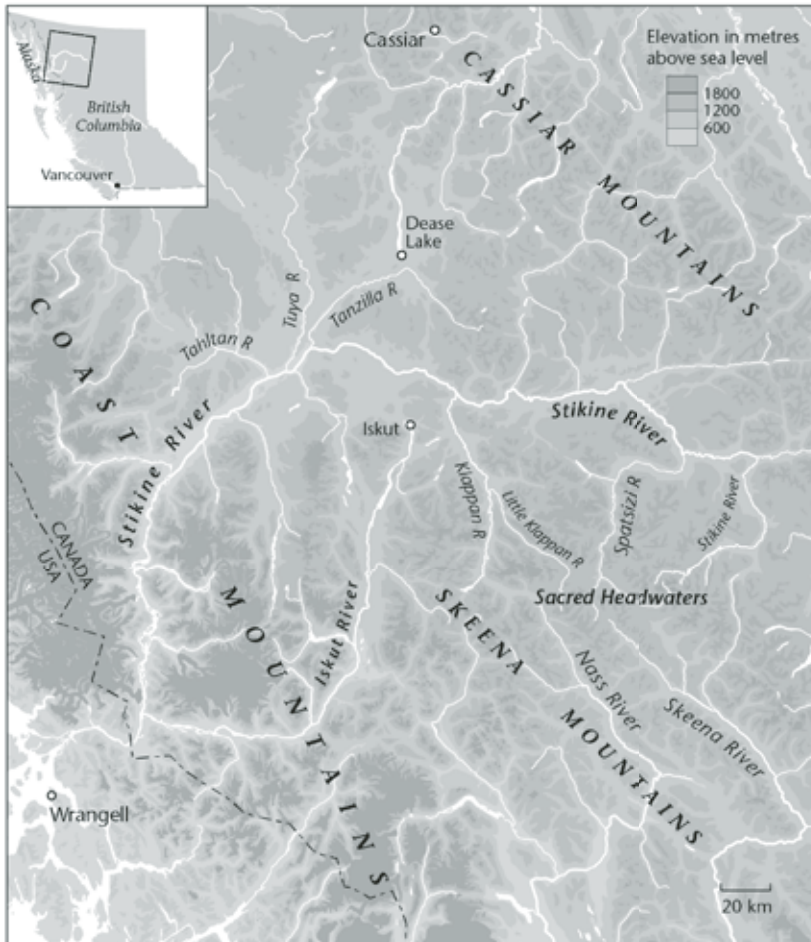
Figure I   The Stikine. Map by Eric Leinberger.

nature and the shifting boundaries of human–nature relationships. Most scholars justly focus on the impacts and motivations of projects that have been built; however, we need to look again at those projects that have been put aside, rejected, or cancelled. By doing so, we gain a deeper understanding of the relationship between development ideas, nature, and the north in Canada. Such projects have 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 mega-projects that did not materialize or were only partially completed, this book furthers our understanding of the historical, geographical, and

economic development of an understudied area of northern Canada. I contribute to a re-evaluation of nature and the built environment by examining the planning of, debate about, and scientific engagement with northern geographies to understand better how newcomers and residents knew nature in northwest British Columbia.[15] In many ways, the region'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. I examine various phases of development over the postwar period and ask what happens when plans go awry. What are the unintended outcomes? 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 from the ambitions, calculations, assessments, and failures of developers pushing at the boundary of the industrial frontier.

A large literature on the state and northern development in Canada emphasizes the historical particularities of individual development episodes and the uneven geographical development that follows the resource cycle of boom and bust.[16] In general, this literature highlights the economic exposure of northern resource 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 idea of the unbuilt environment 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 unrealized corporate and state projects.

Economic historians have used the notion of path dependence in discussions of development at the margins to suggest that development is circumscribed by previous decisions that structure and limit possibilities. The concept is useful for thinking about how the artefacts and material traces of previous development regimes influence the next iteration of development.[17] My approach borrows from the iterative notion at the heart of this historical analysis but, rather than focusing on path dependencies, it examines the possibilities that follow from consecutive efforts to develop the Stikine. By concentrating on the expertise, knowledge, and management brought to and generated in the Stikine, this study broadens the claims of the path dependence framework to suggest the need to focus on the capacities that are created by failed schemes. It also extends the idea of "material traces," employed by William Turkel to show how people read

the past in historical landscapes through artefacts, providing a way to read the environment as a contested archive of historical change.[18] This book widens this analytical framework to include a study of the discourses that can be tracked from the things left behind by unsuccessful development efforts.

