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A dam tale

Using institutional logics in a case-study on water rights in the Canadian coastal mountains

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Abstract

Purpose – In 1950, the Aluminum Company of Canada (Alcan) was given a perpetual water license for a large section of Northern British Columbia, Canada. The benefit to the original owner of the water rights, the Province of British Columbia, was economic and population growth. The purpose of this paper is to follow the contestation over these rights from 1948 to 2016.

Design/methodology/approach – An institutional logics perspective was taken to analyze the main actors and how their relative power (dominant versus fringe) changed in the institutional field. Archival data and selected interviews were mapped to institutional logics across three time periods.

Findings – In the inter-temporal setting, many of the actors that were fringe in 1950 became more dominant by 2016. For example, the local indigenous peoples, the Cheslatta Carrier First Nation, were flooded off their land to make way for Alcan's dam. They ended up as very powerful players in the institutional field. The perpetual rights given to Alcan made it a dominant actor across all time periods, despite changes in the logics of the institutional field.

Research limitations/implications – A single case was studied; other comparative settings should be explored to contrast and compare. The data were primarily archival, supplemented by only three interviews of those related to the case study. This case study is also one where water rights were privatized in perpetuity, which may not be the case in other settings.

Practical implications – Current governments and non-governmental organizations (NGOs) should use this case to understand the long-term effects of resource policy decisions.

Social implications – The building of large dams has been, and continues to be, used worldwide to provide power to create economic growth. Our setting provides insight into the long-term societal outcomes of using water rights in this way.

Originality/value – This is an original use of institutional logics around a natural resource-based institutional field. Using institutional logics in a multi-period setting, focusing on the power relations of the key actors, and how they can be constrained by historical forces, provides a contribution to the literature.

Keywords Institutional logics, Historical contingency, Hydro-power, Water rights

Paper type Research paper

1. Introduction

In 1949, "His Majesty the King in right of the [Province of British Columbia \(1949\)](#) (Canada)" passed the Industrial Development Act allowing the Government of British Columbia (BC) to enter into an agreement with "any person proposing to establish an aluminum plant respecting the use of water to generate hydropower" (Industrial Development Act of British Columbia, p. 1). In 1948-1949, the only conversations, meetings and visits to potential dam sites BC officials had regarding the aluminum industry were with the Aluminum Company



of Canada (Alcan). For example, in the fall of 1948, on a trip to publicize Alcan's interest in the project, Alcan president R.E. Powell flew over the potential dam sites with BC Minister of Lands and Forest, E. T. Kenney, while below, Alcan already had surveyors and engineers on the ground (Evenden, 2004). In 1950, BC granted Alcan the rights to a water license for all of the waters draining into the Nechako River that it could store, divert and use for hydropower generation until 1999 (hereinafter, referred to as the 1950 Alcan Agreement). After 1999, Alcan would have a water license in perpetuity. In 2007, mining giant Rio Tinto purchased Alcan, and Rio Tinto Alcan was formed (RTA). The current owner of the perpetual water license is Rio Tinto, via its subsidiary, RTA.

Using natural resources with the objective of generating economic growth has often been a reason for their exploitation. Hydropower is a case in point, where damming a river has been used to produce cheap electricity for industry (Scodanibbio, 2011; Ferguson *et al.*, 2011).

However, long-term contracts and concessions can constrain the options available to future generations. Using water for hydropower began as something that was conceptually a free good. Now, water use is seen in the context of human rights and biodiversity (Hazelton, 2013; Dey and Russell, 2014). From certain aspects, hydropower is a key tool in the overall green energy system, while others see large dams as projects that lead to disaster for local populations and the environment. We present herein a case where a perpetual water license was granted in 1950 to generate economic growth.

Whether and how such projects move forward, as well as any sort of accountability before, during and after, are driven by the relative power (dominant or fringe), and the logics (Thornton, Ocasio and Lounsbury, 2012), of the actors that make up the institutional field at any given time. Buhr (2011, p. 141) reviewed the accounting literature on indigenous peoples and states: "Without an understanding of the past it is not possible to deal with the negative effects felt in the present". The local indigenous population in the case studied herein had significant negative effects in the past; however, in 2016, it was one of the most powerful players in the institutional field. Thornton *et al.* (2012, p. 12) described historical contingency as being important to take into account when trying to understand the logics of institutions in the past.

Historical contingency means that decisions need to be understood in the context of the period they were made, not through the current lens. To that end, this paper has used the framework of institutional logics (Thornton *et al.*, 2012) across three historical time periods to provide a historically contingent analysis of the past, while also showing how historical forces have shaped, and continue to constrain, the institutional field of the present.

The setting studied herein has been defined as an institutional field centered on the perpetual water license given to Alcan in 1950. The institutions that make up this field are BC, Alcan/RTA, the Government of Canada, the town of Kitimat (that was founded as a result of the 1950 Alcan Agreement), the Cheslatta Carrier First Nation (the indigenous population located near the dam site) and the Fishery (both commercial and sport). Each of these institutions was treated as an actor within the field.

The research approach herein is two-fold. The first approach was to explore the changing power relations between the institutions that have influence on the perpetual water license given to Alcan across three time periods. The periods run from 1948-1979, 1980-2006 and 2007-2016, which are further defined in the presentation of the research design. Second, an institutional logics perspective (Thornton *et al.*, 2012) was applied to each of these institutional actors across these same three time periods, with the objective of assessing changes in institutional logics across time. The focus was on changes in relative power and how outcomes in previous periods served to constrain outcomes in future periods, regardless of changes in power or logics. Thus, a key contribution is to provide the

reader insight into the use of natural resources for industrial development and growth, particularly the use of water in large-scale hydroelectric projects.

When cost benefit analyses are made in a given period, scant regard is given to the fact that logics do change over time and that value creation is a relative concept. It is relative both in terms of who is making the valuation and when the valuation is made. A particular motivation to study this case was that there have been dramatic shifts across the time periods as to who the dominant actors were and the logics that drove them. Further, dominant actors and their logics in a given period can constrain a future institutional field. In the 1950 Alcan Agreement, BC gave up a perpetual water license to get Alcan to come to the province. Whether or not this deal was worth it is contingent on the logics at play when the assessment was made and the specific actor making the assessment. Thus, beyond contribution to practice, this paper contributes to the literature on institutional logics by using it in the context of changing power dynamics in a multi-period setting.

The approach to this study is archival and interview based. [Appendix 1](#) provides a list of the interviews and documents reviewed for the purposes of this study. The following section presents a literature review as well as some background on the case. This is followed by a section on the theoretical development, research design and data. The fourth section presents the results and in the final section the authors provide some concluding remarks.

2. Literature review and background

This section provides the reader a better understanding of the setting, discusses some examples of literature in historically contingent settings and in settings that have parallels to the one studied herein (such as the environment and natural resources). In 1950, BC decided that future population and economic growth were important, and to facilitate this, it gave Alcan a perpetual water license. The implicit net present value of getting Alcan to build a dam and a local aluminum industry was this water license. In 1997, BC paid \$500mn to compensate Alcan for losing the right to build the entire generation capacity allowed under the 1950 Alcan Agreement. The final phase of the project was still a part of the original bargain made with Alcan in 1950, yet in 1997, this bargain may not have seemed such a good one. From an institutional logics perspective, historical contingency ([Friedland and Alford, 1991](#); [Thornton and Ocasio, 1999](#); [Thornton, 2001, 2004](#)) plays a key role when trying to understand the logics of many decades past. For example, [Thornton and Ocasio \(1999\)](#) introduced institutional logics in the context of historical contingency, where they explored what emerged as a move from an Editorial logic to a Market logic in higher education publishing. It is in a two-period setting, which runs from 1958-1990, allowing them to focus on the logics in each period from a historically contingent perspective.

Several articles have focused on how current economic and social systems have been shaped by historical forces. [Dobbin \(2001\)](#) documented how railroads boomed in the USA under a market model, in France under a state control model and in England under a firm-based entrepreneurial model. Many have argued that the specific path a country took is the key to economic success (i.e. [Shonfield, 1965](#); [Graham, 1991](#); [Sachs, 1989](#); [McNamara, 1997](#); [Campbell, 1998](#)). Yet [Dobbin \(2001\)](#) argued that these are three very successful economies and that one needs to understand the current economic systems in a historical context. [Dobbin](#) argued that the outcomes of the present day were shaped more by historical forces than by the theoretical laws of economics. [Parker \(2014\)](#) explored the roots of Corporate Social Responsibility (CSR) in the cultural setting of early-industrialist England. [Parker](#) looked to the CSR efforts of four leading historical industrial pioneers and philanthropists to provide insight into philanthropy and social accountability today. These are two examples of exploring historical forces in the context of the outcomes seen today. However, beyond

just explaining how historical forces shaped today's outcomes, an objective of this study is to explore how change can be constrained by historical forces.

A lot of the work in social and environmental accounting and accountability focusing on change has used neo-institutionalism in the context of Meyer and Rowan (1977) and DiMaggio and Powell (1983). Hoffman (1999, p. 351) explored "an organizational field centered on the issue of corporate environmentalism". Hoffman followed closely in the spirit of neo-institutional theory and its philosophy of isomorphism (Meyer and Rowan, 1977; DiMaggio and Powell, 1983). Thornton *et al.* (2012, p. 162), in reference to Hoffman (1999), described the emergence of an environmentalist logic in the chemical industry as a change driven by isomorphism.

