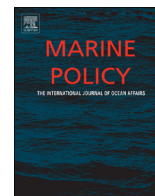




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# Governing enclosure for coastal communities: Social embeddedness in a Canadian shrimp fishery

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## ABSTRACT

Critical analyses of neoliberalism's influence on fisheries governance have documented how enclosure, quota leasing and renting, and commodification can precipitate negative social consequences for fishing communities. By contrast, this paper draws on the concept of embeddedness to argue that certain policies and social relations can regulate enclosure, quota renting, and commodification in ways that empower community-based groups to facilitate the anchoring of fishery resources and wealth in coastal communities. It does so through an analysis of northern shrimp fisheries in Newfoundland and Labrador, Canada, between the 1970s and the early 2000s. This case study illustrates how fisheries enclosure policies informed by geographically and morally defined principles of access and equity and limits on commodification can meaningfully embed fishery resources and benefits in rural and remote coastal regions that depend on small-scale fishing. Although the application of social principles continues to be marginalized in the context of neoliberal policy regimes that privilege individual economic efficiency over distributive concerns, this paper provides new insight into the conditions under which principles of ethical allocation and distribution of resources are able to persist through an era of neoliberalism.

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## 1. Introduction

Catch shares are part of the long-term enclosure and privatization of open-access oceans [1], a process through which privileges are allocated and privileged constituencies created [2,3]. They can be defined as “a means of managing fisheries by allocating a specific portion of the total allowable catch of a fish stock to individuals, cooperatives, communities or other entities” [4,5]. Longstanding academic and policy debates over the impacts of enclosure in fisheries have recently been reinvigorated in light of the promotion, implementation, and critical examination of catch share programs around the world [6]. Concerns over catch shares are linked to evidence showing how enclosure through the allocation of Individual Transferable Quotas (ITQs) can have negative effects on small-scale fisheries including on small-scale boat owners, crew employment, households and communities [7].

ITQ catch shares are a form of both privatization (creation of property) and marketization (creation of tradable property rights),

the latter of which is particularly important to those who claim ITQs lead to increased economic efficiency. ITQ systems are also widely considered a quintessential neoliberal governance mechanism: “What makes ITQs different—and what makes them a dimension of particularly neoliberal approaches to fisheries governance—is that they marketize allocation of fish catch” [8]. The policy debate over enclosing fisheries through catch shares centers largely on the issues of whether and how such marketable, or commodified, access alters the composition of the industry and its relationship to communities and regions [9]. Because of the commodification component of ITQs, the introduction of ITQs often leads to a transfer of quota and resource wealth from small, remote fishing dependent regions to larger fishing centers and to the corporatization of fisheries that had been embedded in primarily family- and community-based production systems [10]. This transfer of quotas and economic benefits out of smaller, remote coastal communities has been documented in Canada [11,12], Iceland [13], and Alaska [14,15,7]. In some cases these transfers happened in spite of measures that were put in place to limit the loss of quotas by smaller fishing communities [11]. Those able to benefit most from the commodification of fishing rights include larger firms or vertically integrated companies that consolidate and sometimes rent or lease out rights [7]. Even when fishers remain in coastal communities, significant portions

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of wealth can be lost to absentee owners through quota leasing costs [12].

Despite widespread criticisms of ITQs and calls for developing catch share designs to meet broader social goals, many policy makers, conservation groups, and academics continue to promote the neoliberal model of catch shares, which is distinguished by its highly commodified access arrangements [8,16]. In the USA, for example, regional management councils have relied on a limited set of guidance documents in efforts to design catch share systems, resulting effectively in the default development of individual quota catch share systems with little consideration for alternative ways that resource rights or privileges can be designed, created and allocated [5]. Policies institutionalizing a narrow variant of catch shares threaten to lock out alternative forms of access that have provided or could provide people living in coastal communities an opportunity to make livelihoods for themselves into the future. Such policies also ignore research from social and natural scientists that argue for a need to integrate wider goals and management objectives beyond conservation of fish stocks, conservation of marine ecosystems, and maximization of economic efficiency in fisheries management. These include consideration of ethics and justice [17,18]. Yet questions remain as to whether new forms of enclosure that involve community allocations and social justice considerations are nevertheless consistent with neoliberal approaches to governance [8,3].