I examine a series of encounters in time and space in case studies extending from mining projects and railroad construction to hydroelectric development and hydrocarbon export. The cases reveal a range of outcomes from construction and abandonment, through partial completion and incompletion, to dreams unrealized. The unbuilt environment concept thus provides a way to think about how the processes of unfulfilled development schemes bear effects. In this region, development projects have been often unrealized, partially built, or operated within relatively short time horizons. Some have operated successfully for a period of time, only to be shut down by external economic factors. 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. Examining the Stikine with an eye to outcomes and side effects raises 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 idea of the unbuilt environment is thus not a predictive theory or a literal description but, rather, one that offers a different angle of vision on economic development and its social and environmental effects – a heuristic device for thinking about what happens in the aftermath of development. The concept outlines the co-production of resources and extractive space within which resource development has been made to seem possible, logical, and correct. Through an analysis of megaprojects and development schemes that fell short of the aspirations embedded in their descriptions, I frame the Stikine's historical production as a site of "development."

A broader northern development context in the postwar years positioned megaprojects as the primary method for opening up the vast northern realm of the continent. There are many examples of ambitious development schemes across subarctic and Arctic North America; many of these have faltered or failed. In this sense, the Stikine is not unique but, rather, a location characteristic of prevailing development wisdom in northern Canada. A paradigmatic example is the Mackenzie Valley Pipeline proposed in the 1970s to deliver Arctic gas to northern Alberta.[19] The pipeline was never built, but it galvanized local opposition on social, environmental,

and economic questions and propelled northern resource development onto the national stage as never before. Other examples range from the Alcan or Alaska Highway to the Northwest Staging Route, from the construction of Inuvik to the myriad mines that dot the subarctic landscape, from the Canol pipeline from Norman Wells to Whitehorse and beyond, to the many transportation routes constructed through John Diefenbaker's "Roads to Resources" program. Lacking infrastructure and economies of scale, northern development has always been subject to the big dreams of entrepreneurs, speculators, and governments eager to tap new resource veins so that they might prosper in the global economy.[20]

This developmental agenda spread even farther afield. In Alaska, the Rampart Dam project, originally conceived as a 5,000-megawatt-generating dam on the Yukon River in the early 1950s, was abandoned in 1970 amid acrimonious technical and bureaucratic in-fighting and environmental protest. Rampart would have created the world's largest human-made reservoir at 28,100 square kilometres, displaced 1,500 people, blocked salmon passage, and flooded important wetlands.[21] At much the same time, the Yukon government sought to direct the Yukon River into the Taku River, and thus the Pacific Ocean, while Alaska proposed a competing strategy to divert the same river into the Pacific by channeling it into the Taiya River.[22] All three projects were part of larger plans to attract aluminum smelters to the north. In some cases, like these competing river diversion schemes, effects were geopolitical as much as social and environmental.

Similar dynamics played out in the "provincial norths," an interpretive model of development that formalized the analysis of the internal colonial relations between south and north as they played out in a provincial context.[23] Development megaprojects were also preeminent within this paradigm, with mining and hydroelectricity front and centre.[24] Once again, examples abound. Isolated mining economies popped up in places such as Uranium City, SK; Elliot Lake, ON; Flin Flon, MB; and Tumbler Ridge, BC. Northern provincial landscapes, habitats, and homelands were submerged by mega-scale hydro projects such as the multi-stage James Bay Project in northern Quebec, the Churchill River Diversion in central Manitoba, and the W.A.C. Bennett Dam on the Peace River in northeast British Columbia. This kind of breathless industrial development yielded impressive results, but it also required that innumerable schemes be abandoned before launch.

Such is the broader context for an examination of unbuilt environments in the Stikine, which contains two equally important objects of analysis.