Isomorphism occurs as leading institutions or organizations change and others follow, to create a change in the field (Dillard *et al.*, 2004). Similarly, O'Sullivan and O'Dwyer (2015) looked at isomorphism around the development of the Equator Principles, a set of social and environmental guidelines adopted by the financial sector for project-finance. Although there are some parallels to the setting presented herein, it is different to those of Hoffman (1999) and O'Sullivan and O'Dwyer (2015), as these authors followed multiple organizations in a given industry. They categorized this as an organizational field that changes in a homogenous way in the sense of neo-institutional theory and isomorphism. The case study presented herein has explored often competing and changing institutions. Overall changes in the institutional field were a result of a changing equilibrium based on the relative power of the institutions over time and not isomorphism within a given organizational field.

Holm (1995) provides an example of institutional change in a case study that focused on a specific national natural resource, the Norwegian fishery. Holm followed the rise and fall of a fishers' controlled monopolistic sales system for the Norwegian fishery from 1929 to 1994.

Holm (1995, p. 401) stated that, "Institutional change means that organizational fields are restructured (DiMaggio, 1991) and that new relationships between the different levels of action are established". The focus on a natural resource provides some parallels to a water rights setting; however, a key difference is that water rights have a number of possible outputs (i.e. hydropower, fishery, recreation, tourism), while the fishery as studied in Holm (1995), is an industry in and of itself. Holm (1995) looked at alternative uses and management of fish in the ocean, as opposed to alternative uses and management of water in a river-system. As with Hoffman (1999) and O'Sullivan and O'Dwyer (2015), the focus is on a specific industry which allows for the use of neo-institutional theory.

An example of a case study that did focus on a river system is Ananda and Proctor (2013). They explored nested institutions[1] in Australian watershed management, taking an Institutional Analysis and Development Framework (Kiser and Ostrom, 1982). This framework was described as a function of the "attributes of the decision situation" and the "attributes of the participants" (Ananda and Proctor, 2013, p. 99; citing Kiser and Ostrom, 1982). Ananda and Proctor analyzed water rights as public goods that are divided up based on the competing interests of the actors involved and the relative power of each level of the nested institutions. In the Australian setting, government control is exercised at the federal, state and local level.

Similar to the Canadian setting, the theoretical framework had to address such nested institutions within the context of the institutional field. Water resources are a complicated matrix in Canada which, as in Australia, creates a set of nested institutions. Under the Canadian constitution, the province (BC) owns the water rights. However, the federal (central) government has jurisdiction over the environment.

As a result, the federal government can force compliance to environmental rules and regulations, as well as push for mitigation after environmental damage occurred, but it has

no control over the water resource itself (Healey, 1992). Similarly, the rivers of BC are home to a large wild salmon population, the main one being the Fraser River, which runs from north central BC to the city of Vancouver. These fish are owned by the federal government, so BC owns the water and Canada owns the fish. The salmon fishery has long been a major industry in BC, with powerful political interests. From the inception of hydropower operations in BC, there has been contestation between maintaining the fishery and the development of hydropower (Evenden, 2004). Today, there is also a large tourism based sport fishery, and salmon literally form a part of the identity of BC as an institutional entity. Along with these industry-based interests, a greater environmental awareness among the general public has evolved and the power of environmental movements has risen.

Finally, there is a proverbial 'elephant' in the room, which are the ownership rights of First Nations for everything from the water rights to the salmon. Buhr (2011) provides an excellent overview of the accounting literature focusing on indigenous peoples in Canada (First Nations), the USA (Native Americans), Australia (Aborigines) and New Zealand (Maori). Buhr (2011) describes how much of this literature has dwelled on colonialism and the role accounting has played in the oppression that is the legacy of European colonization (several Canadian examples cited are Neu, 2000 and Neu and Therrien, 2003). The role of the indigenous peoples was that of the victim, which is without a doubt, the role of the Cheslatta in the case of the 1950 Alcan Agreement. The flooding of their lands in 1952 destroyed their community, described by Windsor and McVey (2005, p. 146) as an annihilation of both place and a sense of place. It was not until the 1980s that they began to recover from this devastation. Canadian First Nations have a great deal of power now. This is by virtue of the Constitution Act of 1982. Before this, Canada had no constitution, with its founding document being the British North America Act, originally passed by the Parliament of the UK in 1867. Enshrined into the Constitution Act of 1982 was the right to self-government for Canada's First Nations. This effective sovereignty has led to many land claims and court battles over the rights to natural resources.

Although First Nations is the official and preferred term in Canada for indigenous peoples often referred to as Indians, the legal framework is still governed by the anachronistically named Indian Act, the administrative unit is the Indian Band and to be part of a Band one must have Indian status. In 1950, the key administrator was the federally appointed Indian Agent (invariably a non-Indian), while local administrative power now lies with the elected Band Council. Attempts to change many anachronisms embedded in the Indian Act are well beyond the scope of this paper, are highly contested and form what could be characterized as an institutional field focused on First Nations in a Canadian context. Returning to Buhr (2011, p. 130), the main call was for a "multiple perspectives and a more nuanced accounting history that acknowledges Indigenous peoples as subjects with agency rather than disempowered objects". Thus, a theoretical framework that can provide both a historically contingent understanding of the past, while also treating the actors as 'subjects with agency' is required.

Further, the theoretical framework needs to address all of the actors in the field, their changing roles and relative power in the institutional field. In the following section, such a framework is presented, along with the related research design and data used.

3. Theoretical framework, research design and data

The theoretical framework follows two main themes, the first based on Alon and Dwyer (2016), who used a two-dimensional model in their exploration of the power dynamics relating to the acceptance of International Financial Reporting Standards by the US Securities and Exchange Commission (based on Djelic and Quack, 2003). The two

dimensions were whether an actor was dominant or fringe. Alon and Dwyer (2016, p. 4) described this as a power continuum. In papers using this power continuum approach (i.e. Davis *et al.*, 1994; Djelic and Quack, 2003; Maguire and Hardy, 2009), the actors have been defined as being at either one or the other end of the continuum. Thus, in these cases the result has been a binary model, where an actor was characterized as either dominant or fringe. The terminology of dominant versus fringe (Djelic and Quack, 2003; Alon and Dwyer, 2016) has been used herein to denote whether or not an actor has power and profile in the institutional field in each inter-temporal period. The dominant versus fringe position of the actors determined which logics prevailed in each time period.

However, there are actors that might be dominant at a given time, yet in relative terms, they are less dominant than another actor is. To accommodate this, rather than using the binary approach of previous papers, the actors have been placed on a continuous line between fringe and dominant to denote where they stand. For descriptive purposes, it was necessary to overlay some sort of scale on the continuum. To serve this purpose, a five-point scale of fringe, somewhat fringe, mid-point, somewhat dominant and dominant was used. This established a method to determine the power dynamics at play in each time period. The institutional logics of the actors was then overlaid on this to determine the prevailing logic.

The institutional logics perspective was used because it recognizes that an institutional field is “influenced by multiple and competing logics” (Lounsbury, 2007, p. 289 – citing Friedland and Alford, 1991). Competing and blending institutional logics has been effectively used in several firm-level and industry-level articles (i.e. Orlitsky, 2011; Dahlan and Grosvald, 2017). At any given period in the timeline, institutional logics provided a method of following institutional change across time and in a context of historical contingency. Thornton *et al.* (2012, p. 13) state: “the historical contingencies of institutional logic emergence, re-emergence, and change are relatively unexplored topics [...]” (also reiterated on p. 103).

Thornton *et al.* (2012) defined seven logics as: Family, Community, Religion, State, Market, Profession and Corporation. These were compared against a set of y-axis categories:

Root Metaphor, Source of legitimacy, Sources of authority, Sources of identity, Basis of norms, Basis of Attention, Basis of Strategy, Informal control mechanisms and Economic system. Table I presents a re-production of the inter-institutional ideal types as presented in Thornton *et al.* (2012, p. 73). The logics are laid out as the x-axis, with corresponding y-axis categories, leading to what is effectively the operationalization of the logics. Thornton *et al.* (2012) presented several illustrative examples of institutional logics playing a role in shaping organizations (pp. 109-116) from which two key points can be taken regarding the approach in this analysis. One was that a focus on just a few of the cells in Table I can drive an overall institutional logic. The second was that particular outcomes can be driven by a blending of logics. Thornton *et al.* (2012, p. 111) presented the case of JC Penney, where the so-called “Golden Rule” embedded in religion (Religion logic) was blended with the Corporation logic to manage a large chain of retail stores while gaining customer trust and loyalty[2]. Thus, in the analysis of the data herein, the focus was on the specific cells on the x-y axis that emerged as themes, which were then used to draw conclusions on the institutional logics of the actors. Competing logics emerged as well, sometimes within an institution and sometimes between institutions.