This paper contributes to policy and academic discussions concerned with identifying and investigating alternative ways of organizing fisheries systems, including designing catch share systems within which attention is paid to both equity in access [19] and the need to protect and even enhance the role of fisheries in community and regional economic development. It does so through a case study of a Canadian shrimp fishery, which provides insight into the potential for institutions governed by principles of distribution of access and benefits to persist through an era of broader neoliberalization. In this fishery, management authorities distributed allocations of shrimp to community-based organizations that then leased their quota to offshore fleets in return for royalties and other economic benefits. These organizations further embedded benefits in communities by reinvesting resource rents to support regional inshore fishing and seafood processing initiatives and other kinds of regional economic development initiatives.

### 1.1. Case study and methods

This paper examines the case of allocation policies and development outcomes within northern shrimp (*Pandalus borealis*) fisheries in Atlantic Canada, with a focus on Newfoundland and Labrador. Northern shrimp is a shellfish with significant populations from the Gulf of Maine to the waters between Baffin Island and Greenland. Northern shrimp are usually found in waters with temperatures between about 1 and 6 °C and in areas with a soft, muddy ocean floor at depths between 150 and 600 m, hatching as larvae that feed on planktonic organisms and sought after as prey by fish species such as northern cod and Greenland halibut [20]. Although northern shrimp are trawled by Canadian fishers in the Gulf of St. Lawrence and off the coast of Nova Scotia, contemporary references to the northern shrimp fishery generally signify two fishing fleets, offshore and inshore, that operate in the federal Department of Fisheries and Oceans (DFO) management zones between the Grand Banks off Newfoundland and just south of the Arctic ocean off Baffin Island (corresponding to DFO Shrimp Fishing Areas 0–7) (Fig. 1). Northern shrimp are sensitive to oceanographic and climate changes and this has shaped in important ways the history and location of the two fleets [21,22]. The offshore fleet gained access to shrimp in the late

1970s when shrimp were most abundant in the northern range of the species, while the inshore fleet based in Newfoundland and Labrador gained access to northern shrimp in the late 1990s when a significant growth in biomass occurred in areas off the northeast coast of Newfoundland and Labrador [23,20]. The two fishing fleets also have different relationships to coastal communities. The offshore fleet of factory freezer vessels trawl, process, and freeze their catch at sea while smaller inshore trawlers ice their catch at sea and land it fresh in coastal communities for processing. The growth of the inshore fleet played a crucial role in alleviating the impact of the 1992 and other groundfish moratoria on some companies, owner-operators, crew, processing plant workers and communities. In 1994, the quota for northern shrimp was 22,500 metric tonnes (mt), all caught and processed by offshore factory freezer trawlers. By 2009, the total allowable catch had increased to 176,000 mt, with 137,000 mt either landed in coastal communities by inshore owner-operators and processed by plant workers, or caught by offshore vessels that paid royalties to cooperatives and companies that include in their mandates mechanisms to support reinvesting the revenue in the inshore sector and regional coastal communities in often remote regions.

The paper focuses on the fisheries allocation policies that helped produce this pattern and on the regional development outcomes in three areas in the Canadian province of Newfoundland and Labrador engaged in the fishery—southeast Labrador, the Northern Peninsula of Newfoundland, and Fogo Island, Newfoundland (Fig. 1). The research design included a review of existing published and gray literature, and intensive field research based on in-depth key informant interviews carried out in St John's, in southeast Labrador, on the Northern Peninsula and on Fogo Island during roughly two-week visits to each region. The Fogo Island interviews were carried out in February 2012. Field trips to St Anthony and southeast Labrador took place in March 2012. A total of 54 individuals were interviewed—17 on Fogo Island, 11 in the Northern Peninsula region, and 23 in southeast Labrador, as well as 3 in St. John's with some people key to multiple case studies. The analysis highlights the specific experiences of the Labrador Fishermen's Union Shrimp Company, St. Anthony Basin Resources Incorporated, and the Fogo Island Co-operative [24].