The discursive effects of megaproject and infrastructure development in the Stikine show how interested parties engaged with and invoked the river and the natural environment as they debated the terms of progress and industrial improvement. Equally, the material traces left by the work on the ground – such as road construction and transmission lines – show the effects of rapidly accelerating scientific engagement. Discourse relating to development not only changed environmental perception in the Stikine but also had an impact on the physical environment by increasing human, scientific, and technological engagement in the region. The goal is to build an enlarged sense of historical possibilities that can speak to the actual physical interventions into the landscapes and attend to the ideas and potential displacements that emerge out of them.

Failure and Effects

Development schemes in the Stikine emerge in a context that lays bare the hubris and myopia that often characterize resource mobilization. By maintaining an analytical focus on the conditions of possibility that emerge from each development scheme, I attend equally to the technical and scientific data produced to justify resource development and the altered perceptions of the environment shaped by interactions among newcomers, Stikine residents, and the natural world. This new analytical framework relies upon and connects earlier work with a normative and analytical concern for the unequal effects of human–environment relations, drawn from political ecology (or critical resource geography), regional historical geography, and environmental history in Canada.

   I follow a long tradition in regional historical geography scholarship that seeks to represent a place through fine-grained analysis of its salient features and borrow analytical techniques from environmental history to complicate the natural histories of particular regions. Material history also looms large in this work.[25] Recognizing that study and area boundaries are developed in different ways and that place is continually remade, contested, and negotiated, my approach renders 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, Claire Campbell's Georgian Bay, or Jocelyn Thorpe's Temagami – are perpetually reimagined as historically contingent but ultimately new places, formed and reformed.

When places are reimagined, material changes follow. A broad cross-disciplinary literature within the field of political ecology analyzes "local conflicts over access to resources that originate with colonialism and the expansion of global capital."[26] The major themes of political ecology – resource access, environmental governance, the application of scientific and technological management, and environmental justice – are useful for dealing with questions of resource politics, especially when combined with the rigorous empirical and archival methods of environmental historians. Given their analytical and normative concern with the legacies of colonialism, political ecologists originally focused on social and environmental inequities in the "global south" under conditions of unequal economic and social relations.[27] The discourse of improvement and the push for progress have been at the centre of this critique of embedded inequality.[28] Much of this work treats the "friction" of post-colonial interaction. As conceived by Anna Tsing, friction builds out from the messy, unrelenting dynamism of power, knowledge, and hegemonic arrangements and exhibits them in the distance between the state, its subjects, and a historicized nature.[29] Within this frame, analyses of development in action show the compromises and contestations that often undermine the benevolent intentions of those 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 ascribed to nature within this loose structure are further complicated as they are analyzed as objects of new, emerging power relations. The most compelling work, like that of Tania Murray 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.[30] In this book, "the state" refers to a complex of agencies, institutions, government ministries, crown corporations, and the people who worked for them, that sought to develop and mobilize the resources of northwest British Columbia and, as a result, governed possibilities for the improvement of the area.

By conceiving of history as "sedimented" a new generation of scholars has attempted to hold in hand both the "geographical imaginations" of those new to a region and 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, 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."[31] In the postwar period, 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 five case studies, I invoke the multiple natures evident in the Stikine during the better part of sixty years of contest and conflict over resources.

Political ecology destabilizes bounded notions of place but it is always indebted to specific geographies of difference. Over the past decade, there has been a concerted effort to bring the analytical mandate of political ecology to the "global north" in particular, to focus on the environmental dislocations experienced by marginalized peoples and spaces in more in-dustrialized societies.[32] Sometimes identified as critical resource geography, this broad framework is attuned, in the words of Gavin Bridge, to "the processes by which particular parts of the environment become produced as resources. Such an approach argues that producing resources for capitalist exchange … requires the regulatory practices of science, technology, capital and law in order to rework existing natures and space."[33]