With the dominant versus fringe categorizations and the inter-institutional system presented in Table I, the relative role that each actor played in shaping the outcomes in each time period could be assessed. Using this approach served well to handle the nested institutions in the institutional field. Ananda and Proctor (2013) focused on the attributes of the decision situation and the attributes of the decision-maker in their single period setting

Y Axis Categories	Family 1	Community 2	Religion 3	X Axis: Institutional orders		Profession 6	Corporation 7
				State 4	Market 5		
Root Metaphor 1	Family as firm	Common boundary	Temple as bank	State as redistribution mechanism	Transaction	Profession as relational network	Corporation as hierarchy
Sources of Legitimacy 2	Unconditional loyalty	Unity of will, trust and reciprocity	Importance of faith and sacredness in economy and society	Democratic participation	Share price	Personal expertise	Market position of firm
Sources of Authority 3	Patriarchal domination	Commitment to community values and ideology	Priesthood charisma	Bureaucratic domination	Shareholder activism	Professional association	Board of directors Top Management
Sources of Identity 4	Family reputation	Emotional connection Ego-satisfaction and reputation	Association with deities	Social and economic class	Faceless	Association with quality of craft	Bureaucratic roles
Basis of Norms 5	Membership in household	Group membership	Membership in congregation	Citizenship in nation	Self-interest	Personal reputation	Employment in firm
Basis of Attention 6	Status in household	Personal investment in group	Relation to supernatural	Status of interest group	Status in market	Membership in guild and association	Status in hierarchy
Basis of Strategy 7	Increase family honor	Increase status and honor of members and practices	Increase religious symbolism of natural events	Increase community good	Increase efficient profit	Status in profession	Increase size and diversification of firm
Informal Control Mechanisms 8	Family politics	Visibility of actions	Worship of calling	Backroom politics	Industry analysts	Celebrity professionals	Organization culture
Economic System 9	Family capitalism	Cooperative capitalism	Occidental capitalism	Welfare capitalism	Market capitalism	Personal capitalism	Managerial capitalism

Table I.
Inter-institutional
ideal types
(Thornton *et al.*,
2012, p. 73)

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of water shed management in Australia. Using the framework just discussed, this has been accomplished in a multi-period setting. The dominant versus fringe categories picked up the attributes of the situation and the inter-institutional system picked up the attributes of the decision-maker, in each specific time period. As a final step in establishing the framework for analysis, several time periods were defined, so that the framework could be applied.

The time periods focus on events that changed the power dynamics of the institutional field. The first events were the passing of the BC Industrial Development Act in 1948 and the Alcan Agreement in 1950, which established the terms of the perpetual water license for Alcan. The second period began in 1980 and marked the year when the Canadian Department of Fisheries and Oceans sued Alcan over its inaction on protecting the salmon fishery. The Constitution Act of 1982 was also a major event that marked a change in the power dynamics from period I to period II. It established the right to self-government for First Nations, which gave them much more control over the natural resources on their lands. The third time period began in 2007, when two things occurred. First, the town of Kitimat lost a lawsuit it brought against Alcan, and second, Rio Tinto bought Alcan, which created RTA. Thus, the time periods run from 1948 to 1979, 1980-2006 and from 2007 to 2016. With three time periods defined and the approach to the analysis established, the next step was to apply it to the data. These data included both archival and interview based material.

The archival documentation ranged from the legal agreements on the water rights, court-case related documents centered on these agreements, company documents and government documents. All available legal documents pertaining to the awarding of the water rights were collected. There were also five legal actions taken by actors in the various time periods, with one ongoing at the time of writing. These were included in the data, as well as their resulting in and out of court settlements. Alcan and Rio Tinto Alcan released publicly various documents specifically relating to the Kenney Dam, which were also included in the data. A number of books and articles about the events over the three time periods were tracked down and served to round out the archival data. For example, several documents written by members and affiliates of the Cheslatta were reviewed, which include interview material of key members of the Band (i.e. [Robertson, 2014](#)). Another key source of information was from a book by John Kendrick ([Kendrick, 1987](#)), the person in charge of building the Kenney Dam and then the first General Manager of Alcan in BC. In his book, he reflected on his experiences as well as revealing a lot of information on the other actors involved. These sources provided a significant amount of first and second hand accounts running from 1948 through to 2016. A list of the documents analyzed is presented in [Appendix 1](#).

Although an archival approach provided adequate data to analyze the logics and roles of the actors, interviews from some of the key actors involved were sought. This resulted in three interviews. One was with a key advisor to the Cheslatta; another was with a former member of the Kitimat town council. Both were directly involved in separate lawsuits with Alcan over Alcan's right to sell power into the North American electricity market rather than supporting the local economy. The third was with a fishery expert, involved in many of the negotiations and agreements over the past 30 years pertaining to the fishery (the interviewees will be referred to herein as Cheslatta Advisor, Former member of Kitimat Council and Fishery Expert). The interviews were semi-structured, two conducted by telephone and one via Skype. A set of similar questions was used, although there were differences based on the specific expert interviewed. An example of the list of questions, provided in advance to the interviewees, is presented in [Appendix 2](#). Interviews with the Government of BC and Rio Tinto Alcan were sought, but they proved more difficult to get and ultimately did not occur. Communication with RTA had to be funneled through their

corporate legal counsel and a semi-structured interview was not practicable. The questions in [Appendix 2](#) were also sent to the person running the RTA funded local development project in the area of the dam, after which a scheduled interview was cancelled.

The small number of interviews is a limitation of the study. However, given the respective roles of the interviewees, they bring a greater richness to the archival analysis. Overall, there were adequate archival and interview data to explore the logics of the institutions over the time periods studied. As presented in the opening section, the actors were defined as follows:

- the Government of the Province of British Columbia (BC);
- the Aluminum Company of Canada and Rio Tinto Alcan (Alcan and RTA);
- the town of Kitimat (Kitimat);
- the Cheslatta Carrier First Nation (Cheslatta);
- the Government of Canada (Canada); and
- the Fishery (includes commercial and recreational).

These actors were treated as coding objects, using NVivo as the coding software. All electronic documents and interview transcriptions were uploaded to NVivo for this coding process.

Passages were coded based on the logics as they emerged from the data. All documents were reviewed in their entirety, except for the Rio Tinto annual reports. These were reviewed by using Alcan as a key-word search. The software selected the surrounding text, and these areas of the Rio Tinto annual reports served as a starting point to go through the coding process. The hard copy books were reviewed off-line and relevant passages were entered into the coding process.

The coding approach was somewhat different from the usual qualitative method of letting themes emerge from the data, without an ex ante coding framework. This brought an inherent bias into the design. However, entering into the analysis with pre-conceived ideal-types was deemed by the authors as an acceptable drawback in return for grounding the analysis on the institutional logics perspective. The coding process was not strictly deductive, as it was revisited in several iterations as the research progressed and discussed by the authors. As the coding process took place, the environment was a theme that emerged from the data. It began in the earliest years of the analysis, but as the time periods moved forward, environmental aspects became more and more prominent in the role they played. In [Thornton *et al.* \(2012\)](#), the move to corporate social responsibility in the chemical industry in [Hoffman \(1999\)](#) was characterized as an emergence of an environmentalist logic (Section 2). [Corbett *et al.* \(2015\)](#) provided an analysis of several ‘green’ projects within organizations using an ecosystem logic. An “Environment” logic became apparent as one that would be helpful in describing the evolution of the logics in this setting. [Table II](#) presents the authors’ version of the Environment logic, which has been incorporated into the overall analysis presented herein.

The initial coding was done by one of the authors, and then followed-up by a second author. After this, several iterations took place to discuss and resolve any coding differences between the authors. For the coding process, a passage that implied the Corporation logic for Alcan in 1950 was coded to a specific ‘node’ of Alcan-Corporation-Period I. Once the coding was done, the prevailing logics (or blend of logics) were identified for each of the actors, considered in the context of the outcomes that occurred in each time period, and each of the actors was ranked based on whether their role in these outcomes was fringe or dominant. As previously described, to avoid having to use a binary categorization of either dominant or fringe, the actors were ranked using a continuous grid, overlaid with the five-point scale of

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Y axis categories	Environment 8	Comments and aphorisms
Root Metaphor 1	Strong identification in environment as a common asset	A community is based on its environment; it becomes a lever for social and economic equilibrium, also in a historical perspective
Sources of Legitimacy 2	Environmental impact is integral with accountability	I do and I am accountable, you are too
Sources of Authority 3	Commitment to environmental values through substantive actions	I don't have a car
Sources of Identity 4	Sustainability in any aspect of life, also through symbolic behaviour	I drive a Tesla
Basis of Norms 5	Environment doesn't belong to us, we are users	It doesn't belong to us
Basis of Attention 6	Future generations and the dying planet	Our children will receive a better world
Basis of Strategy 7	Use of environment without consuming it (sustainability)	Commensuration
Informal Control Mechanisms 8	Visibility of actions	A different distribution of the value generated by hydropower: not only economic benefits, but also environmental benefits (water releases as vital to rivers)
Economic System 9	Preserve and increase the economic and the social value of environment	Holistic approach to valuation (beyond a one-dimensional approach – water valued as more than just a source for hydropower)

Table II.
The ideal type using the 'environment' logic

fringe, somewhat fringe, midpoint, somewhat dominant and dominant. In the following section, the results of this analysis are presented.