### 1.2. Conceptual approach

To explain this case, this paper uses Karl Polanyi's concept of institutional embeddedness, which contrasts forms of economic development guided by distributive principles that support social goals with those guided by *laissez faire* economic principles that create market conditions for social dislocation [25]. Applied to analyzing fisheries, the concept of embeddedness posits that state policies, economies, communities, and organizations can be "integrated systems held together by mechanisms that are legitimized on moral as well as pragmatic grounds" [26]. An embeddedness perspective can be used to explain a range of policy choices and community-based choices defined by the fulfillment of social goals, rather than by neoliberal principles privileging narrow conceptions of individual self-interest and economic efficiency. It shifts the focus away from policies and institutions that disembed production and social reproduction towards policies and institutions that integrate those realms [27]. This perspective underscores how social principles of distribution of access and benefits guided both state policy and community-based decision-making in the development of the fishery system examined below.

The next three sections of the paper analyze how enclosure, quota renting, and commodification—concepts usually associated with exclusionary consequences of neoliberalism—can be regulated to empower communities and to embed fisheries resources and development benefits in coastal communities. Part one

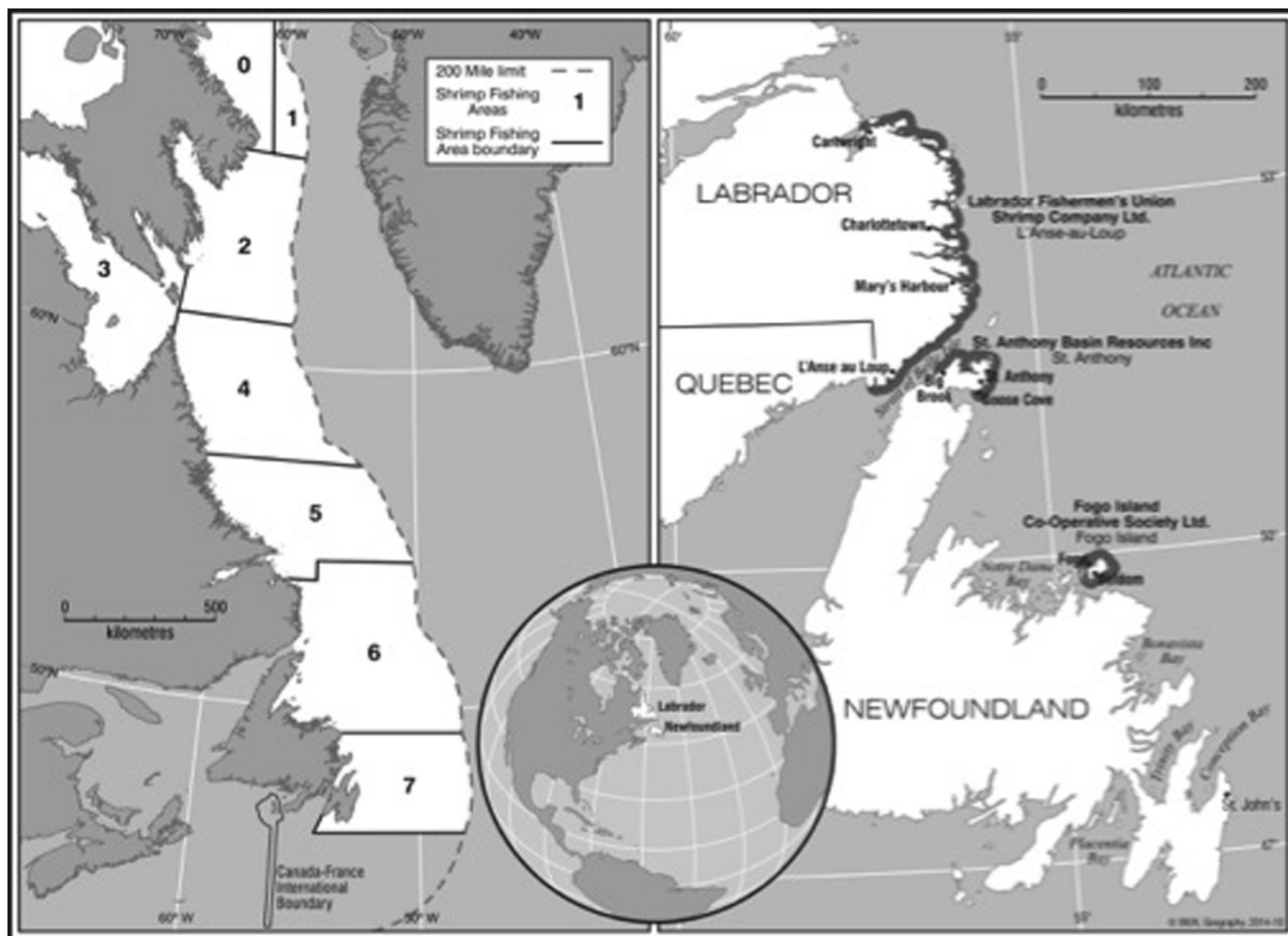


Fig. 1. Canada's northern shrimp fishery areas (SFAs) and the three regions in our study.

examines processes of enclosure and allocation following the extension of Canadian national sovereignty to 200 nautical miles from shore. During much of this era, Canadian fisheries policy objectives and institutional arrangements emphasized principles of geographic adjacency and distribution of benefits for small-scale and community-based fisheries. Part two focuses on rent relations controlled by regional and community-based fishery organizations. Shrimp allocations were used by these organizations to generate royalties from offshore fisheries and invest them in processing infrastructure and employment for the benefit of small-scale fisheries and regional development. Part three examines policies and regulations constraining two forms of commodification. First, the paper highlights