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Homarus Corporatus

**Investigating the state-firm-resource nexus in the
Canadian offshore lobster fishery**

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Abstract:

Lobster production in Nova Scotia has been expanding for three decades, and a single firm, the vertically integrated, Canadian-based seafood company Clearwater Seafoods Inc., has gained exclusive control over the offshore lobster fishery. Drawing on a Marxian theoretical framework combined with insights from critical resource geography, this thesis aims at placing the production of offshore lobster in Nova Scotia, Canada within the broader context of the capitalist relations that shape and drive it. The thesis achieves this by unveiling the historical-geographical development of the offshore lobster fishery, in particular by way of investigating the state-firm-resource nexus within this space. Using a combination of document analysis and interviews the work first examines the role of the state in creating and crafting the institutional framework of the offshore, a framework which has facilitated the concentration of control of licenses within the hands of a single company. The thesis then shifts to analyzing the various business strategies deployed by the firm Clearwater Seafoods Inc. in turning the lobster of the offshore into a productive commodity for its capital accumulation. In presenting a qualitative historical analysis of the concentration of control within a fishery, this work contributes to the robust, but small body of literature that examines capture fisheries from the lens of Marxian political economy.

Key words: Marxian political economy, critical resource geography, capture fisheries.

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List of Acronyms and Abbreviations:

Clearwater	Clearwater Seafoods Inc.
DFO	Department of Fisheries and Oceans Canada
EEZ	Exclusive Economic Zone
ITQ	Individual Transferable Quotas
LFA	Lobster Fishing Area
UNCLOS	United Nations Convention on the Law of the Sea

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Chapter 1. Introduction

Lobster production and consumption have both dramatically increased over the past four decades and growth is expected to intensify in coming years (FAO, 2020; Research and Markets, 2019). Indeed, while global lobster production stood at roughly 312,000 tons in 2019 (FAO, 2020), one market research group anticipated production would surpass 400,000 tons by 2025 (Research and Markets, 2019). Considered a “luxury product” (FAO, 2020, p.2), lobster ranks amongst the highest priced seafoods on the global market. Canada is “the single largest net exporter of lobster” in the world (Department of Fisheries and Oceans Canada (DFO), 2018, p.2), and accounts for roughly one third of global production.

Fishing of American lobster (*Homarus Americanus*), the type of lobster found in Canadian waters, takes place on the Atlantic coast of the country, within five provinces. The island province of Nova Scotia alone contributes half of all Canadian lobster production, making it a key region for the global lobster market. Nova Scotia lobster fisheries consist of several inshore and one offshore fleet. Put simply, “the inshore is made up of smaller, owner-operated vessels; [while] the offshore comprises larger, company-owned trawlers” (Rossiter and Norbet Theriault, 1995, footnote, p.6).

Between 2007 and 2020, a single firm, Clearwater Seafood Inc. (Clearwater), the largest vertically integrated shellfish harvesting, processing and selling company in North America, held all rights to fish the offshore lobster fishery in Canada. Founded 45 years ago in Bedford, Nova Scotia as a small lobster buying company, Clearwater is now the single largest fishing license and quota holder in all of Canada. ¹ The Canada-based corporation additionally harvests shellfish off the coasts of the UK and of Argentina and owns subsidiary companies in both Canada and the UK, involved in both harvesting and processing.

In September 2020, Clearwater announced that it was selling two of its offshore lobster licenses to the Membertou First Nation band of Nova Scotia (Baxter, 2020). ² The CAD\$ 25-million deal marked the end of Clearwater’s monopoly over the offshore and was quickly followed by another announcement. In November 2020, a partnership between the food manufacturing and distribution corporation Premium Brands Holdings Incorporated and a coalition of seven Mi’kmaq bands, through a new corporate partnership FNC Holdings Ltd., bought out Clearwater, acquiring the rights to all of its fishing licenses. The sale of Clearwater represented “the single largest investment in the seafood industry by any Indigenous group in Canada” (Withers, 2021, n.p.) and has been acclaimed by some as a remarkable opportunity to divert the flow of economic benefits from the industry into indigenous communities (Bundale and Tutton, 2020). However, as only some and not all Mi’kmaq bands have taken part in the deal, it has been described by others as picking “winners and losers” among Mi’kmaq communities (...) [as well

¹ Lobster buyers fulfil an intermediary role between harvesters on the one hand and processors and shippers on the other (Manning and Hubley, 2013).

² The Membertou First Nation are a band of the Mi’kmaq First Nation, a First Nations people on the Atlantic coast of Canada.

as] hand[ing] over exclusive access for an important fishing ground to a conglomerate” (Sproul cited in Mercer, 2020, n.p.).

As oceans present a new frontier for capitalist development (Barbesgaard, 2018; Knott and Mather, 2021), transnational corporations are expanding their presence within ocean-space by gaining control over increasing swaths of marine-related production systems and access to marine-based natural resources. In 2015, 11-13% of global fishing grounds and 40% of the world’s largest fish stocks were controlled by 13 transnational corporations (Österblom et al., 2015). By 2017, a report by Undercurrent News pointed out that “cross-border, cross-sector consolidation” among major seafood corporations was intensifying, in a bid to gain further access to both resources and markets, and Clearwater was designated as being a major actor in the race to consolidate control over global fisheries (PR Newswire, 2017, n.p.).

Corporations have become the “dominant economic agents of the world economy”, yet their access to key resources is mediated by states (Campling, 2021, p.188). Since the United Nations Convention on the Law of the Sea (UNCLOS) came into force in 1994, coastal and island states “formalized the extension of their sovereignty over the so-called Exclusive Economic Zone (EEZ) - 200 nautical miles from the shoreline” and from then on “mediate[d] capital’s access to resources within EEZs” (Barbesgaard, 2019, p.197). According to Campling and Colás (2021), UNCLOS turned approximately 90 percent of the world’s marine fish population into state property, thus entirely transforming “the political and economic geography of the oceans” (Mansfield, 2004, p.316) and setting the conditions for the patterns of consolidation of economic power in large corporate firms that we are seeing today. A key task for the critical resource geographer thus becomes to investigate the nexus of state-firm-resource relations as they unfold in the sea and in relation to marine life (Cf. Campling and Havice, 2014; Baglioni and Campling, 2019; Campling, 2021).

In the context of tuna fisheries, Campling (2012) notes that the majority of social science literature focuses on assessing the sustainability of management practices, enhancing the modern economic tools by which these practices are implemented or debating the economic role of fisheries for coastal communities. Little research, he notes, has taken as a premise the fact that the majority of “tuna fisheries are *capitalist*” (Campling, 2012, p.254, italics in original), and as such “are driven by the extraction of surplus value from the transformation of nature by labor to produce commodities for the world market” (pp.254-255). Similarly, in the literature on lobster fisheries, emphasis is placed on investigating the ‘effectiveness’ of management for stock preservation (e.g. Miller and Breen, 2010; Eddy et al., 2017; Partelow and Boda, 2015; Tewfik et al., 2020), enhancing the economic benefits of different actors as well as the potential for sustainable exploitation (e.g. Radhakrishnan et al., 2005; Gardner et al., 2006; Daw, 2008; Plaganyi et al., 2017) and debating the challenges and opportunities for co-management between government and fishermen (e.g. McConney and Baldeo, 2007). In contrast to such approaches, I place this study within the “robust, but small” (Campling, Havice and Howard, 2012, p.178) body of literature that seeks to set fisheries “in the broader context of the capitalist relations of production through which they operate” (Campling, Havice and Howard, 2012, p.176).

1.1 Aim and Research Questions

This thesis aims to unveil the historical-geographical development of the Canadian offshore lobster fishery in Nova Scotia and thus demonstrate *how* a single corporate firm, Clearwater, has consolidated control over this fishery. It moreover examines the role of the Canadian state in facilitating this process by adopting fishery policy approaches premised on the establishment and distribution of property rights within fisheries. To achieve this aim, I employ a multi-level analytical approach (Cf. Campling, 2012), examining first the macro-level of the state's shifting approaches to fisheries policy since the Second World War and the creation, within this context, of the lobster offshore fishery in 1971. Second, I investigate the meso-level of the firm's (Clearwater) strategies in turning the offshore lobster fishery into an exclusive space for its own capital accumulation. This research thus aims to explain the drivers behind the concentration of control within the Canadian offshore lobster fishery, which in turn complicates dominant fishery policy approaches focused on matters of management and economic efficiency. To launch this work I ask the following questions.

How did the Canadian offshore lobster fishery in Nova Scotia become an exclusive space for the capital accumulation of Clearwater?

- 1. How did the Canadian state create the institutional conditions for Clearwater to gain exclusive control over the Canadian offshore lobster fishery?*
- 2. How did Clearwater effectively deploy business strategies to turn the Canadian offshore lobster fishery into a space for its capital accumulation?*

1.2 Structure of the thesis

The thesis begins with an introduction to the global lobster market and the respective positions of Canada and Nova Scotia therein. I expand on the distinction between the inshore and offshore lobster fisheries and explain current management tools deployed for each, as well as some implications of these different management choices. The thesis then turns to the theoretical framework, in which I lay out the key insights drawn from Marxian political economy and critical resource geography to shed light on the Canadian offshore lobster fishery case study and the state-firm-resource relations that shape lobster production. In the methodology section, I contextualize this work within the philosophical lineage of historical materialism, expand on my research design and justify my choice of document analysis and interviews as key methods. I also explain how I operationalize the theoretical concepts for the analysis. The results chapter is divided to first reflect the role of the Canadian state in creating the offshore lobster fishery and second to demonstrate the multiple business strategies deployed by Clearwater to gain exclusive control over the offshore.

Chapter 2. Background

2.1 Canada, Nova Scotia and the Lobster Market

Canada has been a key actor in the global lobster market for decades and its role therein continues to grow. While Canadian lobster production amounted to roughly a quarter of global production in 2010 (Manning and Hubley, 2013), by 2019 it accounted for nearly a third of the 312,000 metric tons of lobster produced globally. The type of lobster produced in Canada is American lobster (*Homarus Americanus*),³ and while it is present along the majority of the North American east coast, from the province of Newfoundland and Labrador in Canada down to the state of Maryland in the US, it is particularly abundant in the Gulf of Maine and the southern shores of the Gulf of St-Lawrence (see Figure 1 below). Lobster generally fetches higher prices on the global market than other fish species and Canadian lobster exports to markets in the US, the EU, Asia, and more recently Brazil (Clearwater, 2019).⁴



Figure 1. North American east coast where American lobster are located. Data source: Diva GIS, Open Government Canada. Data management and cartography: Naima Kraushaar-Friesen. Note: the main lobster producing states in the US are Maine and Massachusetts.

³ The other types of commercially produced lobsters are European lobster (*Homarus gammarus*), rock lobster (*Jasus spp.*) and spiny lobster (*Panulirus spp.* or *Palinurus spp.*) (Pereira and Josupeit, 2017). American lobster dominates within global production, accounting in 2017 for roughly 60 percent of global landings (Pereira and Josupeit, 2017).

⁴ In this thesis, the term ‘fish’ includes both what is conventionally thought of as ‘fish’ as well as shellfish. When speaking of specific types of fish, such as groundfish or shellfish, I use the specified terms.

In Canada, lobster is produced in the three Maritime provinces, Prince Edward Island, New Brunswick and Nova Scotia, as well as the provinces of Newfoundland and Labrador, and Quebec. Nova Scotia is the second smallest Canadian province, with a population of roughly 980,000 people (Beck, 2021). As in all Atlantic provinces, fisheries hold a significant historical, cultural and economic role in Nova Scotia.⁵ Three main types of fish are harvested in the province: (1) groundfish (including cod, haddock, pollock, redfish and halibut), (2) pelagic fish (including tuna, herring, mackerel and swordfish), and (3) shellfish (including lobster, shrimp, queen crab and scallops) (DFO, 2021). Whereas historically, groundfish, especially cod, comprised the main catch in the region in terms of landed weight, shellfish have replaced groundfish as the main source of landings since the 1990s (see Figure 2 below). At the start of the 1990s, key groundfish species collapsed for a second time in the 20th century and have not recovered since. Moreover, as groundfish were an important predator for lobster, several experts hold that the groundfish collapse contributed to a major increase in lobster populations since the 1990s (Boudreau and Worm, 2010; Steneck et al., 2011; Eddy et al., 2017).