4. Results

4.1 Period I: 1948-1979

The Nechako River and its upstream waters are in a remote area that forms part of the headwaters of the Fraser River. These waters were cut-off from the Pacific Ocean by the Coast Mountains near what is now the town of Kitimat, British Columbia, and flowed south-east to the Fraser River then on to almost the US border, where the Fraser River enters the sea at the city of Vancouver. [Figure 1](#) presents the location of Kitimat within Canada and [Figure 2](#) presents detail of the Kitimat area including the Nechako reservoir, which was created by the dam that is the focus of this study. Before the building of the dam, there was little value seen in these waters, as they were so remote. However, they are at high elevation relative to sea level and if dammed, the flow could be reversed and a tunnel built through the Coast Mountains to the Pacific Ocean. Abundant hydropower could then be generated at a location near to a deep-sea port. This location is now Kemano, shown in [Figure 2](#), and the transmission lines shown in the figure take the power to the deep-sea port at Kitimat, where the Alcan (now RTA) smelter is located. In the late 1940s, BC was looking for an industry where the key concern was access to cheap power and a deep-sea port. Aluminum was such an industry and the Aluminum Company of Canada (Alcan) had grown into a major producer during WWII. With the advent of the Cold War and the related military spending in the Western World, Alcan was looking for areas to grow its aluminum production capacity and strengthen its market position.



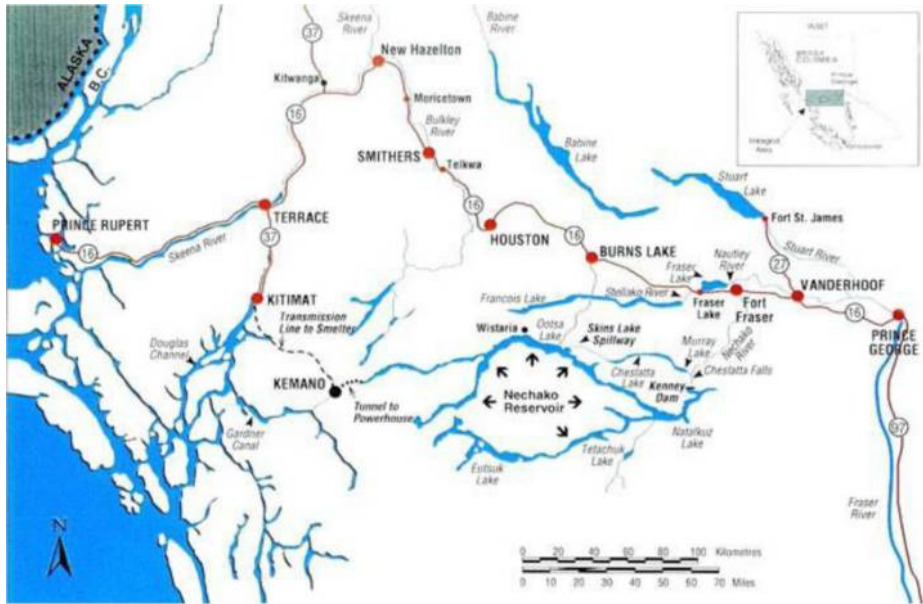
Note: A town founded, designed and built by the Aluminum Company of Canada

Figure 1.
Kitimat, British
Columbia

The main government contact person between Alcan and BC was the minister of lands and forests, E.T. Kenney. BC owned the natural resources, so it was a dominant actor at the beginning of this period. Taking into account historical contingency in the analysis of Period I, the logic that drove BC was clearly State. Public opinion in this period was behind “opening up the wilderness” (Kendrick, 1987; Evenden, 2004). Considering the ideal types of the Thornton *et al.* (2012) inter- institutional system in Table I, democratic participation is the ideal type of the ‘source of legitimacy’ for the State logic. Further, the ‘basis of attention’ is the status of the interest group. Minister Kenney was the representative of the area where the dam was to be built, the closest population center being Terrace (then a town). An example of the coding reflecting both of these categories is: “Terrace was the closest town geographically to Kitimat, and Kenney was looking for benefits for his constituents which would translate into votes at the next election.” (Kendrick, 1987, p. 47). However, the effects of the project went well beyond Terrace. It became the largest construction project in BC since the building of the Canadian Pacific Railway in the late 1800s. The general sentiment behind this State logic is reflected in the preamble to the BC Industrial Development Act in 1949:

Whereas the prosperity of the Province depends on the development of its water power sites and other resources, the expansion of the industry, and the establishment of new centres of population [. .].

The ideal-type informal control mechanism of back room politics (State logic) maps well to the data. Kenney was very close to the top managers at Alcan and it is no coincidence that the dam built by Alcan was named after him. Hereinafter, the main dam will be referred to as the Kenney Dam. At the time, in discussion with Alcan top management regarding getting them to build a dam, Kenney is quoted as saying, “We will facilitate it in every possible way” (Evenden, 2004, p. 157).



Notes: Location of Kenney Dam, Nechako Reservoir, Kemano power station and the Town of Kitimat. The Skins Lake Spillway was built after the main dam to allow for adequate flow to support the Fraser River salmon run. The main Cheslatta village was at what is now Cheslatta Lake. The red line is the BC Hydro power grid connected in 1979, linking Kemano to the Western North American power grid

Source: BC Hydro

Figure 2.
Kitimat and Area

When Alcan was analyzed in Period I, it should be no surprise the prevailing logic that emerged was Corporation. Top management was clearly in full control as per the ideal-type source of authority for the Corporation logic. Kendrick (1987, p. 29) states: *My impression of Alcan in the 1950's was that it was essentially run by three men.* At this time, these three men would have been M. DuBose, Vice-President, R. Powell, President and A. Whitaker, Jr., General Manager. Alcan's move into BC represented a major expansion of the company and the direct involvement of top management led to coding based on the economic system ideal type of managerial capitalism. The move to British Columbia represents a diversification of sorts, as Alcan's smelters were all in Quebec at this time and Kitimat gave them access to a Pacific port. There is also evidence that the managers were concerned with ensuring they had outright water rights and saw hydropower as more than just something to be converted into aluminum.

When Kitimat ultimately (in Period II) took Alcan and BC to court, its main argument was that the water license given Alcan was conditional on its development of industry in the Kitimat area. The judge's ruling against this was based on the Industrial Development Act and the 1950 Alcan Agreement, which reflected the logics of the time. The judge stated in his ruling (Supreme Court of BC, 2007, para. 131):

But it is difficult to reconcile this view with the clear language used by Minister Kenney who was the Minister responsible for the IDA and for negotiating the 1950 Agreement. His 1951 remarks

(see para. 114) are unequivocal and unambiguous: he understood that Alcan wanted “to control the use and sale of its own power”.

As with BC and the State logic, mapping the ideal types of the Corporation logic to the data was relatively straight-forward. Figure 3 presents the layout of the relative power dynamics of the institutional field in Period I. This was a period dominated by the interests of Alcan with its Corporation logic and BC with its State logic. There were few checks and balances on these actors in working together to shape the institutional field.

Along with the Nechako River area as a potential source of hydropower, an area around what is called Chilko Lake was explored. It was here that the only credible contestation over water rights in the early years of Period I was evident. From the very beginning, the (Canadian) Federal Department of Fisheries and Oceans (DFO) raised concerns over the effect a dam on the Nechako would have on the salmon run, but a dam affecting Chilko Lake could potentially wipe out the salmon industry. To avoid this, the industry pulled together as a group and tacitly agreed not to oppose a dam on the Nechako if Alcan agreed to choose that site over Chilko Lake (Evenden, 2004). Alcan effectively used the bigger threat of killing the industry to get the fishery “out of the picture” as a dominant actor in the damming of the Nechako River. BC owned the water rights and that is what it wanted to exploit. The federal government in far off Ottawa owned the fish, which it was working to protect.

This is a case of nested institutions, as discussed in Sections 2 and 3, in the context of Ananda and Proctor (2013). A key observation of Ananda and Proctor (2013) was that cooperation is important between the nested institutions if an appropriate “divvying up” of the water resource is to occur. However, with BC lined up with the aluminum industry and the federal government’s DFO lined up with the salmon industry, cooperation between the nested institutions was not the case regarding the Kenney Dam. At this stage, the salmon

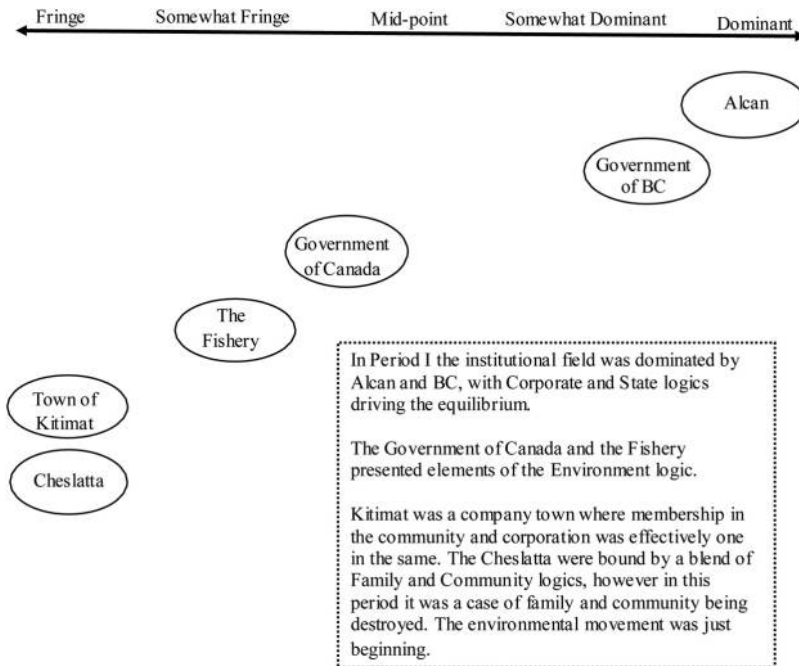


Figure 3. Institutional field in Period I

industry was at bay with the threat of a dam being located in a more detrimental place, the town of Kitimat had just been founded, First Nations were considered wards of the state and overall public opinion was behind “opening up the wilderness”. The only real player was the federal government’s DFO in its worry over the annual salmon run. However, in the post-war era, the concerns of a few federal scientists and bureaucrats would not hold back a major industrial development.