policies that limit and constrain the commodification of access rights to catch shares, such as limits on transferability and owner-operator provisions. Second, the paper highlights policies that help embed wealth generated from the commodification of wild marine life within communities through regulations requiring inshore owner-operators to land their catch in the region for onshore processing.

## 2. Enclosure: property making by whom and for whose benefit?

The extension of nation-state jurisdictional sovereignty out to 200 nm starting in the 1970s enclosed, in an unprecedented way,

the most productive parts of oceans and their resources as state property [28]. State extension of coastal fisheries jurisdiction provided a powerful legal basis for extending and consolidating conceptions of coastal fisheries as embedded in society through public ownership. State controlled resources within EEZs as well as areas associated with transboundary migratory stocks have since been a site of struggle given the socio-economic potential and value of fisheries [29]. The extension of state jurisdiction from 12 to 200 nautical miles also provided states new rights to exclude foreign fleets and provided access to and control over marine resources actively fished by fleets from other countries. State policies towards these resources were affected by the United Nations Convention on the Law of the Sea (UNCLOS) principle of optimum utilization. That principle stated that where the coastal state does not have the capacity to capture the entire allowable catch, it shall "give other states access to the surplus of the allowable catch" [30]. In an effort to capture the benefits of resources for domestic interests, governments around the world embarked on domestication policies, such as Americanization [31,32], New Zealandization [33], and Namibianization [34]. In the process, many states formulated economic strategies to develop or expand domestic fishing and processing industries to create infrastructure, jobs and profits, often in economically marginalized coastal areas. While much policy debate since the 1980s has centered on the institutionalization of narrowly defined private property rights in various jurisdictions, Canada and other states developed a diversity of policy objectives and development-

oriented interventions. Some of these policies created opportunities for embedding fisheries access and development benefits in rural coastal communities.