Resources, then, are historical and social and as much as biophysical fact.[34] Canadian environmental historical scholars have been less explicit with these connections, although the appraisal of resources as a set of social relations has become a foundational interpretive framework for many of these same scholars.[35] This has been particularly true for historians and geographers working on northern landscapes. Some lean towards material outcomes in their analyses. For Arn Keeling and John Sandlos, for instance, "the landscapes produced by industrial development in the North … became material expressions of the power and priorities of southern Canadian institutions, technologies, and ideologies,"[36] while for Liza Piper an emphasis on history reifies the "cumulative impacts of successive ex-ploitation" of northern environments.[37] Others focus on the conditional effects of culture and discourse. For Caroline Desbiens, the goal is "to analyze the work of culture in laying out paths of economic development" while maintaining, as I do, that "discursive formations have material impacts" that can be traced in the landscape of northern Quebec.[38] Similarly, Emilie Cameron assesses the stories told about and through the history of Kugluk "to both *place* and *displace* [outsider] relations with the contemporary North."[39] This can all be seen alongside Nancy Lee Peluso's call for a critical socio-natural history that positions the com-modification of nature as both a historical and political process, contingent

in large part on the paradigmatic institutions of the modern resource state and of the colonial context from which it springs.[40] I borrow from this historicized sensibility in my analysis of environment and resource conflict in northwest British Columbia while being mindful of the multiplicity of natures, porous boundaries, and human histories of use and industrial enterprise.[41]

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 project would be the one to turn the tide of progress. Yet these dreams remained unfulfilled. 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 ask questions about how failures influence the growth of geographical knowledge.[42] 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 book.

Development failures produce their own conditions of possibility by creating a perception of the Stikine as a part of the province where resources are located and can be mobilized, with careful planning and initiative. In this sense, failure is future-oriented and productive of both the prospect of industrial extractive economies and the resource conflicts and contestations that accompany mines, dams, transmission lines, and energy projects. Failure, conceptually and analytically, looms large in this book. We might call this a political ecology of failure in the sense that failure is both an outcome and product of resource conflict, a question of access and accountability, and the complex politics embodied within the project of environmental governance.

Two books yield critical insights into the nature of failure and its aftermaths. In *Seeing Like a State,* James Scott is concerned with developing a diagnosis of failure in order to question why it happens and to identify the disorders of governance that make failure possible, if not inevitable. In his "account of the logic" behind development failures, large-scale social and environmental engineering projects are unsuccessful because they fail to recognize local knowledge.[43] *Unbuilt Environments* builds on Scott's fundamental questions, but it is less concerned with the reasons for failure than with the effects of failure. The question is not why did something fail but, rather, what did failure produce, what kinds of effects did it have?

In pursuing this path, I draw from a work that preceded Scott's by nearly a decade. In *The Anti-Politics Machine,* James Ferguson describes the failure of an agriculture improvement scheme in Lesotho but maintains that, precisely because of its failure, it "had a powerful and far-reaching impact" on the region.[44] The construction of roads, the availability of government services, and the creation of a local administrative centre among other speculations suggest that "what is most important about a 'development' project is not so much what it fails to do but what it does do: it may be that the real importance in the end lies in its 'side effects.'"[45] Scott's focus on failure and Ferguson's focus on the effects of failure have been sharpened even further by Tania Murray Li, who asks, "What do these schemes do? What are their messy, contradictory, multilayered, conjunctural effects?"[46] The task ahead, then, is to ask what was left over in the wake of the uncoordinated and often incoherent development projects brought to the Stikine and to examine the durability and historical contingency of those effects.[47]

The stories I tell about the use of nature in the Stikine are multifaceted and incomplete. 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. These are the material and discursive "unintended consequences," an analytical mode that has found purchase in both political ecology and environmental history.[48] Failure and success both entangle similar processes – whatever the outcome, scientists and surveyors come north to enumerate; bureaucrats project ideal scenarios; locals, advocates, and opponents mobilize debate and opinion on matters of development. In all cases, the environment is the object of transformation. As Richard White argues in his monumental history of American railroads, industrial dreamers "created modernity as much by their failure as by their success."[49]

STIKINE OUTLINES

Though it lies just beyond the boundaries of the Stikine watershed, the Cassiar – the subject of my first chapter – was long the economic and service centre of the Stikine region. Opened in the early 1950s, Cassiar was active for forty years until shaky financial management, fluctuating asbestos markets, and engineering difficulties forced closure of the mine, and the adjacent company town, in 1992. This chapter visits three sites – the abandoned townsite, the tailings pile, and the 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 several thousand 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 to outline the eventual failure of the company. Cassiar and the way of life it sustained were dismantled as a result of corporate decisions, consigned to a footnote in British Columbia's capricious mining history. Yet within the stories 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. The ongoing environmental ramifications of closure and abandonment in Cassiar raise questions about the connections between nature in a marginal place and the far-reaching impacts of global cultural and economic forces.