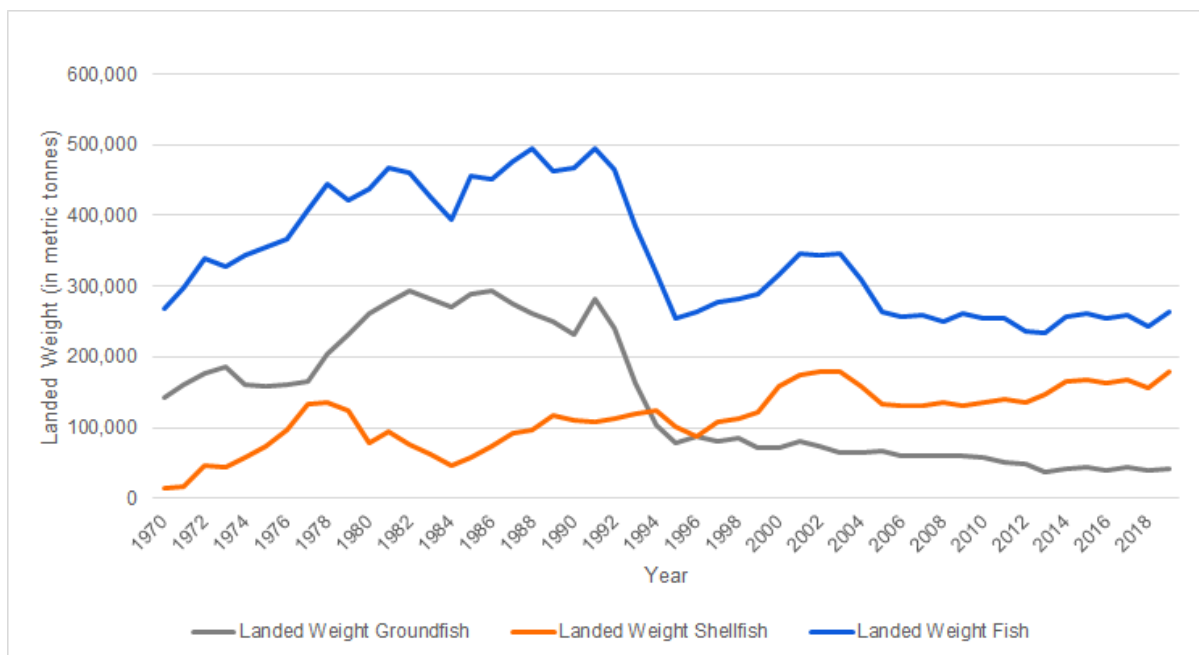


Figure 2. Landed weight of groundfish, shellfish and total fish (including groundfish, shellfish and pelagic fish) between 1970 and 2019 (in metric tons). Data source: Nova Scotia Department of Fisheries and Aquaculture and Department of Fisheries and Oceans Canada. Data management and graph design: Naima Kraushaar-Friesen.

Lobster harvesting has been gaining in importance as a source of income for Atlantic coastal communities. According to Manning and Hubley (2013, p.1), “the lobster fishery has become the single most important source of income for thousands of harvesters, and it remains one of the

⁵ The term ‘fishery’ is used ambiguously across academic and grey literature. At times it refers only to the biogeographical intersection of a specific species of fish found in a particular geographical area while at other times it alludes to a socio-material complex involving the fish, the geographical location, as well as the fishers and the gear and vessels used to harvest fish. In this thesis, I use the term ‘fishery’ in the second sense. When speaking specifically about the fish within a fishery, I will use the term ‘stock’ to avoid confusion.

economic pillars for many coastal communities in the Atlantic Provinces and Quebec.”⁶ Today, Nova Scotian seafood exports are worth over CAD\$2 billion (Undercurrent News, 2021). While the province exports over two dozen types of fish and shellfish, lobster alone accounts for half that value (see Figure 4 below).

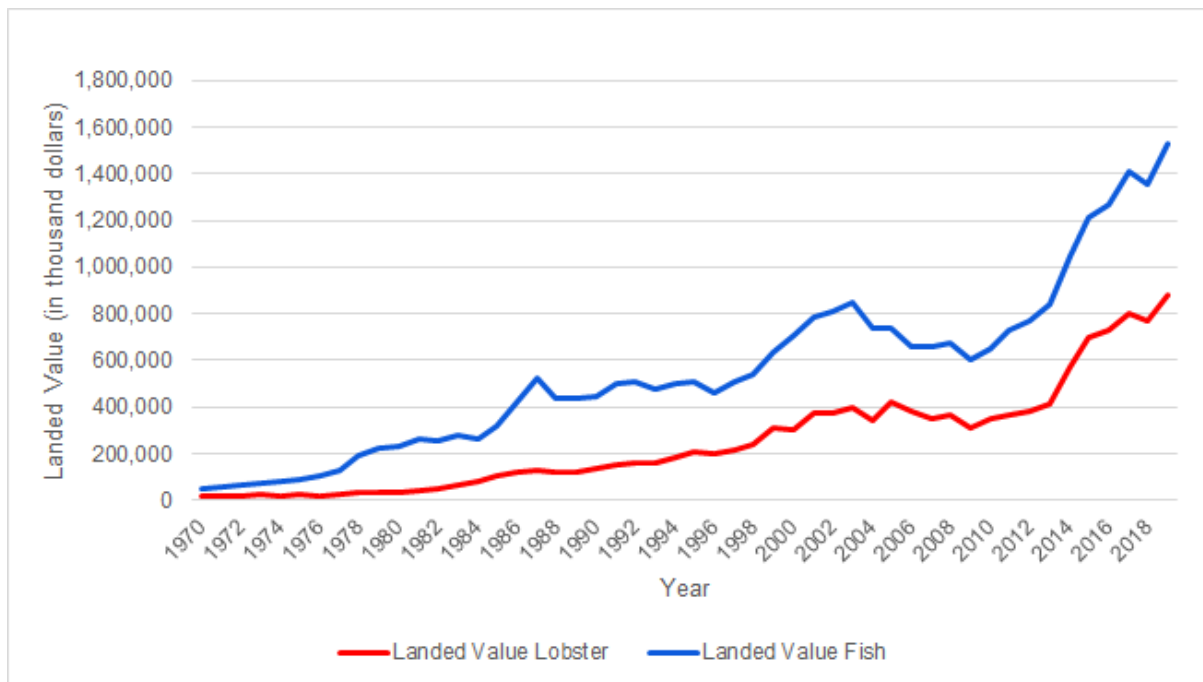


Figure 3. Landed values of lobster and total fish between 1970 and 2019 (in thousand dollars). Data source: Nova Scotia Department of Fisheries and Aquaculture and Department of Fisheries and Oceans Canada. Data management and graph design: Naima Kraushaar-Friesen.

Finally, lobster is exported both live and processed. Live lobster is sold immediately after landing or after a period kept in a holding tank, while processed lobster is sold cooked, frozen or shelled and canned (Manning and Hubley, 2013). Whether a lobster is sold live or processed depends on the quality of the harvested shellfish, though in Canada, the majority of lobster is exported live or frozen, forms that are sold to food service and fetch higher prices, and rarely canned (Gardner Pinfold, 2010).

2.2 The Management of Nova Scotian Lobster Fisheries

As a democratic federation, Canada divides governance between the federal and provincial levels of government. Importantly, in relation to fisheries, the federal government has jurisdiction over the marine resources themselves (Davis and Kasdan, 1984).⁷ All fisheries are regulated under the Canadian *Fisheries Act* of 1985 and management plans are crafted by the

⁶ The “lobster value chain”, which is to say all the steps required to turn lobster into a commodity for sale on a market, consists of several nodes, starting with (1) the fishery, and moving upwards to (2) buyers and shippers, (3) brokers and distributors, (4) processors and (5) food service and retail (Manning and Hubley, 2013).

⁷ The federal government also handles matters of inter-provincial and foreign trade, while the provincial government takes the lead on all activities between landing and trade as well as matters of issuing and negotiating licences (Davis and Kasdan, 1984).

federal department of Fisheries and Oceans Canada (DFO). Fisheries in Canada are divided between the “inshore” and the “offshore”, measured by the size of the vessel and structural organization onboard. Inshore vessels are anywhere below 20 meters long while offshore vessels are anywhere above 30 meters (Rossiter and Norbet Theriault, 1995, footnote, p.6). Moreover, offshore vessels are “usually owned by fish processing companies and constitut[e] the resource production division of vertically integrated corporations” (Davis and Kasdan, 1984, p.109), which holds true in the case of Clearwater and the offshore lobster fishery. Nonetheless, while there is a valid general distinction between the size and organizational structures of the inshore and the offshore, I heed Campling’s (2021) advice against analytically reducing this distinction to that of ‘good’ small-scale fishermen pitted against ‘bad’ corporate fishing firms. Indeed, the inshore lobster fishing fleet is made up of largely commercial fisheries, whose purpose is also to bring fish to national and global markets (DFO, 2020a). Campling (2021, p.191) recommends instead to think of different sizes of fishing initiatives as a “diversity of “firms” that make up the continuum of resource appropriation in any particular geography”.

There are approximately 10,000 inshore commercial lobster licenses in Canada, with around a third located in Nova Scotia (DFO, 2020a). In contrast, there are only eight offshore lobster licenses (DFO, 2020b). In the late 60s and early 70s, DFO introduced geographic boundaries in its ocean-space to delimit the harvesting location of various actors in the lobster fishery. These eventually turned into the Lobster Fishing Areas (LFA), which are still in use today (see Figure 4 below). LFAs 1 to 26 are inshore lobster fisheries off the coasts of Quebec, Newfoundland and Labrador, and New Brunswick, while LFAs 27 to 38 are inshore fisheries under the purview of Nova Scotia. Finally, LFA 41 is the *only* offshore lobster fishery in all of Canada.⁸ Despite its substantial size, the majority of harvesting in LFA 41 occurs off the southern coast of Nova Scotia, on the borders of LFAs 33, 34 and 40, as lobsters are particularly abundant in these areas.

⁸ LFA 40 has been closed to fishing since 1979 for the general preservation of the lobster stock (DFO, 2020a).

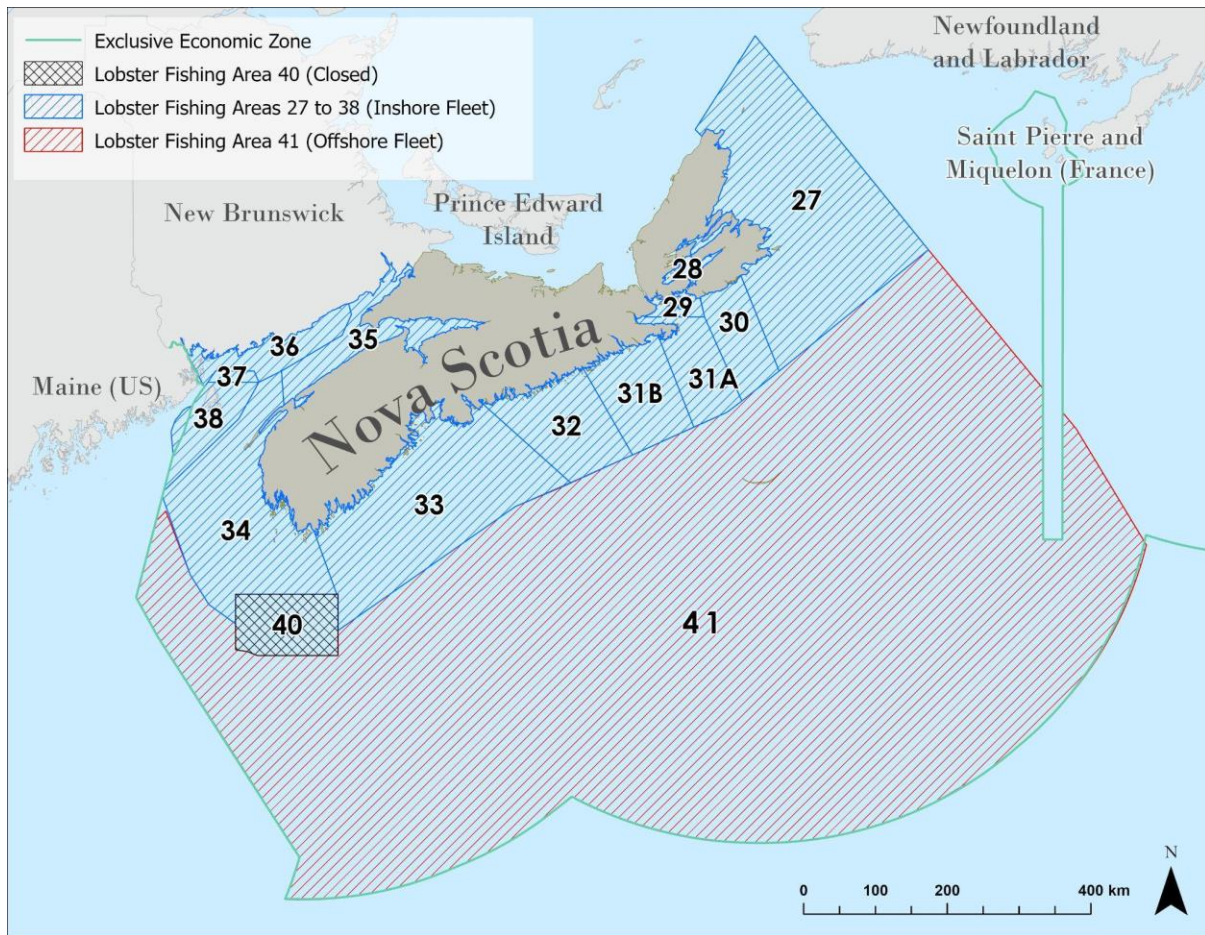


Figure 4. Lobster Fishing Areas in Nova Scotia. Data source basemap: DIVA GIS. Data source Lobster Fishing Areas layer: Scott Coffen-Smout, personal communication. Data management and cartography: Naima Kraushaar-Friesen.

The inshore and offshore lobster fisheries are managed under different systems.⁹ The inshore is managed under a mix of input controls (intended to limit the fishing effort) and conservation measures (intended to preserve the population health) (Miller and Breen, 2010; Eddy et al., 2017; DFO, 2020b). Input controls used in the Nova Scotian inshore lobster fishery include limited entry licenses, limited seasons, and limited traps. Conservation measures include prohibition on capturing berried females (i.e. with eggs). However, there are importantly no *output* controls, which is to say that there are no limitations on the number of lobsters that can be removed from the sea through inshore lobster fishing in Nova Scotia. Indeed, since the early 1980s Nova Scotian lobster production has dramatically increased from roughly 10,000 to around 50,000 tons today, amounting to half of Canada’s overall production (see Figure 3 below). As such, because of the lack of output controls in the inshore lobster fisheries, Nova Scotia’s lobster production, and Canada’s more broadly, has been able to grow immensely over the past three decades.