According to the Fishery Expert interviewee:

[...] the province could make whatever agreement they wanted with companies or individuals about the use of water and the fact that fish need water was irrelevant. (Fishery Expert).

The Kenney Dam was built of rocks, clay and dirt and was simply meant to hold back the waters of the river, no plan for water release had been made as the dam was being built. The DFO wanted water released to maintain water flows during the summer salmon runs and pushed for a cold-water release at the Kenney Dam, which could also keep the river water temperature lower. Alcan was not interested in spending money on this. From 1950 through the 1970s, the federal government continued to push for water release and to study the effect of shutting off the Nechako River. Whether concern over the fishery was consciously environmentalist on the part of the DFO was difficult to tell. However, a significant portion of the data where the federal government enters into the analysis, was coded with the Environment logic (for example ideal Types 3 and 9 in [Table II](#)). In any case, a water release mechanism needed to be built, both from the fishery aspect and also to be able to release excess water.

Alcan was looking at three options, the cheapest being the building of another dam and another reservoir. This is what are the Skins Lake Spillway and Cheslatta Lake in [Figure 2](#). The fact that this was the only option that also happened to flood out the main Cheslatta village was considered irrelevant. The story of the Cheslatta will be addressed shortly, but first the Fishery and the Canadian Government are addressed as actors. One of the main sources of data on the fishery in this era is [Evdenden \(2004\)](#), a book titled *Fish versus Power*. The entry of Alcan in BC marks a loss for the fishing industry, but it marks the beginning of what [Evdenden \(2004, p. 157\)](#) calls “the rise of fisheries defense”. Two key passages that come out of our coding make this evident:

With wide public support reflected in the press and arguments from opposition parties focusing on means, not ends, the Coalition government moved ahead without significant protest – except, of course, from fisheries interests. ([Evdenden, 2004, p. 155](#))

Fisheries interests saw the IDA as a defeat, sparking a call for renewed vigilance. [...] He proceeded to get in touch with labor and sports groups and received assurances of editorial support from a number of newspapers. In under a year, the industry had gone from apathy to mobilization. ([Evdenden, 2004, p. 163](#))

The opposition being referred to was the opposition parties in BC, the IDA is the Industrial Development Act and the ‘he’ being referred to was Ed Paulson, a representative of the salmon canners in BC. Paulson was also working with George Clark, a federal fishery official. Coding based on the Fishery, and the industry as a viable source of power at the time also emerges from [Kendrick \(1987\)](#). Alcan’s strategy of choosing the Nechako as an easier area to get water rights is reflected in the following: “The Chilko River was less interesting because its development would lead to a head on collision with fisheries interests” ([Kendrick, 1987, p. 33](#)).

From the aspect of the federal government, the ideal type of bureaucratic domination of the State logic is mapped to the role of the DFO on a number of occasions, and from the aspect of the fishery industry, they are working to maintain their market position as per the

Corporation logic. Just as BC worked closely with Alcan in relation to the water rights that it had control over, the DFO worked with the fishery industry to protect the interests of those related to the resource it had power over. From coding the logics to the data in Period I, the Government of Canada, via the DFO, was working under a blend of State and Environment logic, while the fishery was working under a blend of Corporation and Environment logic. This Environment logic was latent at the beginning of Period I, but as the years passed, it moved more into the open. Kendrick (1987, p. 66) summed things up very nicely in a comment regarding the very brief public hearings held in 1950: “There was no outcry from environmentalists. People interested in the protection of Nature had not yet invented a name for themselves”.

Moving on to Kitimat as an actor, based on the sources and coding, two key logics enter here, Community and Corporation. In those days, if you were part of the community you were also part of the corporation (or a family member of someone who was part of the corporation, or part of the service industry around the corporation). For example, in the Thornton *et al.* (2012) ideal types in Table I, the intersection between Y-axis category 5, basis of norms and the community and corporate logics are group membership and employment in firm. These were effectively one in the same during this era. Alcan was the fabric of the community, which is exemplified by the following quote from the interview of the former member of Kitimat Council:

[. . .] up until I would say the 80s, basically Alcan was affectionately referred to as “Uncle Al” in the community, because Alcan was always there to help out do this, do that, you know fix up whatever. (Former member of Kitimat Council).

With the dominance of Alcan, Kitimat was a fringe actor in Period I.

The last actor to address is the Cheslatta who, before the building of the Kenney Dam, were a highly functional community. They had managed to avoid many of the problems that befell First Nations communities in the first half of the twentieth century (Robertson, 2014). According to the World Bank (Hirji and Davis, 2009, p. x), “Dams have often been developed without adequate consideration for either the environment or the people downstream of the dam who rely on local ecosystem-based services”. The Cheslatta relied on the local ecosystem for all aspects of their lives. Once Alcan decided to build the Skins Lake Spillway, the Cheslatta were forced from their land with just a few days’ notice. Alcan came into the village shortly after and burned it to the ground. Windsor and McVey (2005) present a description of the annihilation of a sense of place that the eviction of the Cheslatta accomplished. In a short time, an Indian Band had been changed from highly functional, held together by strong Family and Community logics, to a group of people struggling to survive and dependent on the state for hand-outs (Robertson, 2014).

The Cheslatta were offered one-fifth the financial compensation the local non-First Nation settlers were given. Their moving costs were supposed to be paid for by Alcan, but never were. A major concern of the Cheslatta was that their graveyard would be flooded every year with the release of water over the spillway. Alcan had promised to move the graves to higher ground. Of the hundreds of graves, Alcan only moved five graves. In 2016, annual flooding of the graveyards remained a concern for the Cheslatta. The mapping to the institutional logics of family and community and the related ideal types can be seen in the following passage from the Cheslatta story as told by their archivist (Robertson, 2014, p. 7):

The Cheslatta people were now living on scattered parcels of land. One would have to travel 173 miles on a round trip tour to visit all the new parcels. The Cheslatta Carrier Nation, once a close knit, well established society, now were scattered in all directions. A sense of community had disappeared.

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There were other First Nations affected by the Kenney Dam. The Saik'uz and Stellat'en First Nations are downstream of the dam. The Haisla are a coastal tribe that live in the area of Kitimat and Kemano. All saw their lives negatively affected. For example, the Haisla relied on a small oily fish called the eulachon that had its run disrupted by the Kemano power station.

Cutting off a major food source typically begins a downward spiral for an indigenous population. All of the First Nations rose to greater power in Periods II and III, under slightly altered logics.

First Nations other than the Cheslatta were not addressed as specific actors. However, the Cheslatta were often part of broader First Nations initiatives.

Figure 3 presents the Institutional Field in Period I, with the actors laid out on a grid from being a fringe player to being a dominant player. Alcan is dominant, with BC slightly less so, once it signs the 1950 Alcan Agreement. Alcan now had the right to build as much hydro-capacity as it could until 1999, after which it was to have a perpetual water-license. Alcan was locked-in as a dominant player. Changing the agreement would be difficult and potentially expensive if the State logic that brought BC to sign the 1950 Alcan Agreement changed in future periods.

4.2 Period II: 1980-2007, the inter-institutional legal wars

This period was characterized by the inter-institutional legal wars as laid out in Figure 4.

Legal action began in the early 1980s with the DFO getting a legal order that Alcan release more water to maintain water levels and temperatures during the August salmon run. Alcan simply refused to comply. DFO eventually took Alcan to court and in 1987 an out of court settlement was reached. Alcan, BC and Canada signed an agreement, the "1987 Settlement Agreement", which required Alcan to maintain water flows that meet specifications for migratory fish. A major part of the settlement was a cold-water release at the site of the Kenney dam. Alcan, now RTA, has yet to build the cold-water release facility. Contestation over this release facility continued into Period III.