The development of transportation infrastructure was a perennial problem for the citizens and corporate leaders of Cassiar. Throughout the twentieth century, the movement of goods, commodities, and people was a vexing question in northwest British Columbia, given the sparse and poorly maintained road and rail infrastructure. Successive BC governments built the Dease Lake Extension to "open up" the region to mineral and metals development by providing a link to the BC Rail network and to an open-water seaport at Stewart. During the 1970s, BC Rail contractors laid a gravel rail bed from Fort St. James to Dease Lake, a distance of over five hundred 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 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, a legacy of the failure. Chapter 2 interrogates the environmental assessment initiatives, engineering, and planning mechanisms of the Dease Lake Extension project, while paying particular attention to the environmental legacies of failure.

As the Dease Lake Extension's drive north was drawing to a close, BC Hydro initiated an ambitious hydroelectric generation program. Chapter 3 highlights the tensions surrounding the company's proposal to build five dams on the Stikine and Iskut Rivers. These would have markedly improved 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 pro-
gram designed to catalogue, enumerate, and evaluate natural and human
resources in the watershed. I analyze the assessment apparatus to look at
how the collection of new scientific, technological, and ecological data
affected perceptions of nature in the Stikine. In addition, I consider the
effects on peoples' relationships with nature by analyzing responses to the
new categorization of the environment, the assessment of attributes of
nature and how nature might be valued by communities, and the imple-
mentation 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.

Concurrently, another aspirational energy economy was being proposed
farther south. In the early 1980s, Dome Petroleum of Calgary developed
a plan to build a liquefied natural gas (LNG) processing facility at Grassy
Point on the central coast of British Columbia to export gas under contract
to Japan. A network of pipelines would connect Grassy Point, adjacent to
the First Nations community of Lax Kw'alaams, to Dome's pioneering
gas-extraction scheme in the Beaufort Sea. Under Dome's Western LNG
Project, as it came to be known, Arctic gas would be piped to the Pacific
Coast, frozen, liquefied, drastically reduced in volume, and then shipped
to Japanese cities. Although the project was never completed, the particular
conditions of possibility that it generated highlight the persistence of
energy economies, a point that has been brought into sharp focus by the
contemporary scramble to export gas from Grassy Point, Kitimat, and
neighbouring locations along the coast. In Chapter 4, I argue that Dome's
Western LNG Project required manipulations of both the materiality and
the meaning of gas in the effort to move the product across the Pacific
Ocean. In a sense, this chapter is an outlier, at least geographically, in that
it pushes beyond the boundaries of the Stikine watershed, but also because
of the contemporary resonance of LNG dreams. In addition, Dome's
sightlines were angled towards Japan, rather than inwardly or to domestic
markets. Yet the analytical concerns are consistent with other cases, and
it provides a compelling test of the methods of this approach in a neigh-
bouring sub-region of northwest British Columbia.

The final chapter analyzes a contemporary resource and infrastructure
initiative, the mundane nature of which belies its intended investment-
galvanizing qualities. The Northwest Transmission Line (NTL) brings
power from the provincial grid to the northwest and will eventually extend

all the way to Dease Lake. Proposed under the "green energy" banner, the NTL is meant to serve an eager mining sector that needs access to new, cheap power for its mines, including several very large copper and coal properties in various advanced stages of the environmental impact assessment process in northwest British Columbia. All of these properties require assurance that necessary infrastructure will be in place if they are to proceed with development. I consider the provincial government's rationale for the NTL, as well as the BC Environmental Assessment Office evaluation of the NTL, drawing connections between the social and environmental lives of northwest BC residents and the mining companies that seek to operate in their midst. Sources for this discussion are very recent, culled mainly from the popular press and from malleable and constantly updated government and industry documents. This chapter develops, along with much of the book, an argument that the environmental impact assessment process prioritizes description and approval over protection and oversight.