⁹ There are in fact several management plans for different inshore fleets (DFO, 2015; DFO, 2018), though as the purpose here is not to extensively review the differences between lobster management systems, I will only emphasize the key differences of relevance to this work.

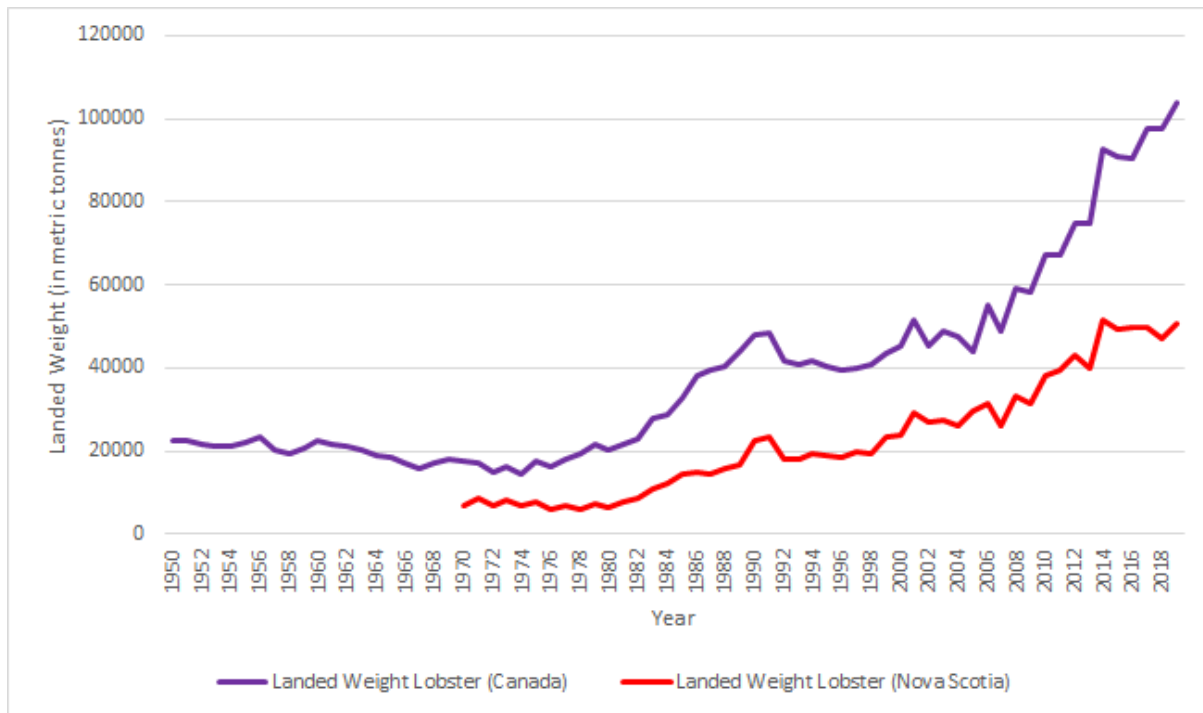


Figure 5. Annual landed weight of lobster for Canada (in purple) between 1950 and 2019 and for Nova Scotia (in red) between 1970 and 2019 in metric tons.¹⁰ Data source for Canada: FAO Fishery Statistical Collections. Data source for Nova Scotia: DFO website and personal communication with DFO officers. Data management and graph design: Naima Kraushaar-Friesen. Note: Data prior to 1970 for the province of Nova Scotia was unavailable.

In contrast, the offshore lobster fishery has fewer input controls, which is to say that there are no season and trap limitations but has a significant output control. It is managed under a Total Allowable Catch (TAC) (DFO, 2020a), which is “a catch limit set for a particular fishery, generally for a year or a fishing season” (OECD, 2001, n.p.). The TAC is set at 720 tons, divided equally between all offshore licenses (DFO, 2020a). While there are currently eight licenses for the offshore, the allocation of new licenses has been frozen since 1976 (DFO, 2020a). Between 2007 and 2020, Clearwater has held and fished all eight offshore lobster licenses for LFA 41. Moreover, harvests from LFA 41 contribute only between 15 and 20 percent of the lobster processed and sold by Clearwater, while the rest comes from purchases from the inshore fleet (Clearwater, 2019). These substantial market relations between fishing firms in the inshore and Clearwater in the offshore further emphasizes the analytical value of interpreting the inshore and offshore as a “diversity of firms” rather than attributing each a moral valence (i.e. good vs. bad; Campling, 2021, p.191). While both sets of firms operate at different scales, they nonetheless all operate through capitalist relations (Cf. Campling, 2021).

In 2020, two of the eight licenses for offshore lobster were bought by the Membertou First Nation (Mercer, 2020). Later in the same year, Clearwater was itself purchased by a partnership composed of the international corporation Premium Brands and the newly formed indigenous owned company FNC Holdings, which included the Membertou (Bundale and Tutton, 2020). These business deals mark the “largest potential investment in the seafood industry by an

¹⁰ Landed weight refers to the total weight of a specific fish that arrives onshore for processing.

Indigenous group in Canada” (Mercer, 2020, n.p.). Prior to this, Mi'kmaq were involved in lobster fisheries in two main ways: on a cultural basis and on a commercial basis through the inshore. Under the Aboriginal Communal Fishing Licenses Regulation, Mi'kmaq people of Nova Scotia fish various species for subsistence and cultural practices, but importantly do not have a right to sell their catches (DFO, 2020b). Several indigenous fishers also take part in commercial inshore lobster fisheries where they compete with non-indigenous fishers to harvest and sell lobster. ¹¹

On a final note, while assessing the biomass of lobster has proven challenging, scientists note that lobster populations have been increasing for some decades (Canadian Science Advisory Committee (CSAS), 2018; CSAS, 2021). Official lobster stock assessments conducted by DFO in the key LFAs 34 and 41 show that stocks have been ‘healthy’ throughout the decades since assessments first started (DFO, 2018; DFO, 2021). Yet, other scientific observers nonetheless display more skepticism towards the stock sustainability of lobsters under current harvesting rates (Scott Parsons, 2010; Eddy et al., 2017). The Canadian marine biologist and fisheries management researcher L. Scott Parsons notes that the rate of lobster harvesting has continued to grow since the 1990s, despite a number of calls from the Fisheries Resource Conservation Council to reign in fishing efforts (Scott Parsons, 2010). According to Scott Parsons (2010, p.396), “[w]hile the lobster fishery has so far defied doomsayers, it is hard to conceive how it can continue to prosper as currently structured. The question is not if, but when, the lobster bubble will burst”. More recently, a simulation of the sustainability of lobster harvesting in Nova Scotia found that “lobster fisheries in (...) Nova Scotia are presently fished at higher exploitation levels than predicted to achieve Maximum Sustainable Yield from single-species perspectives” (Eddy et al., 2017, p.152). As lobster production continues to rise, and as the region has already experienced the consequences of fish stock collapses in groundfish, these warnings ought to be heeded seriously.

¹¹ The purchase of Clearwater by this consortium comes at a moment of aggravated tensions between indigenous and non-indigenous actors in the inshore lobster fishery. In Nova Scotia, conflict between indigenous Mi'kmaq and non-indigenous inshore fishermen broke out in the fall of 2020 (Meloney, 2020a). In September 2020, the Sipekne'katik band of Mi'kmaq had launched its own self-regulated “moderate livelihood” lobster fishery, which, it argued, functioned independently of the federal Fisheries department regulation on inshore lobster fisheries as it referred to the Mi'kmaq right to fish under the Peace and Friendship Treaties of the 1880s (Meloney, 2020b). While this is an important part of the broader understanding of lobster fisheries management and conflicts in Canada, it is beyond the scope of this thesis, which focuses on the development and implications of the offshore lobster fishery. It is nonetheless important to understand that there are broader tensions between indigenous and non-indigenous inshore lobster fishermen, as well as between the inshore fishermen and Clearwater in the offshore, which this deal exacerbates (Bundale and Tutton, 2020).

Chapter 3. Conceptual Framework

In this section, I situate the present research within the broader field of Marxian political economy. After introducing key Marxian concepts, including that of *modern-landed property*, I explain some of the characteristics of the state-firm-resource nexus in a context where the state mediates the firm's access to resources. I also expand on useful concepts drawn from more recent work on critical resource geography that help examine the role of the firm through unveiling the various strategies it deploys. In a second part, I shift to discussing key debates within the political economy of fisheries, examining the economic assumptions behind, and historical development of, property relations within global fisheries. Overall, this framework will allow me to present a snapshot of how the Canadian state and the major corporate firm Clearwater have shaped optimal conditions for capital accumulation within the Nova Scotia offshore lobster fishery.

3.1 Marxian Political Economy, Critical Resource Geography and State-Capital-Nature relations

This thesis is analytically grounded in Marxian political economic theory, which examines the development and inner functioning of capitalism from the perspective of class structure and difference (Wolff and Resnick, 2012). Capitalism is the currently dominant socio-economic system, which evolves through successive business cycles of booms and decline and is typically characterized by the presence of two key institutions: private ownership of firms and private markets for exchange of commodities (Wolff and Resnick, 2012). Wolff and Resnick (2012, p.2) emphasize that Marxian economic theory is one of several competing economic paradigms, which each has a particular understanding of the “causes, solutions, and the very nature of [the business] cycles” inherent to capitalism. These contending paradigms have developed different grounding concepts to refer to the varying socio-economic objects that they attempt to explain, and theoretically connect these concepts in contrasting ways.

From a Marxian political economic perspective, “different class relationships among people in any society are *defined* by different ways of organizing how surpluses are produced, appropriated and distributed in that society” (Wolff and Resnick, 2012, p.41, italics by author). Using Marxian theory thus involves taking a class-relational approach to analysis, which is founded on the distinction between two major classes in society (Harvey, 1982; Wolff and Resnick, 2012; Campling et al., 2016). On the one hand, the capitalist class owns the means of production (all the tools, machinery and, importantly, access to the natural resources required to make commodities). On the other hand, the laboring class owns only their capacity to do work and must sell this to the capitalist class in exchange for a wage. Class is embedded in the structure of the capitalist system of production because the laborers produce a ‘surplus value’ (i.e. value beyond what they are paid for in wages for their labor), which is appropriated by the capitalist class (Harvey, 1982).

While the specific process of capitalist development, both at the level of individual firms but also at the broader level of society, takes different forms in particular places at particular times,

“the global system of capitalist competition has ‘gravitational tendencies’ that organize and shape diverse social relations around the profit motive” (Campling et al., 2016, p.1746). The process of capital accumulation according to Marxian theory is best captured by Marx’s formulation of the economic logic of commodity production, $M - C - M'$, where M is the initial capital put into the creation of a commodity C , which in turn yields larger capital (including profit) M' when sold again (Harvey, 1982). For capitalism as a system, as well as individual capitalist enterprises, to continue existing, they must constantly place capital in circulation and continue accumulating (Harvey, 1982; Campling et al., 2016).

In this thesis, I am interested in unveiling the historical-geographical development of the production of lobster in Nova Scotia. In this sense, the focus here lies in investigating the “political economy of natural resources,” which emphasizes the relations between “nature and the capitalist mode of production” (Baglioni and Campling, 2019, p.1). Baglioni and Campling (2019, p.1) stress that while human-nature relations are “universal and transhistorical”, they change both “quantitatively and qualitatively” under capitalism. Moreover, the process of turning nature into something of use for capitalist accumulation typically requires substantive social and political effort. It is for this reason that Baglioni and Campling (2019, p.7) highlight that “‘natural’ resources are not ‘naturally’ resources.” The task of the critical resource geographer is then to examine exactly how “capitalism establish[es] a fundamentally different relation with nature” (Baglioni and Campling, 2019, p.1).

One way to approach this task is to think through the roles of two key actors in the transformation of nature for capitalist accumulation: the state and the firm (Baglioni and Campling, 2019). The state and the firm each hold a distinct role in this transformation process, yet they also interact in crucial ways (Campling et al., 2016; Baglioni and Campling, 2019; Campling, 2021). Indeed, according to Baglioni and Campling (2019, p.16), “the state-firm relationship is particularly salient and political in natural resource industries because of the materiality and concomitant territorial embeddedness of resources.”

First, in thinking of the state and its relation to natural resources within a capitalist mode of production, useful concepts from Marxian theory are those of ‘modern-landed property’ and ‘ground-rent’ (Harvey, 1982, Campling, 2012; Campling and Havice, 2014; Capps, 2016; Baglioni and Campling, 2019). While Marxian theory is grounded in the distinction between the capitalist and laboring classes, there is also a third important class, that of the landlord, which is able to stake a claim to a portion of the surpluses by virtue of owning the land or resources used in the production process (Harvey, 1982; see also Capps, 2016).¹² The portion of surplus value that goes to the landowner is called ‘ground-rent’, while the landowner in a capitalist system assumes the role of what Marx calls ‘modern-landed property’ (Harvey, 1982). Modern-landed property is thus understood as a class-function in which an individual, group or other entity can seize a portion of the economic benefits from production simply by virtue of having a property title over the land or resource (Harvey, 1982). The property title provides the landowner *exclusive* ownership and control over the segment of nature in question. However, and crucially, the

¹² Landowners exist in non-capitalist systems, such as feudal systems. However, the separation of the landowner and the capitalist are a key feature of specifically capitalist systems (Harvey, 1982).

capacity to be a landowner “is not confined to private persons but extends to states, administrative divisions and any other kind of juridical individual” (Harvey, 1982, p.339; see also Capps, 2016). The state can thus become the entity that arrogates rent for a productive activity that takes place on land (or relates to a resource) exclusively owned by the state.