It was still hard to determine if the Government of Canada could be seen as espousing an Environment logic. What emerged from the archival documents was that there was a group

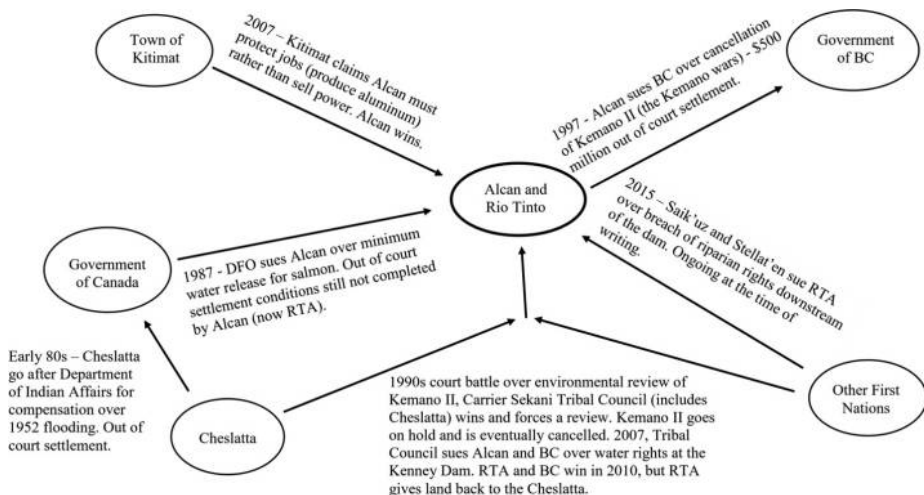


Figure 4.
Inter institutional
(legal) wars

of fishery scientists with the DFO interested in protecting the fishery and they were willing to fight for this within the bureaucratic system of the nested levels of the State. The industrial fishery was a stronger lobby and the First Nations also began to try and get their rights back for the fishery. There was, and is, lots of economic value in a healthy fishery. A report on the economic value of salmon, commissioned by the governments of Canada and BC recognized this, as well as the intangible effect of a healthy fishery. The analysis “[. . .] takes into account the intangible consumer satisfaction from fishing activity” ([The AFA Consulting Group, 1996](#), preface). The report also notes, “The Government of Canada through the Department of Fisheries and Oceans (DFO) has a stewardship role to manage the salmon for present and future generations of Canadians” ([The AFA Consulting Group, 1996](#), p. 1).

For the Cheslatta in Period II, the coding continues to point to Family and Community logics. However, it is a case of trying to get these logics back, as they had been destroyed over the previous decades. In Period III, this will be touched on more, but the economic system ideal type of cooperative capitalism began to emerge in this period. Sometimes First Nations lined up with the environmentalists (Environment logic), but they also remained open to development and partnerships with natural resource companies.

A major event for First Nations in Canada occurred in 1982, when Canada adopted a new constitution enshrining many rights of First Nations, such as the right to self-government. In the early 1980s, many First Nations began to try to address previous wrongs. In 1984, the Cheslatta began to pursue the DIA for the injustices that had occurred in 1952. It culminated with a legal challenge by the Cheslatta against the DIA. It ended in 1992 with a settlement of \$7.05mn, which was very low given what was lost^[3]. The method of compensation for the lost land of 1952 is described as follows by a Cheslatta document ([Robertson, 2014](#), p. 11), “The settlement was quantified by calculating 1952 land values, and what the Cheslatta people were paid in relation to what the Ootsa Lake settlers received”. The offer from the DIA was a “take it or leave it” offer. The Cheslatta took this deal, even though the settlement was based on land value, with the destruction of family and community not taken into account. The Cheslatta were just emerging from the fringe, and in accepting this deal, they did not move to as strong a position as perhaps they could have at this time.

It was in this time that the creative methods required by fringe players to become more powerful ([Alon and Dwyer, 2016](#)) became evident. In 1990, the Cheslatta gained national press attention by engaging in protest and they were a major feature on a national current affairs program. As stated by our Cheslatta Advisor interviewee:

We wanted to get attention because that was basically our last bullet in our gun against Kemano II. So we proceeded in getting huge government support, both in terms of resources to carry out the environmental restoration and publicity around it. (Cheslatta Advisor)

The Cheslatta had learned the power of public opinion, which in and of itself indicates a change in logic of the general public. Although the Cheslatta did not get a large settlement, they were no longer fringe players in the institutional field. As the Cheslatta (and the other First Nations) moved from the fringe, they used protest and the courts to gain power.

In Period II, BC shifted through several political parties, going from right to center-left to center-right. In the early 1990s, the center-left was in power and the overall environmental movement was gaining strength. An Environment logic was beginning to play a role in the institutional field, and actors would line up together based on that logic. The major item of the period over which these parties did line up together was the Kemano II project. The 1950 Alcan Agreement gave Alcan a water license for all the water it could dam up, until 1999. As a direct result, near the end of 1987, BC and Alcan signed an agreement known as Kemano II

(Kemano was the location of the generating stations and tunnel as shown in [Figure 3](#)). Kemano II was the expansion of the power generating capacity that Alcan wanted to complete before 1999 to increase the size of its permanent water license.

As part of the 1987 Kemano II agreement, the governments of BC and Canada, for the first time on such a large project, waived the requirement for an environmental assessment review process. The Carrier Sekani tribal council (including the Cheslatta) and other allied groups took the government to court over this and won. With this ruling in the early 1990s, a center-left government and an environment logic playing a larger role, BC cancelled Kemano II. However, Alcan sued BC over this and in 1997, a \$500mn out of court settlement was made with Alcan. In the final decade of the 50-year timeline, Alcan had to build hydropower capacity, a major battle took place over trying to alter the terms of the 1950 Alcan Agreement. Clearly, the institutional field and its related logics had changed.

For the town of Kitimat, Period II marked the shift of Alcan from being Uncle Al, to a Market logic matching the 'faceless' source of identity ideal-type. Kitimat took Alcan to court in 2007 claiming that the 1950 Alcan Agreement dictated that it must use its hydropower to create jobs at the aluminum smelter rather than selling it to the North American power grid. In 1979, the Kemano power station was connected to the BC power grid (as shown in [Figure 2](#)). At this point, Alcan could sell power to BC Hydro (the BC owned power utility). Alcan now had a commodity, hydropower, which it could sell on the market, or effectively, further process into aluminum. In 2001, Alcan announced an agreement to sell Kemano power to the USA through Powerex, a subsidiary of BC Hydro. At the same time, Alcan announced plans for a production cut of about 50 per cent at the Kitimat smelter. Alcan ultimately shutdown approximately 40 per cent of its production in June of 2001.

Kitimat chose to take BC and Alcan to court over whether Alcan had the right to sell power while it was cutting jobs at the Kitimat smelter. The culmination of Period II and the beginning of Period III is marked by the 2007 BC Supreme Court ruling on the lawsuit. The Kitimat position on the lawsuit was described in the ruling as follows:

The petitioners say that Alcan's decision to restrict its production at the smelter while at the same time selling hydropower into a frothy market in more recent years has reduced employment at the smelter and caused associated economic suffering. Kitimat says that this was never the bargain made in 1950. ([Supreme Court of British Columbia, 2007](#)).

The judge decided that the 1949 Industrial Development Act and the 1950 Alcan Agreement gave Alcan the right to sell power to whomever it wanted, it was not linked to creating employment in the local economy. The judge in the ruling stated:

In my view, the foregoing clauses and the preamble in the 1950 Agreement reveal a general and consistent intention on the part of the parties to avoid restricting Alcan as argued by the petitioners. The objective of the 1950 Agreement was to encourage Alcan's investment, while leaving Alcan free to sell and use the property it built and generated, including Kemano power, as it saw fit. ([Supreme Court of BC, 2007, p. 32](#))

Although Alcan had not been allowed to complete Kemano II, it had a Supreme Court ruling that its water rights were untouchable. Alcan's exit from the Community logic was made clear in a company document of the time "A future based on facts"; an advertisement series Alcan produced to try and explain themselves to the general public, particularly in Kitimat. In it, Alcan states as follows, "We are committed to this community within the context of what it takes to operate a successful aluminum business in today's world" ([Alcan, 2005, p. 2](#)). This was a complete breakaway from any sort of Community logic; basically, Alcan was saying we do not care at all about the community and care about pleasing the international markets. It runs based on the Market logic and was soon to be taken over by mega-mining

company, Rio Tinto. It was the end of the era of Uncle Al. Kitimat tried to become more dominant by taking on Alcan, but with the loss in court, goes back to the fringe.

At the close of Period II, various actors and their related logics had forced a major change in the institutional field by getting Kemano II cancelled. However, Alcan was significantly compensated and emerged from the 2007 court ruling as a clear owner of a perpetual water license. So Alcan was still the most dominant actor. The real counter-acting strength was then only with the Cheslatta (and other First Nations) from both a legal and a social perspective.

Alcan's rights were set with respect to the 'Crown' (i.e. the governments of BC and Canada), but the Crown did not speak for the First Nations. Figure 5 presents the institutional field at the end of Period II based on the analysis just presented.