### 2.1. Domesticating Atlantic Canadian fisheries for coastal socio-economic development

The Government of Canada's extension of its fisheries jurisdiction to 200 nm in 1977 brought significant new fisheries resources under Canadian ownership. Following the extension of jurisdiction, Canadian policy committed to manage fisheries in accordance with general principles being developed at UNCLOS III, Article 61 of the LOS Consolidated Negotiating Text stating that the coastal state would set the Total Allowable Catch "to maintain or restore populations of harvested species at levels which can produce the maximum sustained yield, as qualified by relevant environmental and economic factors, including the economic needs of coastal fishing communities" [30]. This reflected the reality that the extension of state sovereignty over EEZs was fundamentally justified by nation-state claims to manage and benefit from resources adjacent to terrestrial coasts. At the same time, an adjacency principle was often invoked with reference to economically vulnerable adjacent small-scale fisheries and coastal communities marginalized by the encroachment of distant water industrial fishing fleets. In anticipation of extended jurisdiction, policies were developed that combined social principles with conservation and economic principles [35].

This was the context within which the Government of Canada developed policies for the gradual displacement of foreign fisheries in areas and for species not previously used by Canada [30] including the northern shrimp fishery. While international legal frameworks and Canadian fisheries policy created an opportunity for embedding shrimp fisheries in coastal communities, further mechanisms more directly anchored shrimp resources in actual regions and communities. Northern shrimp had previously been caught by Nordic distant water fleets of factory freezer trawlers [36] and thus shrimp fishery policy was driven by the goal of using it to promote employment and regional development in Canada, and by United Nations obligations to conserve and share fisheries not exploited by national fleets, leading to an over-arching policy goal of domesticating, or Canadianizing, the former international fishery [37].

### 2.2. Adjacency rights: from national to sub-national resource claims

In line with domestic expectations regarding development and employment opportunities associated with Canada's control over groundfish and other stocks, the federal government indicated in its initial call for proposals that it would prioritize granting shrimp licenses to three categories of Canadians active in the fishery in 1977: individual fishermen where possible, fishing co-operatives with processing capacity, and corporations with processing capacity [37]. Licensing policy also indicated that access would be distributed geographically to interests across different East Coast provinces.

Allocation policies for the Labrador region were shaped by the specific geographies of the shrimp resource and by related social principles. At the time, the provincial government of Newfoundland and Labrador, the provincial fishing industry, and the union were arguing for priority rights to northern cod off its coast and made the same argument for the shrimp resource. The president of the Newfoundland Fish Food and Allied Workers union (FFAW) urged the DFO Minister to allocate three licenses to people of coastal Labrador who were most adjacent to the shrimp resource, which at the time was concentrated off Labrador. The Minister agreed and decided to make three licenses available to three

regions in Labrador in the application process. After the Minister announced the federal government would reserve three licenses for Labrador, the union president organized a meeting among mainly small boat fishermen and residents of communities along the southeast coast of Labrador. At the meeting, the group endorsed the idea, proposed by the union president, of collectively applying for licenses, and it subsequently established a cooperative (which later reconstituted as the Labrador Fishermen's Union Shrimp Company) that successfully secured two offshore shrimp licenses in 1978 (DFO distributed a total of seventeen offshore shrimp licenses between 1978 and 1990). In this way, allocation arrangements in the northern shrimp fishery for the Labrador region were shaped less by responses to the effects of privatization, like the Alaska Community Development Quota (CDQ) program in the early 1990s, than by an alignment of social principles shared by DFO Minister Romeo LeBlanc, small-scale fisheries representatives, and organized interests. One former FFAW union member explained the importance of Minister LeBlanc's role: "LeBlanc's idea was very important. He had this vision, as Minister, that there had to be another thing more than just give a private enterprise the fish to have full control" (interview 2012).