One key role of the state in the state-firm-resource nexus lies in providing firms with “access” to resources, a role especially apparent in the context of capture fisheries (Campling et al., 2012; Havice and Campling, 2014; Campling and Baglioni, 2019). Indeed, this observation is at the heart of recent theoretical and empirical work conducted on the critical political economy of fisheries (Cf. Campling, 2012; Campling et al., 2012; Havice and Campling, 2014). This work, on which I will expand further in the next section, interprets the global institutionalization of EEZs as a moment of historical enclosure, turning all marine life contained in the EEZs into the exclusive property of coastal and island states, with states from then on mediating access to fish stocks within their waters (Havice and Campling, 2014). Importantly, Campling et al. (2012, p.192) argue that resource access in fisheries should not be reduced to the various negotiations inherent in the field of fisheries management, but rather “is defined by many moving parts (such as access to capital, indigenous identity, or market access) that dictate fisheries use patterns and their socio-economic and ecological outcomes”. In this sense, “defining, securing and using fishing access is a political endeavor shaped by geographical, historical, social, economic and ecological factors” (Campling et al., 2012, p.192). This approach thus involves viewing the state as an active, and even proactive, actor in the process of transforming a segment of nature into something amenable to capitalist accumulation (Campling and Baglioni, 2019).

Second, in considering the relations of the firm to nature, I turn to more recent developments in critical resource geography that nonetheless draw on Marxian theory. As Campling (2021) notes, key works that have examined the firm as a distinct object of study have thus far focused on the various legal forms through which they can operate and the distinct rights these forms afford them. A corporation (“incorporated”), for example, is a distinct type of firm, recognized as a ‘legal person’ and, which benefits from this status (Campling, 2021).¹³ Yet from a critical resource geography perspective, the focus of analysis is less on the specific nuances between legal forms that firms take, than on the “political-economic agency of the enterprise or firm” (Campling, 2021, p.189), as “an *organization* performing an economic activity” (Robe, 2020, cited in Campling, 2021, p.189, italics in original). Indeed, the capitalist firm is the key actor involved in the actual transformation of nature into an input for capital accumulation. Thus, heeding Baglioni and Campling’s (2019, p.2) call to open up “the analytical ‘black box’ of the firm” and investigate the appropriation of nature by firms entails unveiling “the different *strategies* that [firms] use to make money” (Campling, 2021, p.189, italics in original). Individual and competing firms can deploy a wide variety of strategies to enhance their ability to accumulate capital. These can range from, for example, changing organizational structure (e.g. merging and acquiring other competing firms), cutting costs (e.g. through technological development, which can

¹³ Campling (2021) uses the terms “firm”, “enterprise” and “corporation” interchangeably, while acknowledging that the corporation as a ‘legal person’ holds a different status and rights compared to firms and enterprises. While Clearwater Seafood Inc. is legally a corporation, I am here interested not in the legal benefits it gains from this status but in the strategies it deploys as an economic agent. I thus use the term “firm” throughout this work to avoid confusion.

simultaneously undermine labor) or expanding into new areas of operation and extraction (Campling, 2021).

Yet the particular strategies any single firm will choose to deploy will nonetheless be tethered to the characteristics of the specific product(s) or service(s) from which it seeks to generate capital, as well as from the state-institutional framework(s) within which it operates (Campling, 2021). For natural resource industries like fishing firms, the bio-geographical conditions of the fish will be key features considered in the creation and choices of business strategies (Campling et al., 2012; Campling, 2012; Havice and Campling, 2014; Baglioni and Campling, 2019). Indeed, fish present particular challenges when used as a resource as they are on the one hand “mobile”, and on the other hand “renewable but exhaustible” (Campling, 2012, p.256). Fishing firms, which use fish as the key raw material for their capital accumulation, must thus develop strategies to resolve the dual problem of “distance and durability” as they “face the risk of [fish] deteriorating before exchange (and eventual final sale) is realized” (Baglioni and Campling, 2019, p.13). To mitigate this dual problem, fishing firms have historically turned to various technological developments, such as canning, smoking or freezing, which “shorten the life-cycles of (...) animals and lengthen the life-cycles of commodities” (Baglioni and Campling, 2019, p.15). Moreover, in addition to bio-geographical considerations, the firm must also adapt its business strategies to the state-institutional framework to which it is bound. Indeed, while the state in a capitalist society generally supports the development of capital, it may also go against the interests of individual capitals to safeguard the long-term process of capitalist development (Campling et al., 2016). The relationship between the state and individual capitals can thus be at times collaborative while at others antagonistic, as the state must also make concessions to other considerations in society such as environmental conservation or the interests of the laboring class (Campling et al., 2016).

With these theoretical tools at hand, the thesis now turns to explaining the broader historical-geographical development of property in global oceans through the institutionalization of the EEZs.

3.2 Property, Historical Enclosure and State Power in Global Fisheries

A central historical (and still ongoing) debate within the political economy of fisheries literature revolves around the conditions of access to fisheries and the implications of these conditions on harvesting practices of actors in the fishery as well as on the health of fishery stocks (Mansfield, 2004; Longo et al., 2015; Barbesgaard, 2018; Campling and Colás, 2021). In the mid-20th century, fisheries economists, drawing on neoclassical economic theory, argued that ‘common-property’ regimes, in which fisheries were in fact no one’s property, would lead to the collapse of fisheries,

as well as loss of income for individual fishermen.^{14 15} In a seminal paper “cited as a historic moment in the development of fisheries economics” (Mansfield, 2004, p.316), Nova Scotia-born Harold Scott Gordon laid out the foundational arguments of the field of fisheries economics. According to Gordon (1954), individual actors within a fishery are rational and self-interested and will seek to maximize their benefits from fishing. As the fish belong to no one, the rational fisher is thus motivated to harvest as much as possible at a given moment because they have no guarantee that fish will remain in the future. Gordon (1954, p.135) explains that “the fish in the sea are valueless to the fisherman, because there is no assurance that they will be there for him tomorrow if they are left behind today. (...) Common-property natural resources are free goods for the individual and scarce goods for society.”

Competition between actors to gain as much from the fishery for themselves inevitably leads to the undesired effect of “overcapitalization”, in which actors invest in improving their fishing vessels and gear to catch more fish, and increasing numbers of actors enter the fishery (Gordon, 1954). In turn, overcapitalization leads on the one hand to diminishing profits for individual fishers, as all profits are reinvested in vessels and gear, and on the other hand to overexploitation of the fishery, as more actors all fish more intensively, leading eventually to stock depletion. According to fisheries economists, to both preserve the stock health of fisheries and ensure the most economic benefits for individual actors, property rights and markets to distribute them must be created in fisheries.¹⁶ After Gordon’s seminal paper, the ideas of fisheries economists continued to develop throughout the 50s and 60s and became influential through international platforms such as the United Nations Food and Agriculture Organization and eventually within the United Nations Convention on the Law of the Sea (Mansfield, 2004; Gough, 2006).

At the same time as fisheries economists were gaining influence in political spheres, “the political and economic geography of the oceans was transform[ing]” (Mansfield, 2004, p.316). Spurred by the U.S.’s claims to its ocean-space and resources in 1945, the end of the Second World War marked the beginning of a three decade scramble for state control over use of, and passage in, ocean-space (Steinberg, 2001; Mansfield, 2004; Mallin and Barbesgaard, 2020; Campling and Colás, 2018; Campling and Colás, 2021). Several coastal and island states followed suit and declared claims over various portions of the ocean-space adjacent to their territories, leading to the beginning of a conference process in 1958 to establish a legally binding international accord over the sea (Steinberg, 2001; Mallin and Barbesgaard, 2020). In 1982, these efforts culminated in the third United Nations Convention on the Law of the Sea (UNCLOS) yielding a binding accord, which came into force in 1994 (Mallin and Barbesgaard, 2020). Framed as a need for “state-mandated resource protection” (Mallin and Barbesgaard, 2020, p.126), UNCLOS essentially “codified existing customary law and created several new maritime

¹⁴ Neoclassical economic theory, also commonly referred to as orthodox and micro-economics, views the wider economy (e.g. prices, incomes, growth, etc..) as being the aggregated result of individuals’ economic behaviors and choices as reflected in the free market (Wolff and Resnick, 2012). It places absolute faith in the free market in solving economic downturns and advocates for a *laissez-faire* approach to crisis with minimal state intervention (Wolff and Resnick, 2012).

¹⁵ Common-property used in this sense is more akin to ‘open-access’ rather than commonly-owned property (in which actors outside of the owning group can be excluded).

¹⁶ This is essentially the same argument as the “tragedy of the commons” thesis by Garrett Hardin though it predates Hardin’s work by over a decade.

zones” (Griffiths et al., 2011, p.15), including the territorial sea, the EEZ, and the Extended Continental Shelf. The EEZ, the zone of interest to this thesis, extends 200 nautical miles from the coastal and island states’ shorelines. (see Figure 3 below) In this zone, “the state has control over all living and non-living resources” meaning that “only the coastal state can fish, drill for oil or gas, or grant permission to a foreign state organization” (Griffiths et al., 2011, p.15).¹⁷

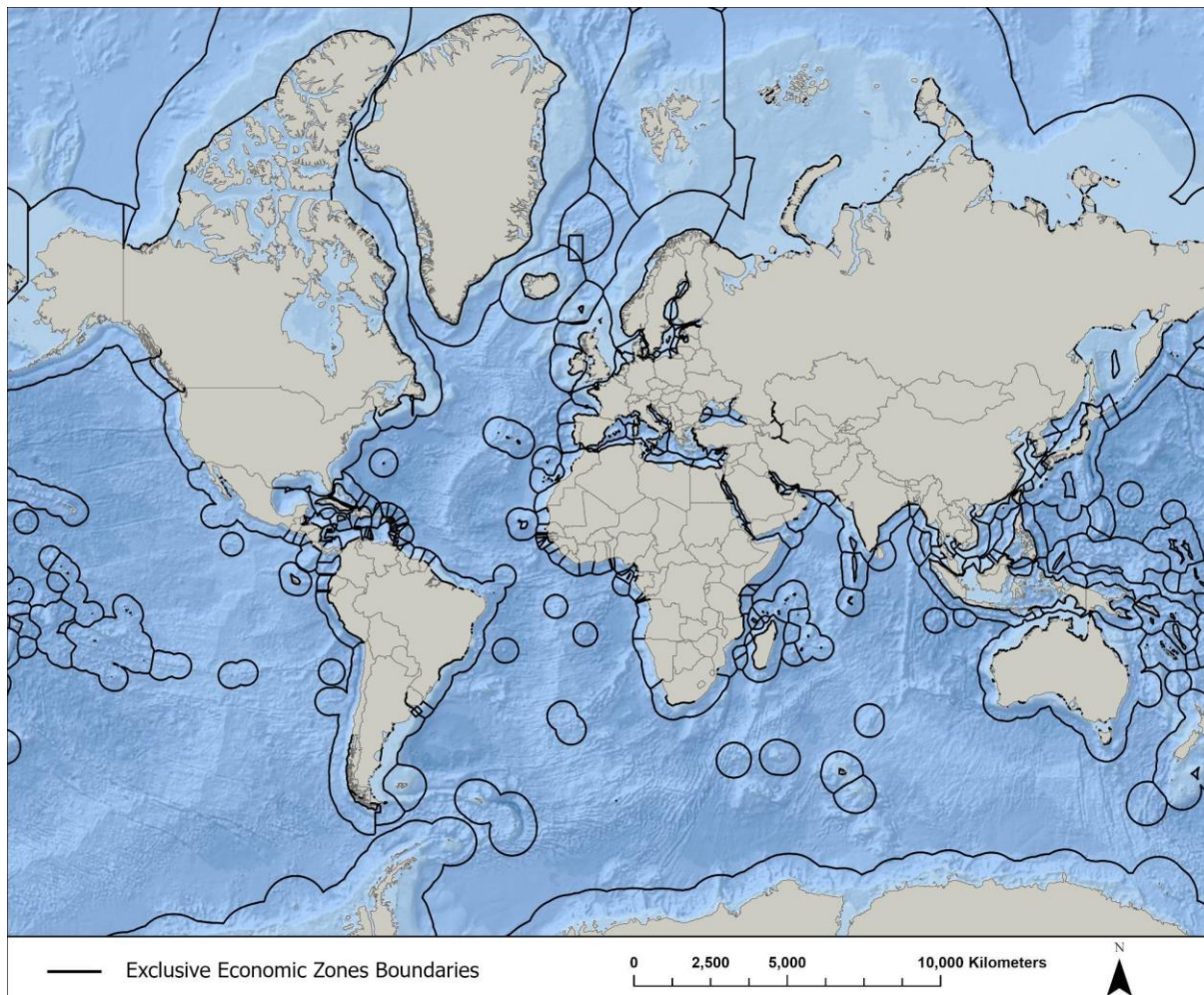


Figure 6. Exclusive Economic Zone Boundaries. Data source: UN, ESRI. Cartography: Naima Kraushaar-Friesen.