4.3 Period III: 2007-2016

In 2007, Rio Tinto purchased Alcan, and RTA was formed as a wholly owned subsidiary of Rio Tinto. Rio Tinto is the second largest mining company in the World (by market capitalization) and it faces a lot of pressure from activists[4]. It is a "World-class" mining company with lots of experience in stakeholder engagement and trying to gain "social license". Thus, by Rio Tinto taking it over, Alcan became more visible as an actor on the World stage and some elements of an Environment logic emerge in the coding. It is hard to

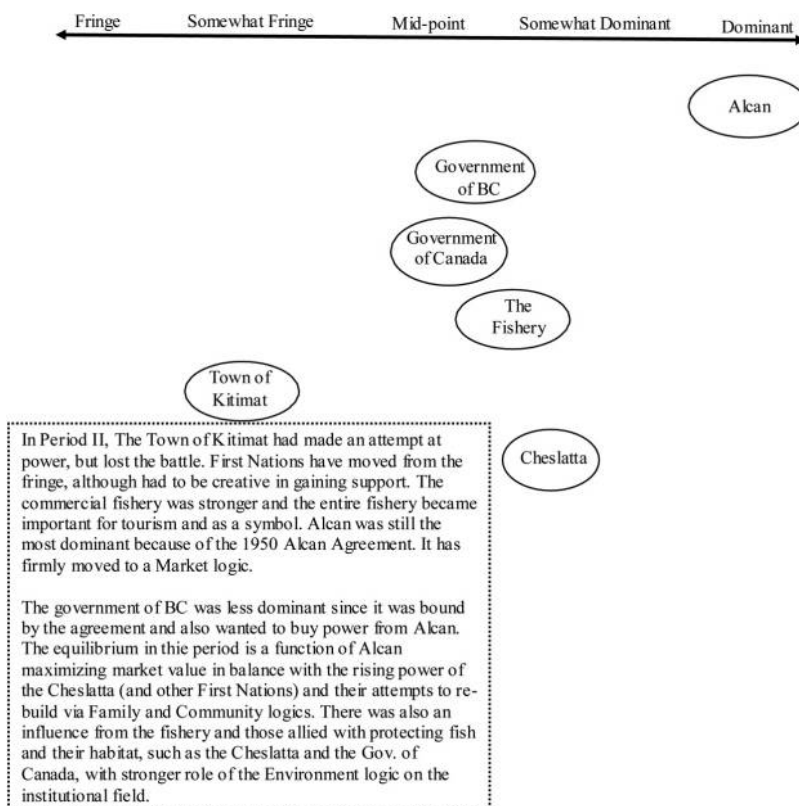


Figure 5.
Institutional field in
Period II

tell if a true Environment logic grew endogenously within Rio Tinto, or if they were simply doing what they must to function as a legitimate mining company. The Fishery Expert interviewed captures a sense of this:

I think that the people of Kitimat have been in a sense pawns in all of this game. Alcan and Rio Tinto Alcan are corporations who want to maximize benefits for their shareholders. And so they will, you know, take account of the social and environmental issues to the extent that they have to, but they're not philanthropic organizations, and they want to turn a good profit regardless. (Fishery Expert)

Regardless of the motives underlying what looks like an Environment logic, RTA was forced to deal with the logic as part of the institutional field. RTA also had to deal with the more powerful Cheslatta (and other First Nations), regardless of what the letter of the law might say. Even under a center-right government in BC in 2014, the following quote from our interview of the advisor to the Cheslatta characterizes the new status of the First Nations:

And in March of 2014 we sat down together for the first time just as an initial meeting, and BC told Alcan (RTA) flat out, you will work with Cheslatta or you're going to be in trouble. Alcan doesn't have a whole lot of friends in Victoria (the capital City of BC). (Cheslatta Advisor)

RTA's dominant position no longer came from a backroom position with the BC Government, its power came from the 1950 Alcan Agreement that constrains the institutional field in perpetuity.

With the purchase of Alcan, there is actually a balance sheet amount for water rights on Rio Tinto's books. In all of their annual reports since the purchase of Alcan, they report (in a small footnote to a table) the following:

The Group benefits from certain intangible assets acquired with Alcan including power supply contracts, customer contracts and water rights. The water rights are expected to contribute to the efficiency and cost effectiveness of operations for the foreseeable future: accordingly, these rights are considered to have indefinite lives and are not subject to amortisation. These water rights constitute the majority of the amounts in the column of the above table entitled 'Contract based intangible assets'. (Rio Tinto Annual Report 2009, p. 162)

Further, in their 2008 annual report, they stated the following: *As required under International Financial Reporting Standards (IFRS), the tangible and intangible assets of the acquired business have been uplifted to fair value* (Rio Tinto Annual Report 2008, p. 92). In the 2009 Rio Tinto Annual Report, "Contract Based Water Rights" were presented with an unamortized cost base of \$5.53bn. Given the production capacity at the Kenney Dam in relation to its other hydropower facilities, a conservative estimate of the book-value of the BC water rights in 2008 is around \$1.37bn. Although no dollar value has been placed on the Environment logic aspect of hydropower, it has emerged as a source of clean energy in period III. A clear mapping to the Market and Environment logics from Rio Tinto is as follows: "Unrivaled hydropower position, which delivers significant cost and other advantages in an energy intensive industry and today's carbon constrained world." (Rio Tinto 2014, Annual Report, p. 2). As of 2016, Rio Tinto had written-down a huge portion of the purchase price of Alcan. However, there had been no write-down of its water rights, and as of 2016, they were arguably the one thing for which Rio Tinto did not over-pay in its takeover of Alcan.

The final remaining institutional contestation was the battle over the cold-water release facility (CWRP) at the Kenney Dam. The Grand Canyon of the Nechako River is just below the Kenney Dam. It has been dry since 1950 (as the water currently flows via the Skins Lake Spillway). The Cheslatta (and other First Nations) want to see it rehabilitated with a CWRP. They also want a piece of the action on power generation through a CWRP. The logic of the

Cheslatta is evident in a report of the [Nechako Environmental Enhancement Fund Management Committee \(2012\)](#) from September (p. 13):

The Cheslatta Carrier Nation (CCN) outlined a proposed project (May 31, 2012 Cheslatta Carrier Nation Nechako River Legacy Project), which described how the building of a facility at Kenney Dam would stop the flooding of Cheslatta graves, stimulate environmental restoration of the upper Nechako watershed and begin a revitalization process for the Cheslatta people. Together with their industry partner Surespan, the CCN propose to design, permit, construct and operate a Kenney Dam Release Facility which would include a hydro-electric generating station interconnected to the BC Hydro grid. It was further proposed that revenue from the sale of electricity would not only help fund the construction costs of the facility but also assist in establishing a legacy fund to create additional environmental, economic and social benefits.

This is a clear example of the cooperative capitalism ideal type in the Community logic, while also having elements of the Environment logic mapped to it (i.e. Environment logic economic system from [Table II](#) – Preserve and increase the economic and the social value of environment).

[Figure 6](#) presents the Period III institutional field. The town of Kitimat had moved back to the fringe. Population growth was a key reason for the 1950 Alcan Agreement and Kitimat peaked at about 14,000 people, but in Period III was only about 5,000. The institutional field is balanced between the rights of RTA and the legal and institutional power of the Cheslatta (and other First Nations). RTA was also driven from within and needs to address legitimacy concerns of a large mining company (Environment logic), but it ultimately must answer to the markets (Market logic). The government of BC was still at the mid-point in the power structure since it had little power to revoke the perpetual water license. BC still saw hydropower as a source of cheap energy, but for the grid (State logic) and for export (Market logic) as well as being clean energy (Environment logic). Although it was likely that BC would like the water rights back, RTA would seek enormous compensation. The fishery rose in importance in hand with an Environment logic, although there was even more value in the tourism/sport fishery along with a continuing commercial fishery.

5. Concluding remarks

This article presents an analysis of the inter-temporal institutional field around water rights in northern British Columbia, Canada. The dominant and fringe actors in each period were identified and analyzed in the context of the institutional logics perspective of [Thornton et al. \(2012\)](#). The rise of the Cheslatta (and other First Nations) from a position on the fringe is of particular note, as they learned to use the power of publicity and the courts to help them do this. The dominant organization throughout is Alcan (and RTA), although there is some change within this organization with some evidence of an Environment logic. [Thornton et al. \(2012, p. 1\)](#) state, “The concept of institutional logics is intuitively attractive, but arguably difficult to define and even harder to apply in an analytically useful manner”. This adequately describes the overall situation of this article. In this exploration of the water rights related to the Kenney Dam, it is intuitively attractive to think of the institutional field as one driven by institutional logics. In the end, the authors found using the institutional ideal types ([Tables 1](#) and [2](#)) useful in understanding the dynamics of the institutional field. Including an Environment logic in the analysis helped in framing things. In the inter-temporal setting, the overall approach made clear the constraints that the logics of dominant actors from a previous period can impose on future field equilibria.

There are significant limitations to this study. Only three interviews were conducted and used in the analysis, with key actors such as Alcan and RTA, the BC Government and the Canadian Government reflected only in archival documents. This is also a case study where

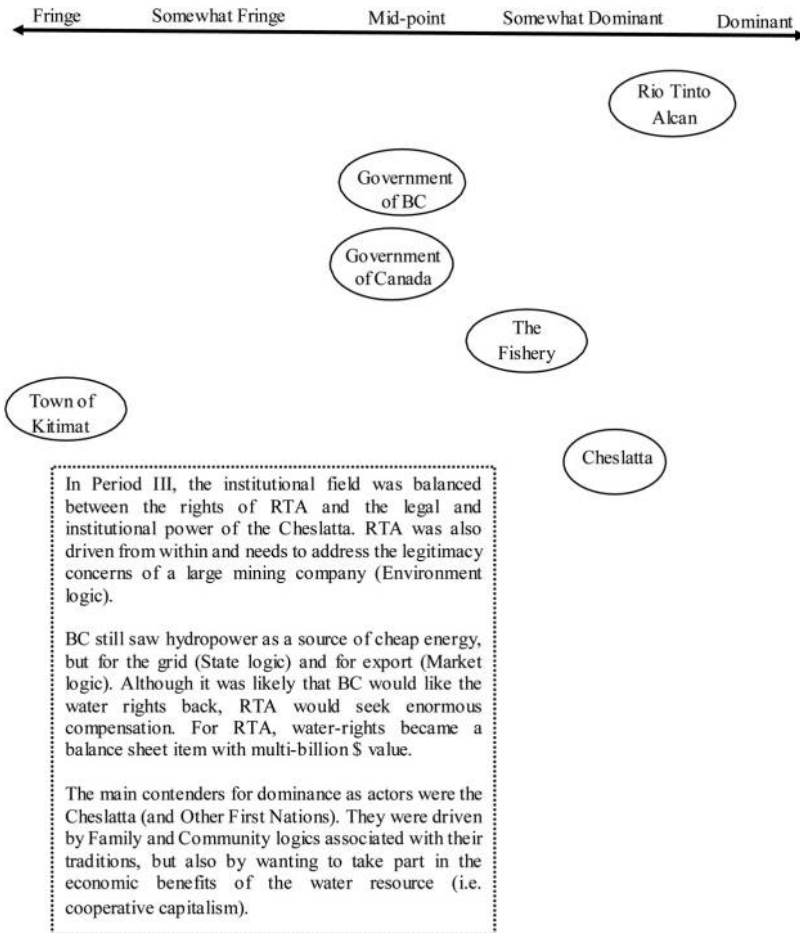


Figure 6.
Institutional field in
Period III

water rights were privatized in perpetuity. In other cases, the privatization may only be for a period of time (i.e. 50 years), after which a new negotiation can take place, or the Government can be the owner of the project. However, in all cases, building a dam has major long-term effects on local populations, fisheries and the environment.