New opportunities to embed shrimp resources in Newfoundland and Labrador communities emerged in the 1990s. Adjacency and coastal economic development goals provided powerful sources for new resource claims for Newfoundland interests under conditions of significant environmental change that coincided with the collapse of cod and groundfish in the 1990s and the dramatic rise in shellfish populations such as snow crab and shrimp. During the Canadianization developmental phase in the 1970s and 1980s, the shrimp fishery was located primarily in northern waters adjacent to Labrador and further north off Baffin Island. As such, it was taken as given that the new Canadian shrimp fishery would involve the use of large, capital intensive factory trawlers that could navigate dangerous and sometimes ice covered seas year round. In the early 1990s, however, DFO stock status reports, offshore sector catch rates, and information from crew of offshore vessels indicated that northern shrimp stocks were growing rapidly in areas adjacent to southern Labrador and northeast Newfoundland. Seeing an opportunity to develop a new inshore fishery, fishermen from Newfoundland and Labrador lobbied DFO through FFAW crab committees for an opportunity to access shrimp. A DFO economic assessment of the offshore shrimp fleet concluded that the economic viability of the offshore fleet could be maintained at the existing quota levels (an overall quota of 37,600 mt), and that allocating quotas above this threshold to new participants could be justified.

The DFO Minister faced three options for a situation that permitted increasing the Total Allowable Catch (TAC) for shrimp: maintain the status quo; distribute increased quota allocations only to existing offshore license holders; or allocate shrimp resources to new interests. For the latter option, the Minister sought input into developing eligibility criteria and sharing formulas to equitably allocate shrimp to new participants. The Minister stated that "There is a general agreement that should quotas increase above existing levels, additional access should be permitted" and "...once a sharing formula for the Northern shrimp is agreed to, specific access and management criteria will be developed and individual applications for access to the resource will be requested" [38]. DFO sent out an Atlantic Canada-wide call for industry views and proposals on how to share an increase of northern shrimp quota in 1996 and received almost 160 submissions from individuals, groups, provinces, and municipalities across Canada [38]. Almost 90 percent of submissions recommended adjacency as a significant principle that should underlie sharing of northern shrimp TAC [39,38]. The majority of the proposals indicated that the quota increase should be allocated

to the inshore fleets [38]. The DFO Minister subsequently announced that adjacency to the resource would be a “guiding principle” in new allocations and announced a 57 percent increase in the TAC of northern shrimp on April 23, 1997. In the face of stiff opposition from offshore license holders, much of the additional quota was granted to a group of 300 inshore sector owner-operators along the northeast and east coast of Newfoundland and Labrador who were willing and able to meet a set of vessel requirements.

As part of the 1997–1999 fisheries management plan for northern shrimp, the minister also granted “A Special Allocation of 3000 mt for the northern part of the Great Northern Peninsula, which takes in communities from Big Brook to Goose Cove” [40]. The creation of a Special Allocation to communities represented another significant policy innovation, the design of which was guided in part by the lessons learned from the Labrador Fishermen’s Union Shrimp Company’s use of its offshore licenses to enhance regional development. Following the implementation of that Special Allocation, DFO granted additional Special Allocations to community-based organizations and indigenous groups, including a 1000 mt annual allocation starting in 2000 for the Fogo Island Co-operative, which used the principle of adjacency to justify its claim to DFO. Thus, the decision making process that embedded shrimp resources in communities was shaped by the consolidation of spatial resource claims by small-scale owner-operators and community-based groups adjacent to changing shrimp resources.

### 3. Rent for whom and for what purposes?

Enclosure is a means to reorder social wealth-generating opportunities, but the principles for governing resource access and property arrangements created through enclosure are also deeply contested. Mainstream economic approaches suggest that poorly defined property rights encourage short time horizons in production and result in rent dissipation [41]. From this perspective, the solution is to assign more exclusive and limited property rights so that groups and individuals can capture aggregated resource rents [42] and to promote commodified property rights as the rent-maximizing and efficiency maximizing mechanism of access [41,43]. This is a fundamental rationale for the implementation of ITQs. Other economists suggest that these evaluations and principles are methodologically flawed and politically problematic. They instead stress the need to retain public ownership of resources and call for states to resist ITQs, reassert their ownership of fish resources within EEZs, and instead require industry to submit royalty bids for fixed-term leases as a way to return resource rents to the rightful owner: the public [44]. Both approaches reinforce relatively narrow conceptions of rent, however, with even the public-oriented perspective focused on the state as a manager of resource rents. By contrast, this paper conceives rent not simply as a technical-economic “thing” but instead as a politically constructed social relation that is up for contestation and innovation. Whereas the state can capture rent from licensing foreign fleets for fees [45] or from licensing domestic fleets for fees [46], the analysis below shows how rent relations can also be controlled by community-based groups for development purposes.