According to Campling and Havice (2014, p.714), the creation and institutionalization of the EEZ constitutes the “largest single enclosure in history”, with major repercussions for fishing activities. Indeed, by “recognizing a series of rights that individual states have overfishing activities including (...) the right to: charge access and fishing fees (ground-rent) to fishing firms, define the conditions of production (i.e. resource management) and prohibit or exclude fishers”, UNCLOS effectively turned fish within EEZs into state property (Campling and Havice, 2014,

¹⁷ In the territorial sea, the state controls nearly all activities that occur and is merely unable to prevent the “innocent passage of foreign vessels” (Griffiths et al., 2011, p.15). In the ECS, the third and final space that coastal states can stake a claim to controlling, only “activities that occur on or beneath the seabed” are considered to be the state’s prerogative (Griffiths et al., 2011, p.16). Furthermore, this hinges on the coastal or island state’s capacity to prove that it has a continental shelf, which extends beyond the EEZ (Griffiths et al., 2011).

p.714). Therefore, the state from then on assumed the role of modern-landed property in EEZ fisheries and has “mediate[d] capital’s access to resources within EEZs” (Barbesgaard, 2019, p.197).

Two key principles within UNCLOS further guided state approaches to fisheries within their EEZs. First, in Article 61 of UNCLOS states are encouraged to set a Total Allowable Catch as a way “to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield, as qualified by relevant environmental and economic factors, including the economic needs of coastal fishing communities” (UNCLOS, 1994 cited in Foley et al., 2015). Second, and of particular importance, is the ‘use it or lose it’ clause of Article 62, which requires coastal and island states to “ensure ‘optimum utilization’ of ‘surplus’ fish, albeit subject to conservation measures; if not, distant water fishing nations can (...) claim a right of access” (Campling and Colas, 2021, p.208). As a way to push out foreign vessels from their fishing grounds, several states in the second half of the 20th century thus pushed for domestication policies supporting the mass expansion of their own fishing fleet (Foley et al., 2015).

Essential to the UNCLOS regime on fisheries has been the achievement a fishing “sweet spot”, in which neither too much nor too little fish are harvested from the sea, which has been concretized in the concept of the maximum sustainable yield, developed from the work of the fisheries economists (Longo et al., 2015, p.43). Indeed, while overfishing would negatively result in fish stock depletion, too little fishing was perceived as “inefficient” (Longo et al., 2015, p.43). Yet, though maximum sustainable yield was framed as “an elegant scientific approach to managing natural resources”, and thus a ‘neutral’ effort, its inner logic inextricably ties it to neoclassical economic theory that advocates for the simultaneous maximization of “captures, efficiency and economic outputs” (Longo et al., 2015, p.43).

A key tool for maximum sustainable yield-based fisheries management are Individual Transferable Quotas (ITQs). From the 1970s, a number of large fishing states (first the Netherlands in 1977, followed quickly by Iceland and Canada in 1979) began adopting ITQ-based systems to manage their fish resources (Longo et al., 2015; Campling and Colas, 2021). ITQs are a market-based approach to managing fisheries that involves three overlapping objectives (Mansfield, 2004). First, fisheries are closed to new entrants. Second, set quotas are created and distributed either to individuals, fishing companies or communities. Third, the individuals or groups that receive quotas can either lease or sell these in newly formed quota markets (thus rendering ITQs “transferable”).

According to Mansfield (2004), ITQs are thus premised on a double instance of privatization, the “creation of property rights”, and commodification, the “creation of tradeable property rights” (Foley et al., 2015, p.390). Indeed, previously universally accessible fish stocks are first privatized by way of restricting as well as regulating access to them. The state’s property rights to the fish are then devolved to the individuals or firms that receive licenses and quotas, which provide them with exclusive rights to harvest. These rights are secondly commodified by means of creating new markets for licenses as the key approach to managing resource access. Yet the fallout of such approaches is that they tend to disproportionately favor “larger firms or vertically integrated companies that consolidate and sometimes rent or lease out rights” (Foley et al., 2015,

p.390). Moreover, the ecological promises of ITQs, which were devised as the solution to “the problem of fisheries overexploitation and fleet overcapitalization” of the mid 20th century, are debatable at best (Longo et al., 2015). While some case studies have found stock improvements in ITQ-managed fisheries in the mid-term, this is not the case across the board, and long-term effects are still unclear (Longo et al., 2015).

In summary, Marxian political economic theory offers insights into the state-firm-resource nexus and holds much potential in its application to capture fisheries. I have identified the state and the firm as key actors in transforming fish into commodities for capital accumulation. Indeed, since the institutionalization of the EZZs, coastal and island states have become the owners of fish within their waters and have mediated access to these marine resources. In turn, the firm adapts to both state-institutional and bio-geographical conditions of capture fisheries to develop strategies for capital accumulation premised on fishing. I now turn to methodological considerations to discuss how these theoretical insights will be operationalized in the present work.

Chapter 4. Methodology

In this section, I first discuss the historical materialist philosophical premises of this research and the implications of this approach in terms of the trajectory and drivers of social change. I explain my research design, drawing on a case study methodology and using document analysis and semi-structured interviews as key methods, while emphasizing how I operationalize the concepts from the theoretical framework. I then explain my use of secondary quantitative data. Finally, I discuss some limitations in this work.

4.1 Philosophical Assumptions and Research Design

In line with my choice of a Marxian theoretical framework, I follow a materialist understanding of ontology and of how change occurs in society (Svarstad et al., 2018; Tetreault, 2017). A materialist ontology assumes that “matter is prior to and independent of thought” (Tetreault, 2017, p.13). The key drivers in unfolding history are thus not ideas but rather the “relations of production”, which is to say all social and material relationships that go into the processes of making commodities for exchange in society (Tetreault, 2017; Robbins, 2012). This implies that “the way that humans interact with the world of natural objects provides a ‘base’ upon which law, politics, and society are founded and around which they are given form” (Robbins, 2012, p.54). Power, in turn, is assumed to be distributed and wielded unevenly between individuals and groups in society depending on their position within the relations of production (i.e. being the owner of the means of production or part of the laboring class) (Tetreault, 2017; Svarstad et al., 2018; Robbins, 2012). Epistemologically, this implies that changes in social organization are “ultimately explained by how people use nature”, in this case, how and under what conditions firms produce commodities out of nature (Robbins, 2012, p.55).

Harvey (2010) argues that any society in a given place and point in time can be understood by means of seven broad categories, which he terms activity spheres. These activity spheres are: “technologies and organizational forms; social relations; institutional and administrative arrangements; production and labor processes; relations to nature; reproduction of daily life and of the species; and ‘mental conceptions of the world’” (Harvey, 2010, p.123). As this work focuses on the state-firm-resource nexus and not, for example, on questions of labor or reproduction, the analysis focuses on identifying the technological and organizational forms, the institutional and administrative arrangements and the mental conceptions of the world. Moreover, in conducting the analysis, I follow Campling et al.’s (2016, p.1746, italics in original) approach in moving from the ‘abstract’ towards the increasingly ‘concrete’, where the abstract relates to “general concepts and categories” such as ‘institutional arrangements’ or ‘technological forms’ and the concrete refers to “particular social forms” such as the ‘corporation’, ‘state’, ‘property relations’ or ‘socio technical innovations’. This approach allows me to operationalize Harvey’s activity spheres, which will be further discussed below.

4.2 Case-study Methodology, Case Selection and Scope

The thesis applies a qualitative exploratory case study methodology (Yin, 2018) as a way to examine the conditions for and processes of consolidation of control within the offshore lobster

fishery of Canada. Previous research on corporate concentration in the salmon and herring fisheries of British Columbia has taken a quantitative approach, examining the shifts in license ownership over time (Haas et al., 2016). While this affords a broad view of the concentration of control in fisheries and associated industrial sectors (i.e. processing sector), a quantitative approach says little of the processes that lead to corporate concentration, which is to say *how* specific firms have managed to expand and consolidate ownership within fisheries (Cf. Campling, 2021). This thesis thus offers a methodological contribution to the investigation of corporate concentration in fisheries. Insofar as this work is exploratory, I do not have pre-established hypotheses and rather proceed abductively (i.e. back and forth) between theory and the case (Alvesson and Sköldeberg, 2009).

The Canadian offshore lobster fishery is a fruitful starting point to examine processes of consolidation within fisheries as there is currently one clear consolidated firm, Clearwater, that operates there. The question then becomes to understand how this came to be the case and guides the temporal and geographical scope of the case study. In terms of temporal scope, the analysis shifts in different parts of the results between overlapping time frames. Indeed, the results are divided into three sections, starting with a broad-brush account of the Canadian state's approach to management in the Atlantic fisheries between the end of the Second World War and the early 1990s, when key groundfish fisheries collapsed. This initial discussion provides a necessary framework for understanding the Canadian state's creation and development of the offshore lobster fishery between 1971 and 1988, the topic of the second section of the results. While the state continues to be relevant to the general management of the offshore lobster fishery, the essential skeleton of the institutional framework that continues to this day crystallized in the late 80s after which the role of Clearwater and its business strategies took on more importance in shaping the fate of the fishery. The third section thus shifts focus from the Canadian state to the firm Clearwater. This section starts with the founding of the firm in 1976 and runs until present day while also engaging with the implications of recent events including the sale of Clearwater to Premium Brands and the indigenous corporation FNC Holdings. Geographically, the work thus begins at the regional level of Atlantic fisheries in the first section, before focusing on the stretch of ocean-space designated as LFA 41, the only offshore lobster fishery in Canada, in the second and third sections (see Figure 4 above).

4.3 Methods, Operationalization and Analysis

I draw on several sources of data including 1) an analytical engagement with secondary qualitative material, 2) semi-structured interviews with five key informants as well as one informant, 3) document analysis of annual reports for Clearwater, and 4) secondary quantitative data on fisheries landings as a means to contextualize present findings (Cf. Yin, 2018).

I used semi-structured interviews with 5 key-informants (see Appendix A) to enhance my general knowledge of the development and politics of Nova Scotian fisheries. The key-informants, who are "believed to have the most knowledge of the subject matter", consisted of research professionals and government representatives whose work has focused on the Nova Scotian ocean-space and/or fisheries (Lavrakas, 2008, n.p.). Key informants were contacted through a combination of purposive and snowball sampling (Bryman, 2012). For example, one

key-informant (A) came as a contact from my supervisor, and further yielded directions to two other informants (C and D) (i.e. snowball sampling). I selected the remaining two key-informants (B and E) for their relevance to my topic (i.e. purposive sampling). Semi-structured interviews were chosen over both structured and unstructured interviews because they allowed the interview to both cover specific topics while also giving space for informants to branch out into topics they deemed important (Bryman, 2012).

All key informants were contacted via email and all interviews were conducted between March and July 2021 through either Zoom or Facebook Messenger. The key-informants were told of the purpose of the interviews and interview guides were sent to four out of five of them some days prior to the interview so they could familiarize themselves with the topics (see Appendix A). With their prior approval, the interviews were recorded and relevant elements were transcribed to provide a basis for further research. The interview with informant E was not recorded due to technical issues. For this interview, I took substantive notes as the discussion unfolded. The purpose of these interviews was to gain insight into the case study and additional paths for research. These interviews thus formed the basis of a background that fed into the state- and firm-level analyses.

Documents were the key source of data in this thesis. To analyze the role and approach of the state in the creation of the offshore lobster fishery, I engaged analytically with existing academic and grey literature on the history of Canadian fishery policy in general and on lobster fishery policy in particular. Moreover, I drew on current and older Integrated Fisheries Management Plans, as well as scientific reports of fishery stock assessments from the Department of Fisheries and Oceans Canada (DFO) to ascertain the institutional framework within which the lobster fishery is governed as well as the general environmental conditions of the fishery. The analytical engagement consisted of identifying a historical timeline of events leading to the formation of the offshore lobster fishery as it is today, using Harvey's (2010) activity spheres (see Table 1 below).

To conduct the firm level analysis and examine the business strategies of Clearwater, I used a combination of document analysis of annual reports for the company as well as an interview with a company representative (see Appendix B). I analyzed the annual reports of Clearwater for the period between 2002 and 2019 to assess major events in the corporation's recent history and its approach to the development of the offshore lobster fishery in Nova Scotia.¹⁸ Moreover, I contacted the company in July 2021 to request an interview (applying purposive sampling), which was eventually granted. The interview was not recorded, thus substantive notes were taken and uploaded into Nvivo alongside the annual reports (Kvale, 2007). Both datasets were coded for "the meaning of what [was] said" rather than "the linguistic forms whereby meanings are expressed" (Kvale, 2007, p.5). For this section of the analysis, I concretized Harvey's spheres by drawing on work by Campling (2012) and Campling (2021) to tease out firm strategies (see Table 1 below).

¹⁸ Between 2002 and 2019 Clearwater was a publicly traded company. Annual reports prior to 2002 were thus not openly available online. A request for internal reports between 1976 (date of creation of the company) and 2002 was made to Clearwater via email without response.

Studying the tuna fisheries of the Indian Ocean, Campling (2012) identified a number of strategies that fishing firms deployed to extract tuna from the sea and turn them into commodities for the global market. Campling (2012) first usefully distinguishes between vertical and horizontal relations between firm and fish at sea. Whereas vertical relations examine the business strategies of firms in relation to the environmental conditions of production (i.e. firm-fish relations), horizontal relations investigate the competitive dynamics between various firms operating in the same space (i.e. firm-firm relations in the context of competition over fish) (Campling, 2012).