As touched on in the opening of this article, BC wanted to use water rights as a way to get Alcan to start an aluminum industry in British Columbia in 1950. Alcan was clearly in mind when BC passed the Industrial Development Act in 1948, stating it wanted a deal with “any person proposing to establish an aluminum plant respecting the use of water to generate hydropower” (Industrial Development Act of British Columbia, p. 1). It seems evident in Period I that what BC wanted was an aluminum industry to create jobs and population growth. It ended up in Period III with a town of 5,000 people. For this, BC gave up a source of green power and other key benefits such as a healthy and economically strong fishery for commercial and sport fishers. It likely did not anticipate that the original agreement allows RTA to close its aluminum industry in British Columbia and just sell

hydropower if it so wishes. Unfortunately, when agreements are made that give up a public good in perpetuity, changing the agreement can be extremely difficult, if not practically impossible.

There is continued exploitation of hydro-resources for growth and public-private partnerships play leading roles in major infrastructure projects. This article sheds light on the long-term implications of agreements that create future constraints on the institutional field around public goods, such as water rights. It also serves to inform practice in the area of assessing natural resource projects. The decision process should be one that explicitly contemplates possible constraints placed on the future institutional field.

Finally, in Section 2, Buhr (2011) was discussed and how it notes that the accounting and accountability literature on indigenous peoples typically placed them in the role of the victim.

Buhr's call was to move beyond this, and to place them in the role of a "subject with agency" (p. 130). Although this paper is not strictly one on indigenous peoples, it is a step towards answering this call. The Cheslatta began in the typical role of the victim, which has been documented before (i.e. Windsor and McVey, 2005). However, in the end they became one of the most powerful players in the institutional field. In 2016, the Cheslatta, and other First Nations affected by the Kenney Dam, present the only real threat to RTA's perpetual water rights in northern British Columbia.

Notes

1. Nested institutions are the case when there are various levels of government (i.e. Federal, Provincial, Local and First Nations) with constitutional rights that can affect a specific institutional field. In this case study, water rights form the institutional field; in other cases, it might be health care, education, policing, etc.
2. This "Golden Rule" exists in most major religions and implies that a person treats other people the way they would like to be treated.
3. An interesting aspect of this settlement is that it was paid for by the Canadian Government. Thus, compensation for land needed for a reservoir because of BC giving water rights to a private company was paid for by the people of Canada. This is a result of the nested institutions, where the federal government is responsible for First Nations and if their rights have been violated, it is the federal government that must pay.
4. Source: Mining.com, www.mining.com/top-50-biggest-mining-companies/ (accessed 5 April 2018).

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Further reading

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Appendix 1. List of documents and interviews interviews

Interviews

- Advisor to the Cheslatta Carrier First Nation, affiliated with the Cheslatta since the 1970s and currently key liaison between the Cheslatta and BC, RTA and Canadian Government.
- Former member of Kitimat Town Council, directly involved in Kitimat lawsuit against Alcan to try and force Alcan to maintain production (and jobs) at the Kitimat aluminum smelter rather than cut back on production and sell power to the western North American power grid.
- Fishery Expert, involved in many of the negotiations and agreements over the past 30 years pertaining to the fishery and the Kenney Dam.

Documents

- (1) [Province of British Columbia \(1950\)](#). Agreement between the Government of British Columbia and Aluminum Company of Canada Limited Dated December 29, 1950.
- (2) Settlement Agreement Between Alcan Aluminum Limited, Her Majesty the Queen in Right of Canada, represented by The Minister of Fisheries and Oceans and Her Majesty the Queen in Right of Canada, represented by The Minister of Energy, Mines and Petroleum Resources, August 28, 1987
- (3) Agreement between Her Majesty the Queen in Right of Canada, represented by The Minister of Education, Skills and Training and Alcan Aluminum Company, August 5, 1997 (1997 Agreement)
- (4) 1997 Agreement Schedule 4: "Establishment and Administration of The Nechako Environmental Enhancement Fund (NEEF)"
- (5) Supreme court ruling on 2007 EPA challenge Rio Tinto Alcan Inc. and British Columbia Hydro and Power Authority Appellants versus Carrier Sekani Tribal Council Respondent and 19 Intervenors, May 21, 2010
- (6) Supreme Court of British Columbia Ruling: District of Kitimat and Richard W. Wozney versus Minister of Energy and Mines, The Attorney General of British Columbia and Alcan Inc. March 2007.

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- (7) Court of Appeal for British Columbia. Saik'uz First Nation and Stelat'en First Nation v. Rio Tinto Alcan Inc. April 2015
 - (8) British Columbia, Amendment of the 1950 Agreement, July 19, 2012
 - (9) British Columbia, Industrial Development Act, 1949.
 - (10) BC Hydro/Alcan 2007 Electricity Purchase Agreement – Alcan Report in support of BC Hydro's Filing under Section 71 of the Utilities Commission Act, September 21, 2007
 - (11) The ARA Consulting Group. 1996. *The economic value of salmon*.
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 - Includes excerpts of interviews with Abel Peters from 1981-1984. Abel Peters was around when the Cheslatta were kicked off of the land, acting as translator several times between the Indian Agent and the Cheslatta in 1952 and became Chief and Counselor.
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 - (18) Alcan Primary Metal – British Columbia: “Future must be built on facts” – Advertisement Series, Vol. 1, September 2005
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 - (23) Rio Tinto Group 2009 Annual Report
 - (24) [Rio Tinto Group, 2014](#) Annual Report
 - (25) Bull, Houser and Tupper LLP; Legal Counsel to Alcan Aluminum Company Ltd. 2007. Alcan Report in support of BC Hydro's Filing under Section 71 of the Utilities Commission Act, submission to BC Utilities Commission September 21, 2007.
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Books

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2. Kendrick, J. 1987. *People of the snow: The story of Kitimat*. NC Press Limited. Toronto.

Website

- (1) Nechako Environmental Enhancement Fund Website 2017 – About NEEF, Available at: www.neef.ca/about/about-2

Appendix 2. Sample list of questions for semi-structured interviews

I would like to follow a rough outline of the questions by looking at historical events affecting the people of Kitimat, recent events affecting the people of Kitimat, the changing role of hydropower in BC, the changing role of First Nations and finally the role of the fishery in the managing of the Kenney dam.

- (1) When and how did the sale of Hydro by Alcan become a concern for the local population of Kitimat?
- (2) What was the position of the Province on this when it first began?
- (3) Given that the town of Kitimat was founded as a result of the Kenney Dam and Alcan coming into BC, what are your feelings on the relationship between Alcan and the local non-first nation community?
- (4) What was the Town of Kitimat's position on the cancelling of Kemano II?
- (5) What are your feelings on the overall economic benefits of the Kenney Dam?
- (6) In light of the fact that Rio Tinto has now gone through with its modernization project, what are your thoughts on the 1997 court challenge on the sale of Kemano Power.
- (7) What was the role of environmental issues at the time the Kenney dam was proposed and built?
- (8) Who were the first players in pushing for mitigation of the damage done by the Kenney dam?
- (9) How would you characterize Alcan's approach to dealing with:
 - The push for mitigation of the damage done by the Kenney dam
 - The local First Nations
- (10) Has there been any change in approach from Alcan's side over the years? Since takeover by Rio Tinto?
- (11) What was the immediate impact of the Kenney dam on the local First Nations (upstream and downstream)?
- (12) When did the First Nations become 'visible' players?
 - Please describe how you think the role of first nations evolved over time in relation to the dam?
- (13) What do you see as the role of hydro power in the British Columbia and North American energy market? Does the Kenney dam fit into that role?
- (14) Did environmental movements play any role in the overall story of the Kenney Dam? How much of a role do they play today?
- (15) Do you see the Kenney dam as something that has contributed to sustainability in the general sense of the word?
- (16) Do you think that in today's setting that the dam would be built?
- (17) Does the salmon fishery play any role in your local community and did Kitimat play a role in the 1987 Fishery Agreement?

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