#### 3.1. Charter and royalty arrangements

Following the extension of jurisdiction, Canadian fisheries policy objectives sought to Canadianize fisheries resources previously caught by fleets from other countries, but the domestic industry was not equipped to catch and process certain species. In

response, the Government of Canada developed bridging mechanisms to test the technical and economic feasibility of new fisheries without permanent investment and authorized the temporary use of fishing or processing capacity from foreign sources. One bridging mechanism consisted of a Developmental Charters program whereby a Canadian company could charter a foreign vessel to catch an allocation of non-traditional species. These programs were developed for the northern shrimp fishery, which was conducted exclusively by Danish, Faroese and Norwegian fishing companies operating in large offshore vessels prior to 1977.

In most fisheries, foreign arrangements were a relatively minor component of Canadianization efforts [30], but unintentionally became a source for political and socio-economic innovation in the northern shrimp fishery. The Government of Canada created a series of policies to guide the transition towards full Canadianization of the northern shrimp fishery, but a patchwork of arrangements and lack of enforcement led to a situation whereby some license holders purchased their own vessels, some transitioned into domestic charters, and others continued to rely on foreign charters that initially performed better economically. This process resulted in two categories of offshore license holders: vertically integrated Canadian fishing companies that owned vessels and fished their own licenses and license holders that contracted or partially owned an operating company to catch their quota [37].

In southeast Labrador, the Labrador Fishermen’s Union Shrimp Company (LFUSC) initially used its two shrimp licenses to establish a charter and royalty agreement with a Faroe Islands-based boat and a Danish company. In the first year, the LFUSC generated a profit of \$750,000 with very little expenses [47]. In the 1980s, arrangements were complex and not always successful, yet over time and with more experience the LFUSC was able to negotiate financially productive and secure arrangements with private companies. The LFUSC advocated with Minister LeBlanc for several years to grant them an exemption to the federal government’s policy to Canadianize vessels catching shrimp under these licenses. It resisted the policy because purchasing a vessel would have drained the bulk of revenues from shrimp sales for the foreseeable future. As one interview participant explained, “we were just starting out from scratch. I mean we didn’t have anything... and we needed some money to build up the infrastructure, because we didn’t have any [processing] plants around” (interview 2012). By the early 1990s, the LFUSC had signed a long-term deal with a Canadian company that held an offshore shrimp license. Intended as a transitional device to develop a Canadian fishery for northern shrimp with license holders purchasing vessels to catch their quotas, DFO permitted domestic royalty charters to continue for the three licenses granted to Labrador-based groups.

The unplanned extension and success of charter and royalty arrangements inspired the policy design of the Special Allocations that emerged in the late 1990s expansion of the fishery. Importantly, the original Special Allocation designated for the Northern Peninsula of Newfoundland was not an offshore license and St. Anthony Basin Resources Incorporated (SABRI), the non-profit organization created by community groups to administer the quota, was not authorized to catch the allocation. Instead, SABRI was authorized to enter into royalty arrangements with offshore shrimp license holders that owned vessels. In 1997, SABRI distributed parts of its 3000 mt quota to several offshore companies on a royalty basis and received about \$1.7 million in royalty fees [48]. The following year, SABRI entered into a 15-year agreement with one of Canada’s largest fishing companies, after putting out a call for proposals. In a similar fashion, after years of lobbying on the basis of its adjacency to northern shrimp resources and its developmental role as a community-based fishing organization, the Fogo Island Co-operative received a Special Allocation of northern shrimp of 1000 mt quota in 2000 and secured a contract

with an offshore shrimp license holder under a royalty arrangement. It generated more than \$400,000 annually a few years later.