With regards to vertical relations, firms must confront the dual challenge of *distance* and *durability*, which is to say that firms must time-efficiently bring the fish from the fishing ground to a market before the fish spoil. Moreover, in situations where the firm is geographically constrained (i.e. needing to extract from a space with declining yields or institutionally restricted in its expansion into other areas), firms can deploy a number of particular “production strategies” (Campling, 2012, p.269), which Campling (2012, p.256) calls “commodity-deepening strategies”.¹⁹ These strategies include socio-technical innovations or vessel enlargement to enhance the yield of fish produced within the same space. In terms of horizontal relations related to dynamics of competition, firms can resolve to deepening corporate concentration by merging or changing industrial organization. This can be achieved through, for example, vertically integrating into other nodes of the fish commodity chain (i.e. creating or buying processors, distributors. etc.).

Actor	Harvey’s activity sphere	Operationalization for analysis
The State	Institutional and administrative arrangements and mental conceptions of the world	<ol style="list-style-type: none"> 1) Creation and distribution of property rights in the form of licenses and quotas (Institutional) 2) Changing perception of fish from inexhaustible to exhaustible but renewable (Mental conception)
The Firm	Technological and organizational forms	<ol style="list-style-type: none"> 1) Innovations in gear (Technological) 2) Innovations and expansions in vessels (Technological) 3) Mergers and acquisitions (Organizational) 4) Forward or backward integration between nodes of the value chain (Organizational) 5) Expand market reach (Organizational)

Table 1. Operationalization of analytical concepts drawing on Harvey’s activity spheres.

¹⁹ Drawing on Jason Moore’s (2010a; 2010b) conceptualization of the commodity frontier, Campling (2012) also discusses “commodity-widening strategies”, which involve expanding into new geographical areas as a means to compensate for decline in a previously tapped space. This is of limited analytical value to this work as the geographical space of extraction under study is strictly delimited and Clearwater has thus been constrained in its ability to ‘widen’ its extraction to new geographical areas. Nonetheless, this geographical restriction itself involves important implications for the types of strategies that Clearwater has resorted to within the offshore lobster fishery, as will be discussed in the results.

4.4 Secondary Quantitative Data

To better grasp the general trends in the Nova Scotian and Canadian fisheries (presented in the Background section), I sourced quantitative data on the landed weight and landed value of several fisheries, including lobster. Data for the Nova Scotian fisheries was sourced from 1970 up until 2019 (last available date for information). Data from 1990 to present day was available on the DFO website whereas data from 1970 to 1990 were acquired through personal communication with DFO officers from the division of Economics, Statistics and Data governance. Data for the Canadian lobster fishery was sourced for the Food and Agriculture Organization Fishery Statistical Collection. Data management and graph creation were conducted in Excel.

4.5 Limitations

The entire research process was conducted at a distance from the field site, which entailed several challenges. First, not being on the ground limited the nuances in my initial understanding of the context, meaning that I had to significantly rely on insights from key informants to fill gaps in my knowledge, potentially skewing the objectivity of the information I was integrating. However, relying on both interviews and documents as the basis of my analysis allowed me to triangulate data and cross-check the legitimacy of my findings as well as insights from my informants (Bryman, 2012).

A second limitation relates to the availability of historical information on the development of the offshore lobster fishery. Several pieces of key information, such as when Clearwater first bought offshore lobster licenses (and from whom) were not readily available in the documents I compiled (neither the management plan, which contained a brief historical section on the development of the fishery, nor Clearwater's annual reports, which included sections on the company's history). Moreover, the representative from Clearwater, who had only joined the company more recently, was not able (or willing) to provide specific details on this and other key historical facts on the company. A third limitation relates to the difficulty in accessing news articles for key events in the past. One informant recommended I consult the archives of key newspapers including the Chronicle Herald and Sou'Wester to gain factual data on key historical events. While I attempted to source historical entries for these newspapers through their online websites, it became apparent that these resources would not be available at a distance.

Finally, while the focus of this work is on the development of the offshore, matters related to inshore-offshore interactions as well as non-indigenous-Mi'kmaq' relations are of relevance to the analysis. To broaden my source of information on these issues, I requested interviews with both inshore lobster fishermen associations and representatives from key Mi'kmaq' bands currently involved in lobster fisheries. However, I did not receive responses from the inshore associations. Moreover, it came to my attention that research conducted with indigenous peoples in Canada requires a strict ethical review process, which I did not have the time to complete. While these limitations presented challenges in the research process, the diversity of sources of information and data allowed me to maintain the analytical viability of this work.

Chapter 5. The Political Economy of the Nova Scotian Offshore Lobster Fishery

The findings of this research are presented in three parts that focus on different scales and carry across overlapping time frames. I begin with a macro-level analysis of key shifts in the Canadian state's approach to fisheries management throughout the second half of the 20th century. In this first section, which spans from the end of the Second World War to the mid-1990s, I expand on key institutional changes and ecological events that have molded the development of the offshore lobster fishery. The second section continues on the macro-level of the state while geographically homing in on the offshore lobster fishery. Starting from the creation of the offshore in 1971, I advance how the state's creation of the offshore was shaped by its shift to a regulatory approach, which supported the development of capital-intensive fishing firms by assigning property rights to them. In a final part, I shift analytical levels to the meso-level of the firm and unveil the various business strategies that Clearwater deployed to gain exclusive control over the offshore.

5.1 The Canadian State, Fishery Policy and the Collapse of Groundfish Fisheries

Throughout the second half of the 20th century major ecological and institutional events contributed to shifting the state's approach to managing fisheries on the Atlantic coast. First, an initial stock crisis in the Atlantic groundfish fishery in the early 1970s instigated a major shift in state approach to fisheries policy from a laissez-faire approach focused on the unlimited expansion and modernization of fishing vessels to a regulatory approach aimed at controlling entry to fisheries and the amount of harvestable fish. Second, the Canadian state's declaration of its EEZ in 1977 enclosed the fish as state property and from then on allowed the state to devolve that property to firms via quota systems, which the state later applied in the offshore lobster fishery in the form of enterprise allocations. Third, a second stock crisis in the Atlantic groundfish fishery contributed to a booming population of lobster by the early 1990s.

Since the end of the Second World War the Canadian state had been taking a broadly 'modernizing' approach, bent on capitalizing the fisheries, which is to say developing larger fishing vessels and fishing gear that could more effectively extract larger volumes of fish from the sea, efforts which were massively subsidized by state programs (Gough, 2006; Barrett, 1984). This approach was pursued in an attempt to "rectify the inefficiencies (...) of the east coast fishery" (Barrett, 1984, p.78). While this was also the time when the ideas of fisheries economists such as Harold Scott Gordon were emerging in Canadian academia, their warnings concerning overcapitalization in fishing fleets were largely unheeded by DFO (Barrett, 1984). Indeed, the prevailing conception in decision-making spheres concerning fish stocks was that they were inexhaustible, and thus "in the 1940s and 1950s, there was little concern about overfishing" (Gough, 2006, p.228). ²⁰ Barrett (1984, p.82) highlights that "orthodox images of large-scale

²⁰ This notion dates back to ideas developed in 19th century Victorian biology, best captured in the widely cited words of Thomas H. Huxley, also known as Darwin's bulldog: "The cod fishery, the herring fishery,

economies and modernization based upon vertical integration and centralized development, dominated state planning in the fishery”. As groundfish, and specifically cod, were the main sources of catch throughout the Canadian Atlantic, these fisheries were the first to be developed by the state’s programs. Thus between 1945 and the late 60s, “vertically-integrated” processing companies with large processing plants and large trawlers became the main force in the groundfish industry, and for much of the industry in general” (Gough, 2006, p.248).

By the late 60s, however, early signs of ecological disruption within these fisheries were emerging and the state was already considering the use of regulatory measures such as “limited entry” licenses as a means of controlling fishing intensity by restricting access to the fisheries (Gough, 2006). However, Canadian vessels off the Atlantic coast of Canada were fishing alongside large vessels from France, the UK, Portugal and Spain, as well as Soviet, Polish and German factory freezer trawlers (Gough, 2006).²¹ Thus, without an ability to exclude foreign vessels, the state perceived restricting the efforts of Canadian fishing firms as merely harming its domestic enterprises without gaining the presumed benefits of stock sustainability.

While 1973 marked the most lucrative year to date for Canadian fisheries in terms of landing, by 1974 major groundfish species had widely collapsed, with cod landings dropping by 50 percent, herring by 73 percent and haddock by an astounding 80 percent (Gough, 2006; Barrett, 1984). Though Canadian fishing firms were also harvesting as much as they could, foreign fleets were blamed for the collapse (Gough, 2006). Canadian fishing firms and processors were thus pressuring the state to declare its EEZ, as several other countries including the US had previously done (Gough, 2006). Indeed, pushing out foreign vessels would then allow Canadian firms to replace them and thus secure their own ability to accumulate capital by reducing competition.

The collapse caused a major shift in the state’s approach to fisheries management, which by the early 1970s took a sudden turn from *laissez-faire* modernization to a regulationist approach focused on preserving stocks. This involved experimenting with various input and output controls and the period marked a significant shift in the conception of fish; from considering stocks to be inexhaustible, the state was now forced to face their ecological limits. Yet, in spite of turning to a regulatory approach, the state nonetheless set few restrictions on the expansion of Canadian industrial fisheries (Gough, 2006). As Barrett (1984, p.82) comments:

“It took the stock crises of the 1970s to shake the hold exercised by development economics over fishery policies. This was to change radically the assumptions underlying fisheries policy, as well as the function and role of the state as sole manager. It was to stop short [however] of radically restructuring the industry, as it failed to check the anarchistic expansionism of the private sector.”

the pilchard fishery, the mackerel fishery, and probably all great sea fisheries, are inexhaustible: that is to say that nothing we do seriously affects the number of fish. And any attempt to regulate these fisheries seems consequently, from the nature of the case, to be useless.” (Huxley, 1883, cited in Gordon, 1954, p.126) The term ‘fishery’ in this context referred only to the fish stocks.

²¹ Trawlers are a kind of fishing vessel that drags traps and nets inside the sea (FAO, 2021).

By the early 1970s, at the time of the creation of the offshore lobster fishery, the state was thus shifting towards taking a regulatory approach to fisheries management, while still displaying support for the continued development of Canadian industrial fishing firms.

On January 1st 1977, the Canadian state declared its EEZ, which “brought 3,7 million square kilometers of ocean - the largest such zone in the world (...) under Canadian fisheries control” (Gough, 2006, p.298), effectively turning all marine life within that space into the state’s exclusive property (Cf. Campling and Havice, 2014). Within the EEZ, the state enhanced its use of licenses and quotas, as it could now entirely control fishing efforts in this zone (Gough, 2006, p.289). Despite the recent collapse of several groundfish fisheries, the declaration of the EEZ and apparent rebuilding of groundfish stocks was perceived as bringing “hopes of doubling Canada’s Atlantic groundfish harvest” by pushing out foreign vessels (Gough, 2006, p.288). Major investments by both banks and the state were again made to expand and enhance Canadian offshore fishing vessels and gear. As captured in a 1995 Report by the Standing Senate Committee on Fisheries:

“In the years that followed [the EZZ declaration] and in anticipation of a boom, banks provided loans to fishermen and processors to expand their operations and government subsidies were handed out for the purchase of new vessels, the expansion of existing fishing and for the building of new ones. The planned gradual displacement of the foreign fleet was seen to provide a particularly good opportunity to expand the Canadian offshore.” (Rossiter and Norbert Theriault, 1995, pp.11-12)

In 1982, then Prime Minister Pierre-Elliott Trudeau appointed Canadian senator Michael Kirby to investigate, and pen a report on, the state of Atlantic fisheries and their management. The influential report concluded that industry trawlers would be an important new contribution to the Atlantic groundfish fisheries and recommended the introduction of ITQs and enterprise allocations. ²² Ultimately, the Kirby Report led to an extensive restructuring of the offshore groundfish fisheries “which involved the infusion of public money [...] to refinance and amalgamate a number of major processing firms operating offshore trawler fleets.” (Rossiter, and Norbert Theriault, 1995, p.13) According to a policy analyst in fisheries management, the Kirby Report is responsible for handing over “ownership of 80 or 90 percent of the groundfish to two or three companies and mak[ing] it their permanent private property” through the implementation of ITQs (Williams, cited in Baxter, 2020, n.p.).

Throughout the 1980s, the expansion of the offshore groundfish fishery essentially pushed inshore vessels out of harvesting groundfish throughout Atlantic Canada (Gough, 2006). The inshore began instead to emphasize harvesting shellfish, specifically lobster (Gough, 2006). By 1991, a stock crisis hit Atlantic groundfish fisheries again, with major species of groundfish, including cod, haddock and halibut, collapsing a second time (Gough, 2006). While experts debate the root causes of the collapse, differentially weighing the role of management versus

²² Enterprise allocations are premised on entry limitation, distribution of quotas and transferability of said quotas, they are thus essentially ITQs (Cf. Mansfield, 2004), though the Canadian policy system appears to differentiate between ITQs for the inshore and enterprise allocations for the offshore.

environmental conditions, it is widely acknowledged that the consolidation of groundfish fishing into an unchecked industrial production system likely played an important role (Charles, 1997; Scott Parsons, 2010).

The Atlantic groundfish stocks have still not recovered from the collapse in the early 1990s. Yet, as groundfish, specifically cod, were natural predators of lobster, populations of the shellfish began booming. Thus, while lobster stocks, and shellfish more broadly have been massively growing, the focus of fishing efforts in the Canadian Atlantic, and in Nova Scotia in particular, have shifted from groundfish to shellfish. In this way, the decline in accumulation opportunities from one species contributed to the emergence of a new frontier for accumulation in another species (Cf. Campling and Havice, 2014). With this regional context in mind, we now turn to the creation and development of the offshore lobster fishery.