The development motivations behind the projects discussed in each chapter have contemporary iterations that promise new extractive frontiers. This is particularly the case in the final two chapters, which speak directly to development narratives that are still unfolding. Copper and coal mines, energy generation and transmission schemes, and infrastructure programs are on the verge of realization. I argue, however, that the current resource mobilization is predicated in large part on the conditions of possibility established by previous attempts to extract, harness, and transport the "stranded resources" that have, up to this point, eluded development dreamers and industrial pioneers. This book shows how five resource development encounters, none of which lived up to developers' expectations, embedded the perception that northwest British Columbia is a promising resource space. The contemporary stories of LNG and energy transmission are, in many respects, contingent on the resource encounters that came before. Here we confront the layered effects of successive development projects to show how the reimagination of past resource landscapes shapes contemporary debate around the politics and possibilities of development.

The Stikine, sometimes referred to as Cassiar, is Tahltan Country. Although the focus of this study is on more or less incomplete projects from the late twentieth century, this does not imply an absence of Tahltan social, cultural, and economic presence throughout the Stikine watershed, or anywhere they claim as their ancestral homeland.[50] The Tahltan, and

the Lax Kw'alaams farther south, have occupied this land for thousands of years. This book chronicles the history of the region in the years after the Second World War but, of course, the preceding centuries assert other preconditions of possibility on the environment.

Perhaps the clearest way to illustrate the long history of Indigenous settlement and resources use in these areas is to reference an extraordinary document issued by the Tahltan in the white heat of an ambitious Indigenous rights campaign at the beginning of the twentieth century.[51] The 1910 Tahltan Declaration asserted the "sovereign right to all the country of our tribe," which, like most of British Columbia, had (and has) never been ceded to the Crown, through treaty or otherwise. The declaration, signed by eighty-three Tahltan individuals and brought south by ethnographer and big-game hunting guide James Teit, affirmed that the Tahltan held their territory intact "because our lives depended on our country."[52] The rights, values, and lifeways asserted in the text of this document forms the legal imperative and normative basis for all Tahltan interactions with (and their claims to territory and the resources of) the Stikine. The 1910 Tahltan Declaration reinforces long-standing Indigenous rights, but it can be projected forward in the face of the many development dreams brought to the Stikine over the next century.

The Stikine watershed is the ancestral homeland of the Tahltan, who have lived in and used the watershed "since time immemorial," a phrase adopted by many First Nations to invoke the indefinite depth of pre-contact history in British Columbia, beyond the reach of conventional memory of the kind held in state archives. An Athapaskan-speaking, semi-nomadic hunting and fishing people, the Tahltan travelled between temporary settlements as the pursuit of resources and subsistence dictated. Tahltan families would gather in the summer near the Stikine River to fish, feast, and trade with neighbouring groups: the Tlingit to the west and 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 when 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 particular parts of the watershed.[53]

Tahltan ethnographers suggest that the group's first contact with Europeans was with Russian traders in 1799, although British explorers James Cook and George Vancouver, and French explorer Jean-François de La

Pérouse all sailed near the mouth of the Stikine River before the close of the eighteenth century.[54] The Russians founded a trading post on the site of present-day Wrangell in the Stikine delta in the 1830s. The outpost was beset by a series of closures, hardships, and territorial disputes in the decades that followed. Uncertainty about property and ownership continued until the Alaska–Canada 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 Tahltan, but periodic wars over territory and river-related resources also characterized their inter-tribal histories. Tahltan scholar and professor of journalism Candis Callison notes that today's Canada–US border closely approximates the non-state border established between the Tahltan and the Tlingit of southeast Alaska.[55]

Further inland, contact was less frequent though it was also facilitated by trade. The Tahltan often acted as intermediaries between European traders and their neighbours. In 1838, Robert Campbell, an agent of the Hudson's Bay Company (HBC), met a group of Tahltan at present-day Telegraph Creek. The HBC wanted to set up a post on the Stikine, and the Tahltan brokered a deal between Campbell and the Tlingit, who were also present at the meeting.[56] Fearing for his safety, Campbell soon left Tahltan 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-Tahltan newcomers lived year-round in the watershed.[57] Small, localized placer-mining activities have persisted ever since. Representatives of state and church institutions followed the miners, 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. Semi-permanent villages were established around trading posts. Yet travel between these villages, as well as contact with newcomers, Wade Davis contends, facilitated the transmission of new pathogens that exerted their own terrible power on Tahltan bodies and families.[58] The introduction of new diseases caused great hardship and deepened the cultural dislocation consequent upon new trade relationships. Small pox outbreaks in 1832, 1847–49, and in the 1860s, typhus in 1918–19, measles in 1920 and again in the 1940s reduced populations and harmed Tahltan economic, cultural, and social stability.[59] Population losses may have reached as high as 90 percent.[60] Miners brought goods alongside new techniques for 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 mode of transport.[61] Modern communication technology also left its mark. The Western Union Telegraph Company failed in its attempt to lay a cable from San Francisco to Moscow, overland 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 gave the only settlement on the river its name, when several hundred tonnes of telegraph cable were abandoned on the banks of the river at what is now Telegraph Creek.[62]