5.2 State-led Development of the Offshore Lobster Fishery - 1971 to 1988

The offshore lobster fishery of Canada was created in 1971, when offshore lobster licenses were proposed to swordfish fishermen (Gough, 2006; DFO, 2020a). Fearing the effects of mercury poisoning in fish higher up the food chain, such as swordfish, the US, the main importer of Canadian swordfish, enhanced regulations on accepted levels of mercury, leading to a market shock for Canadian swordfish fishermen (DFO, 2020a). Moreover, by the late 60s, the US was expanding its own offshore lobster fleet in the Gulf of Maine, and the Canadian state saw the decline of the swordfish market as an opportunity to extend its own fishing presence in the area (DFO, 2020a). In 1972, six offshore lobster licenses were thus handed to previous swordfish fishing vessels to fish on George's Bank, a bank in the Gulf of Maine on which lobster are particularly abundant (See Figure 1 above).

Inshore lobster fishermen in Southwest Nova Scotia protested against the creation of the offshore from its inception, as they perceived the offshore as a threat to their lobster stocks (Davis and Kasdan, 1984; Pezzack et al., 1992). Indeed, between the first and second half of the 1970s, the average landings of the inshore fleet decreased by nearly a quarter (DFO, 2020a), and after having been pushed out of the groundfish fisheries, inshore fishermen were becoming increasingly dependent on shellfish, in particular lobster (Baxter, 2020). Tensions rose in 1976 when two additional offshore licenses were issued, leading to large protests in the city of Shelburne in 1977. As Davis and Kasdan (1984, p.117) comment, "the Shelburne demonstration dramatically brought the issue to public, and one may assume, political attention." The demonstration incited DFO to meet with inshore fishermen, yielding "strict fishing effort limitations upon the offshore lobster fishery, which were regarded as acceptable by the small boat fishermen" (Davis and Kasdan, 1984, p.117).

The state froze the number of offshore lobster licenses at eight and added additional regulations including a closed season of nine fishing months per year and a trap limit of 1000 traps per vessel (Pezzack et al., 1992). Since the state had declared its EEZ in January that year, it also set a TAC of 408 tons on the portion of the offshore area closest to the inshore for which it had certainty

of exclusive control. Indeed, the Canadian state's EEZ declaration had left some uncertainties in the border delimitations between Canada and the US in the Gulf of Maine. Thus, while the state capped offshore lobster fishing where it had certainty of its exclusive use of the fish, it left offshore lobster harvesting in ambiguous zones uncapped as the US was itself not applying a catch quota in its own offshore lobster fishery (DFO, 2020a).

During this time the offshore lobster fleet, which was converting from gear appropriate for swordfish, was restricted in its capacity to harvest lobster by their vessel and gear types. Indeed, between 1972 and 1982, the offshore lobster fleet consisted of eight wooden vessels, using strings of fifty wooden traps (Pezzack and Duggan, 1995). These technological conditions restrained the fleet's capacity to fish in harsher weather, specifically in winter (Pezzack and Duggan, 1995). By 1982, however, the fleet began capitalizing and the wooden vessels were gradually being replaced by larger steel vessels. The number of traps per vessel, as well as traps per string were increasing and traps were converted from wood to wire, which were more resistant (Pezzack and Duggan, 1995). Through these technological innovations, the fleet was able to reduce the amount of time spent at sea during individual fishing trips, thereby minimizing labor costs and improving its general efficiency.

In 1985, two key events consolidated the offshore lobster fishery into its current institutional state. First, the ambiguous border between Canada and the US had been under review at the International Court of Justice. In 1985, the International Court of Justice delivered its judgement and the border between the US and Canada in the Gulf of Maine, known as the Hague Line, attributed the northern third of George's Bank, where lobster is most abundant on the bank, to Canada (See Figure 1 above). Having now gained exclusive control over the remaining ocean-space where offshore lobster fishing was taking place, the state extended the TAC for the entire offshore to 720 tons.

Second, offshore license holders, the Nova Scotia Department of Agriculture and Fisheries and DFO formed the Offshore Lobster Advisory Committee as a platform to co-manage the offshore harvest (DFO, 2020a). This effectively consolidated the direct communication between the state and the offshore lobster industry by institutionalizing industry co-management of the fishery. Indeed, the Offshore Lobster Advisory Committee has since then served as "the primary vehicle through which the Offshore Lobster Management Plan [was] deliberated and developed." (IFMP, 1988, p.8; DFO, 2020b) In 1986, it advocated for the introduction of enterprise allocations, providing "license holders with the equivalent of transferable quotas", which was granted by DFO (DFO, 2020a, n.p.). Catch shares for the offshore lobster fishery were divided equally among license holders (eight shares of 90 tons each), and now became transferable, thus sellable to other fishing firms. Importantly, the first official Integrated Fisheries Management Plan (IFMP; 1986, p.5) for the offshore lobster fishery noted:

"It is a widely accepted principle that access to a common property resource should not be the exclusive preserve of a single private company or a single management enterprise. In recognition of this principle, single enterprise acquisition of 50% of the total quota have been set in some fisheries. Consideration of such a limit may be taken into account in any allocation transfer request in the event of the sale of a vessel and the resulting license transfer."

At this point, four companies were involved in the offshore, three of which each held a single license (C.W. McLeod Fisheries Ltd., Donna Rare Fisheries Ltd., and Sable Fish Packers Ltd.) and one which held five licenses (Port La Tour Fisheries Ltd.). Consolidation of licenses had thus already been underway and importantly, the first IFMP for the offshore lobster fishery did not legislate or enforce any limitations on the amount of licenses that could be transferred but merely acknowledged that such a principle could be taken into consideration. Moreover, the plan merely addresses the matter of how many licenses can be transferred to another company. There is no mention of how many licenses can be owned by any single firm. In the inshore lobster fishery, a number of measures had been put in place to prevent the consolidation of licenses in the hands of large firms. These include the ‘separate fleet’ policy of 1979, which prevented corporations from buying up inshore licenses, and the ‘owner-operator’ policy of 1980, which mandated that the license holder had to also be operating the vessel (Gough, 2006). No equivalent legislation has ever been made in the offshore and by 1988, the new IFMP (1988, p.7) stated that “currently, seven of the eight offshore licenses are controlled by a single enterprise through three subsidiaries and one license is held by an independent operator”. Earlier lukewarm attempts at maintaining competition within the offshore had thus proved entirely ineffective as a single enterprise had managed to consolidate ownership of seven licenses.

In the late 80s, while the state and large fishing firms were keen to further expand the offshore lobster fishery, the inshore continued to push back against such efforts. Indeed, in January 1988, the Minister for Fisheries announced the introduction of four new offshore lobster licenses and an addition of 360 tons to the TAC of the offshore (Pezzack et al., 1992). Yet protests from the inshore led to the removal of these licenses by April 1988 (Pezzack et al., 1992).

In this way, we can see the extent of the Canadian state’s proactive involvement in crafting a space for lobster production that is amenable to the needs of large fishing firms while simultaneously negotiating the conflicting interests of smaller fishing capitals in the inshore. The state-institutional framework that regulates and shapes the possibilities for development within the offshore were consolidated in the late 80s. The thesis now turns to unveiling how Clearwater adapted to this framework, alongside the bio-geographical constraints of the lobster to create a space amenable to its capital accumulation.

5.3 Clearwater Seafoods Inc.: Firm Strategies in the Offshore Lobster Fishery - 1976 to present day

Clearwater, in operation for over 40 years, is North America’s largest vertically integrated harvester, processor and distributor of seafood (Clearwater, 2019). It currently harvests seafood from the Atlantic coast of Canada, the coast of Argentina and the east coast of the UK (Clearwater, 2019). Major seafood species that Clearwater harvests include scallops, lobster, clams, shrimp, langoustine, crab and groundfish (Clearwater, 2019). Moreover, it is the largest holder of shellfish quotas and licenses in Canada, which the company boasts gives it a “sustainable competitive advantage” by creating “barriers to entry” (Clearwater, 2013, p.1).

Indeed, as the company astutely explains, “these quotas are a key barrier to entry [because] regulatory authorities strictly control access and rarely grant new licenses” (Clearwater, 2013, p.1), as we have seen is the case for the offshore lobster fishery since the late 70s.

Between 2007 and the fall of 2020, when Clearwater sold two offshore lobster licenses to the Membertou Mi'kmaq of Nova Scotia, it was the owner of all offshore lobster licenses. Yet Clearwater began in the late 70s as a small, lobster-buying company. The thesis now turns to unveiling the corporate strategies including the socio-technical innovations, cost cuts, organizational transformations, and purchases of resource ownership through which Clearwater gained an exclusive control over the offshore lobster fishery for over a decade and expanded its opportunities for capital accumulation through harvesting lobster.

In 1976, John Risley and Colin MacDonald founded Clearwater in Bedford, Nova Scotia as a lobster buying company. At that point, lobster fishing was largely seasonal, due partly to the conditions of biological reproduction of the lobster as due to state regulation mandating closed seasons on lobster fishing (Gough, 2006). Sales and exports of lobster were thus also seasonally constrained (Gough, 2006). By 1978, Clearwater sought to expand the timeframe of its lobster sales to capture year-round market demands for the shellfish, which it achieved by developing the first dryland lobster pound in the world (Clearwater, 2006). The dryland lobster pound reproduced the lobster's environmental needs and allowed Clearwater to store live lobster for up to six months, to be sold in the off-season. It thus provided a “technical solution to the problem of (...) durability” of lobster, by creating a storage technology able to hold the shellfish between the constrained moment of harvest and the desired time frame of market access (Campling, 2012, p.259). In this sense, the lobster pound not only afforded Clearwater a means of “controlling and mitigating organic processes” of lobster (Campling, 2012, p.259), it also allowed the firm to curtail regulatory constraints placed by the Canadian state in the form of closed seasons for lobster fishing. The market advantage of this lobster pound was such that in 1987, Clearwater opened a second of two dryland lobster pounds, with a combined storage capacity of 2.5 million pounds of live lobster. This socio-technical innovation thus allowed Clearwater to capture a wider market, and hence expand its opportunities to accumulate capital. As the company states:

“These unique facilities allow Clearwater to provide its customers with a consistent quality of product year-round. They have also allowed us to be a pioneer in the development of new markets for Canadian lobster around the world.” (Clearwater, 2002, p.10)

Indeed, during the 70s and early 80s, Canadian lobster was being sold almost exclusively to markets in the US. With these lobster pounds, Clearwater was able to open new markets in Europe and eventually Asia (Informant 1), connecting regional lobster production in Nova Scotia to increasingly international and growing markets, while simultaneously inciting a rise in production.

According to a Clearwater representative (Informant 1), from early on the company was showing interest in expanding its own activities into the fishery segment of the lobster commodity chain. As the inshore fleet was protected from consolidation into processing firms by the ‘fleet-

separation' and 'owner-operator' policies, Clearwater "backward integrat[ed]" (i.e. when an entity higher up the commodity chain expands into activities lower in the chain) its supply chain into fishing activities (Cf. Campling, 2012, p.267) by acquiring companies that owned offshore lobster licenses. While it is not exactly clear when Clearwater first entered the offshore lobster fishery, by 1993, the company held seven of the eight licenses (IFMP, 1993), a feat largely attributed to the acquisition of other fishing companies (Informant F; Key Informant E; Baxter, 2020). A change in organizational form (i.e. the acquisition of another fishing firm and subsumption of its assets) thus simultaneously afforded Clearwater a change in institutional arrangements (i.e. the shift in property rights via licenses over lobster in the offshore fishery to Clearwater).

After acquiring the majority of the offshore lobster licenses, Clearwater's strategies shifted towards enhancing their technological abilities to more efficiently harvest, process and transport the lobster. By the early 2000s the live lobster market was taking a downturn (Gardner Pinfold, 2010) and Clearwater responded to this challenge in accumulation through additional socio-technical innovation. In 2004, it constructed a CAD\$4 million lobster processing facility, equipped with a "patented high pressure shucking process" which separates the shell from the meat (Clearwater, 2012, p.4). With this processing plant, Clearwater expanded from the live lobster market into the more stable processed lobster market through offering frozen lobster products, easier to handle for high end retail and restaurants. The company discussed the anticipated market and accumulation opportunities as follows:

"In July 2004 Clearwater completed construction of a new \$4 million lobster processing facility. This investment has enabled Clearwater to produce an exciting new premium quality raw lobster product, which is being targeted at the high-end foodservice and retail markets. This investment will result in increased growth over the next several years in its lobster business, which has historically been solely a live business. This new raw lobster meat product will complement its quality live lobster offering and leverage its international reputation for lobster through the addition of a value-added product." (Clearwater, 2004, p.1)

Indeed, the advantages of this innovation were reaped in the immediate introduction of these new products to European and North American markets (Clearwater, 2005). Thus, by 2006 sales from lobster were increasing again:

"Lobster sales increased compared to the prior year due to higher volumes. A combination of a new raw lobster product and the application of technology that provides an effective method to sort and grade live lobster, has allowed Clearwater to purchase live product on a more selective basis and utilize the product it has more efficiently." (Clearwater, 2006, p.19)

As the last sentence in this statement suggests, Clearwater has also been able to leverage its position as a dominant actor in the overall lobster commodity chain to gain from its market relations with the inshore lobster fisheries. In addition to placing selective pressures on the size and quality of lobster coming from the inshore, it also benefits from the overall structure of the distribution of surplus value along the lobster commodity chain. A report by consulting firm Gardner Pinfold (2010, p.23) points out that lobster harvesters gain "the same 75-80% share of

the wholesale price regardless of the state of the market” while other actors in the commodity chain including buyers, processors, and sellers share the remaining 20-25% of surplus value. Yet when wholesale prices for lobster decline it is mostly reflected within the margins of the harvester, while the margins of actors higher up in the commodity chain are fairly stable in the face of market changes. To avoid operating at a loss, lobster harvesters must increase their production of lobster to offset their operating costs (i.e. fuel, workers, license fees etc...). Since buying into the offshore lobster fishery, Clearwater has continued to purchase the majority of its supply (between 80% and 85%) from the inshore fleet. In 2008, as the market for lobster sharply declined due to a weak American dollar and the global recession, the decline in the lobster market led to a sharp decline in the prices paid to the harvesters (Gardner Pinfold, 2010). As a buyer and processor of lobster, Clearwater was able to safeguard its own revenues through the price burden being placed onto lobster harvesters:

“Lobster sales were 7% lower as compared to 2007 due largely to lower average prices. However, given that Clearwater procures approximately 80% of the live product that it sells, lower purchase prices and good quality in the fall of 2008 resulted in lower cost products partially offsetting the negative impact from lower prices in the market.” (Clearwater, 2008)

In January 2007, Clearwater bought the eighth offshore lobster license from the company Donna Rae Inc. (Clearwater, 2007; Informant 1) giving it exclusive control over offshore lobster harvesting in Canada.

After consolidating its access to the offshore, Clearwater continued to deploy strategies aimed at both securing and expanding its accumulation opportunities from lobster, including securing Marine Stewardship Certification (MSC) in the early 2010s (Clearwater, 2015). MSC began gaining ground in the late 2000s as an independent certification process aimed at creating and harnessing “market incentives to promote sustainable seafood production and consumption” (Foley, 2012, p.436). According to the representative from Clearwater, signals from the European market suggested that MSC certification would become an increasingly important factor in maintaining the company’s competitiveness (Informant 1). Throughout the 2010s, however, Clearwater also faced a growing number of challenges, which threatened its social legitimacy and potentially its ability to continue to accumulate capital. Following a scandal in 2018 revealing that the firm illegally stored lobsters in ocean cages, Clearwater decided not to renew its MSC certification in the offshore in 2020 (Withers, 2020). While the company claimed that this was “a voluntary decision driven by business consideration”, others argue that the choice not to renew its certification allowed Clearwater to avoid further scrutiny into its harvesting practices in the offshore lobster fishery, which could further threaten its legitimacy as a firm (Withers, 2020).

In February 2021, the Supreme Court of Nova Scotia approved the purchase of Clearwater by the partnership between Premium Brands Holding Inc. and the coalition of seven Mi’kmaq bands, under the newly formed firm FNC Holdings Ltd. (Withers, 2021). While both firms now own 50 percent of Clearwater, all Canadian fishing licenses were transferred to FNC Holdings Ltd. (Clearwater and Mi’kmaq Coalition, 2020) This consortium of indigenous bands has thus become the owner of several fish stocks in Canada and beyond, including the lobster in LFA 41.

Some applaud this deal by arguing that increased indigenous control in fisheries will undoubtedly benefit indigenous communities. Chief Terry Paul of the Membertou First Nation states that “acquiring Clearwater will have lasting positive impacts on the economics of our Mi’kmaq communities” (Paul, cited in Mercer, 2020). Indeed, through this deal he expects Mi’kmaq to be placed within all ranks of the company. Economic benefits to indigenous people in fishing would moreover extend beyond those working within the Clearwater structure as Chief Paul hopes to also increase the share of fish that the company buys from indigenous inshore fisheries. However, others note that the participation of some but not all Mi’kmaq will wedge and grow social inequality within Mi’kmaq communities. As the Mi’kmaq coalition emphasizes in their press release with Clearwater, all Mi’kmaq bands were given the opportunity to join the coalition (Clearwater and Mi’kmaq Coalition, 2020). Yet, in addition to the two bands leading the deal, the Membertou of Nova Scotia and the Miawpukek of Newfoundland and Labrador, only four other bands have confirmed their intention to partake in the deal.

Clearwater itself will “continue to operate as a distinct entity thereby ensuring continuity for its brand” (Clearwater and Mi’kmaq Coalition, 2020) and the company’s purchase by a group of First Nations is in fact expected to benefit the company’s prospects by enhancing its social legitimacy. Indeed, while Clearwater’s founder John Risley bemoaned recent criticisms of some of the company’s practices that have contributed to stifling its overall growth, he stated that through this deal “the company has now removed that target because the licenses are going to be owned by the First Nation and now they’re off limits. No one is going to be talking about taking things away from the First Nations and that is very good for the company” (Risley, cited in Withers, 2021).

The indigenous owned FNC Holdings was able to partake in the deal in part through acquiring a loan from the First Nations Finance Authority, “a not for profit organization created by the federal government and run by Indigenous groups to improve access to capital for First Nations communities” (Mercer, 2020, n.p.). In this sense, the communities involved in the deal were able to leverage their indigenous identity to access capital, in turn used to acquire access to a number of fisheries (Cf. Campling et al., 2012). While an extensive analysis of the articulation between indigenous identity and capitalism is beyond the scope of this thesis, this deal can be understood as one more strategy deployed by Clearwater to secure its ability to accumulate, a strategy contingent on a change in organizational form in which the firm itself is purchased by other entities while nonetheless maintaining its inner managerial structure and brand.

Conclusion

Increasing swaths of global marine life are coming under the control of large vertically integrated corporations, which in turn often rely on states to broker access to these resources. A small yet growing body of literature in critical resource geography is developing a framework, drawing on Marxian political economy, through which to analyze the roles of both the state and the firm in turning marine life into a key node for capital accumulation. This thesis has sought to contribute to that literature through a case study of lobster fisheries in Nova Scotia, Canada.

In this thesis, I have demonstrated the Canadian state's instrumental role in creating and developing the offshore lobster fishery. The state's involvement in this process was shown to be part of a wider policy orientation towards supporting the development of large Canadian fishing capitals, an orientation broadly in line with the new fisheries regime devised by UNCLOS during the second half of the 20th century. I have moreover shown the range of strategies that Clearwater has deployed, and how these strategies were adapted to both the bio-geographical constraints of the lobster as well as the institutional boundaries of the Canadian state. These strategies included technological innovations in the form of lobster holding facilities and organizational innovations such as backward integrating into the upstream node of the lobster commodity chain.

While this research has focused on the involvement of Clearwater in the offshore lobster fishery, the firm holds licenses for a number of other species. Future research could extend the analysis of the Clearwater case study to include its strategies for expansion across geographical areas and into new fish species. Additional research could also expand the analysis of the articulation of indigenous identity and capitalism in Canadian fisheries, an approach spearheaded by De Alessi (2012) in the context of New Zealand.

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Appendices

Appendix A. Key Informants Overview and Interview Guide

Informant code	Relevant affiliation	Informant expertise
Informant A	Fisheries and Oceans Canada	Fisheries management and conflicts
Informant B	University researcher	Marine spatial planning and integrated coastal management
Informant C	Fisheries and Oceans Canada	Marine spatial planning
Informant D	University researcher	Fisheries management
Informant E	University researcher	Fisheries management and conflicts

Opening:

1. Can you introduce yourself?
 - a. What is your name?
 - b. What is your experience in relation to Nova Scotia fisheries and the marine economic sector?

Fisheries industrial organization:

2. How has the industrial organization of Nova Scotia Fisheries evolved since the 1980s?
 - a. Has this had an effect on their ability to lobby for their interests in terms of access to and use of ocean space? If so, which?

Fisheries regulation, management and planning:

3. What is the current system of allocation of licences in the fisheries sector?
 - a. How has this changed since the 1960s?
4. Which major regulation and/or management tools have been applied in the offshore fisheries sector since the 1960s?
 - a. How have these tools affected the fisheries industry in terms of numbers and sizes of different companies? (Prompt: smaller number of larger fishing companies?)
5. What forms of revenue does the government receive from the fisheries sector?
 - a. How has that changed since the 1960s?

Conclusion:

6. Do you know anyone who has been or is involved with a fisheries association? Do you know of any resources to better understand the regulatory framework, history of management of fisheries in Nova Scotia?

Appendix B. Informant Overview and Interview Guide

Informant code	Informant expertise
Informant 1	Representative from Clearwater Seafood Inc.

Opening:

1. Since when have you been with the company?
 - a. What is your role there?
2. How important is Clearwater to the Lobster/Shellfish fisheries of Nova Scotia?

Licences, boats and gear:

3. How and when did Clearwater first enter the Canadian Offshore lobster fishery?
 - a. When did Clearwater acquire Continental Seafoods and how many licenses did that bring?
 - b. When did Clearwater buy additional licences in the offshore lobster fishery? From whom?
 - c. Who did Clearwater buy the final licence from in 2007?
4. A decade ago Clearwater decommissioned the 5 to 6 boats it was using to harvest offshore lobster and started using the Randell-Dominaux. Were these boats the boats used by the previous licence owners?
 - a. What kind of gear is used on the Randell-Dominaux to harvest the offshore lobster quotas?

Government support:

5. Did/does Clearwater receive government subsidies and/or funding?
 - a. Which kind and when? How was it used?

Governance:

6. What role does OLAC play in advising the management of Canadian offshore lobster fishery?
 - a. How influential do you feel are OLAC recommendations in terms of government decisions concerning the fishery?
 - b. How influential do you feel Clearwater is within OLAC?

Harvesting:

7. Clearwater currently purchases nearly 85% of its live lobster from independent fishermen.
 - a. Has it always bought around this much?
 - b. If not, did it buy more or less, when?
 - c. (How) does Clearwater's purchase from independent lobster fishermen affect Clearwater's sales?

Sustainability:

8. I understand that Clearwater has decided not to renew its MSC certification for lobster.
 - a. While Clearwater lobster was MSC certified, did it impact its lobster sales?
 - b. How?
 - c. Do you expect that not renewing the certification will have an impact on lobster sales?
 - d. Which?
9. Why is there no maximum sustainable yield in the lobster fishery?
 - a. Are there plans to assess one?
 - b. How do you expect this to affect harvesting in lobster fisheries?

Conclusion:

10. Is it possible to get annual reports for the company prior to 2002?

Appendix C. Clearwater Annual Reports Overview

Year of Publication	Title of Report	Link to Report
2002	<i>2002 Annual Report.</i>	https://www.annualreports.com/HostedData/AnnualReportArchive/c/TSX_CLR_2002.pdf
2003	<i>Dedicated to seafood excellence: 2003 Annual Report to Unitholders.</i>	https://www.annualreports.com/HostedData/AnnualReportArchive/c/TSX_CLR_2003.pdf
2004	<i>Innovation driving value: Annual Report 2004.</i>	https://www.annualreports.com/HostedData/AnnualReportArchive/c/TSX_CLR_2004.pdf
2005	<i>2005 Annual Report.</i>	https://www.annualreports.com/HostedData/AnnualReportArchive/c/TSX_CLR_2005.pdf
2006	<i>Embracing Change: 2006 Annual Report.</i>	https://www.annualreports.com/HostedData/AnnualReportArchive/c/TSX_CLR_2006.pdf
2007	<i>2007 Annual Report to Unitholders.</i>	https://www.annualreports.com/HostedData/AnnualReportArchive/c/TSX_CLR_2007.pdf
2008	<i>2008 Annual Report.</i>	https://www.annualreports.com/HostedData/AnnualReportArchive/c/TSX_CLR_2008.pdf
2009	<i>2009 Annual Report.</i>	https://www.annualreports.com/HostedData/AnnualReportArchive/c/TSX_CLR_2009.pdf
2010	<i>2010 Annual Report.</i>	https://www.annualreports.com/HostedData/AnnualReportArchive/c/TSX_CLR_2010.pdf
2011	<i>2011 Annual Report.</i>	https://www.annualreports.com/HostedData/AnnualReportArchive/c/TSX_CLR_2011.pdf
2012	<i>2012 Annual Report.</i>	https://www.annualreports.com/HostedData/AnnualReportArchive/c/TSX_CLR_2012.pdf
2013	<i>2013 Annual Report.</i>	https://www.annualreports.com/HostedData/AnnualReportArchive/c/TSX_CLR_2013.pdf
2014	<i>Our Growth Story: 2014 Annual Report.</i>	https://www.annualreports.com/HostedData/AnnualReportArchive/c/TSX_CLR_2014.pdf
2015	<i>Delivering On Our Promise: 2015 Annual Report.</i>	http://www.clearwater.ca/site/media/Parent/Clearwater_AR2015_Full.pdf
2016	<i>40 years & growing: 2016 Annual Report.</i>	https://www.annualreports.com/HostedData/AnnualReportArchive/c/TSX_CLR_2016.pdf
2017	<i>2017 Annual Report.</i>	https://www.annualreports.com/HostedData/AnnualReportArchive/c/TSX_CLR_2017.pdf
2018	<i>2018 Annual Report.</i>	https://www.annualreports.com/HostedData/AnnualReportArchive/c/TSX_CLR_2018.pdf
2019	<i>2019 Annual Report.</i>	https://www.clearwater.ca/wp-content/uploads/2020/03/CLR-AR-Q4-2019_FINAL.pdf