The Klondike gold rush, far beyond the borders of the Stikine in Yukon Territory, inspired another ambitious telegraph scheme. The Yukon Telegraph, completed in the early years of the twentieth century, ran through the Stikine until it was closed in the mid-1930s.[63] As many as five thousand prospective miners came through northwestern British Columbia during the rush north to Dawson City between 1896 and 1899, but only a few hundred made it through to the gold fields over the "All-Canadian Route" through the Stikine (not to be confused with the route out of Edmonton bearing the same name).[64] A rail connection from the Stikine north to Teslin Lake, promised by the Canadian federal government, was never built. Instead, a derisory trail was hastily broken. Telegraph Creek and Glenora, twenty kilometres downriver, flourished briefly, only to sink again into torpor.[65] However, a substantial hunting and guiding economy, providing access to the area's abundant wildlife, thrived during the first decades of the century and remains a backbone of the northwestern economy to this day, providing a substantial income to Tahltan and settlers alike.[66] All of these events reconfigured Tahltan social relationships, ushered in new economic opportunities, and inaugurated competing notions of land use and resources, as did each of the developments discussed in the following chapters.

IN AN ESSAY ABOUT a mostly forgotten mining settlement in central Alaska, William Cronon unearths "the paths in and out of town" to highlight how seemingly marginal places are intimately connected to the outside world through industrial networks, consumption practices, and changing relationships with nature.[67] 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 the 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. But there is an addendum to the story of Kennecott's enterprise in the Northwest that might broaden the spatial and temporal scale of Cronon's concern with marginality, movement, and place.

After shutting down its Alaskan mine in 1938, Kennecott (now known as Rio Tinto) undertook an extensive geophysical survey program in northern British Columbia through its Canadian subsidiary Kennco Explorations (Western) Limited. Competing geologists discovered promising mineralization close to the confluence of the Stikine and Iskut Rivers in 1955. This prompted Kennco to develop its own Iskut–Stikine geochemical reconnaissance program.[68] The results convinced Kennco to partner with competing interests with stakes in the area, Cominco and Hudson Bay Mining, to form Stikine Copper in the early 1960s. Kennco explored on the property throughout the decade, diamond drilling from 235 holes and over eight hundred metres of underground development, and building an access road to the exploration camp.[69] Intermittent exploration for the next few decades confirmed the general character of the mineral deposit, but issues of access, topography, and the scale of necessary investment derailed any effort to build a working mine. NovaGold (at the time SpectrumGold) joined the partnership in 2003, with an option to buy Galore Creek, as the project was then called, outright from Stikine Copper. The dazzling success of NovaGold's exploration campaign convinced Teck Resources (formerly Teck Cominco) to join the partnership. An impact-benefit agreement was negotiated with Tahltan Central Council, the de facto resource leadership unit of the Tahltan. This whirlwind of ownership changes is routine in the mining industry, where promises are often as valuable as proven geophysical data. But Galore Creek has both promise and proof. It is thought to be one of the largest undeveloped copper and gold properties in the world, with almost seven billion pounds of copper, four million ounces of gold, and sixty-six million ounces of silver for good measure. "Measured and indicated" resource totals raise those figures by orders of magnitude.[70] As it stands, the operators of Galore Creek are waiting at the threshold of an immense industrial undertaking – for infrastructure such as access roads and power from the provincial

grid, as well as final approval from government bodies tasked with assessing the feasibility of the project components and the social acceptability of its environmental footprint.

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, resource highways, and electrification schemes that give power to mineral extraction projects, making them not only possible but 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 British Columbia. 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.