In addition to having exclusive rights to quota allocations, community-based groups were able to take advantage of the competitive pressures among offshore license holders who owned large vessels and needed large amounts of quota to remain viable. Despite the structural feature of limited entry fishing licenses in the offshore shrimp sector, sufficient offshore overcapacity existed to ensure community quotas were highly valued by offshore vessel owners. Royalty arrangements were also made over relatively long time horizons, thus allowing for long-term planning for community-based allocation holders and allowing them not to dissipate rent by buying a large offshore vessel. Rent relations can, therefore, help embed resources and wealth in particular communities under the right political, institutional, and social conditions.

### 3.2. Mandating investment in regional development

Northern shrimp resources were embedded in communities not simply because the state directly allocated resources to community-based organizations. Nor were benefits embedded in communities simply because those organizations were able to capture rents. Rather, benefits were most directly embedded in communities because those organizations, despite being differently constituted, were governed by community-oriented distributional principles and development strategies.

In southeast Labrador, the group of small-scale fishers who decided to collectively apply for offshore shrimp licenses in the 1970s elected a board of directors to represent about 900 fishers that then resided in the region. The group formed a cooperative that was later converted to a company, the LFUSC, that maintained cooperative principles. Shareholders have one vote and own one share in the company, but cannot receive any dividends. Instead, the constitution mandates that all profits must be kept within the company to be reinvested in the region to develop infrastructure and create employment in the inshore fishery. The constitution of the LFUSC states that “monies derived from the offshore shrimp licenses would go into infrastructure along the coast to enhance the lives of individuals encompassing the whole region” [49]. As one leader in the company explained:

Yeah, the membership...from the time that it was set up, it's got a constitution that's a lot different than a lot of other companies, but one that has worked well, because what they did, they basically set up their constitution in such a way that, you know, you could become a shareholder but the only way you get a share of profits was...through infrastructure that would be done along the coast. And that, I think that was a key thing in its success... (interview 2012).

Through its two offshore shrimp licenses, the LFUSC has generated tens of millions of dollars in revenue that it has reinvested in communities along Labrador's southeast coast. It used its licenses to leverage the offshore vessel owners to employ people from the region on factory freezer trawlers. It purchased a groundfish plant and two crab plants in the region employing hundreds of people in the processing sector. It was instrumental in establishing the Eagle River Credit Union, which now has five branches in Labrador and one in Newfoundland. And it now operates Labrador's only shrimp plant, which employs about 150 people in the small community of Charlottetown. In 2010, the LFUSC made an \$11 million investment in replacing a crab plant it operated in the community of Mary's Harbour over the prior three decades, expecting to employ 65–85 seasonal workers in the community of about 400 residents. The revenues generated through its two offshore shrimp licenses remains the backbone

for the LFUSC, enabling it to make substantial investments in other fisheries and activities. As a manager explained:

The offshore licenses are the blood that flows through our veins. They are the thing that breathes life into us in the beginning and they still help a lot today. Now obviously, we got four or five plants today, that contributes enormously to our success. Some are up some years, some are down. And other years, the other one is up, and the other one's down...But the offshore licenses have been the blood that has flowed to keep the life in the company. And it continues to do that, and we're hoping that it'll do, you know, contribute a lot toward that going forward. We're a major company now...but at the same time, if ya didn't have the offshore licenses, it would be very, very difficult to continue operating (interview 2012).

In the case of the Northern Peninsula, DFO granted the original Special Allocation for shrimp not to an organization but to a group of communities within a defined geographic area with about 4000 people. Individuals and community groups subsequently organized and created the non-profit organization St. Anthony Basin Resources Incorporated (SABRI) to manage to the 3000 mt annual quota. The group created a volunteer management Board made up of 15 members including five fisherpersons, four fish plant employees, four community representatives, and two representatives from development committees in the region. The organization adopted a mandate to “administer a 3000 mt allocation of Northern Shrimp on behalf of the communities from Big Brook to Goose Cove, in a manner resulting in expansion of the region's economic base and improved employment opportunities in harmony with a rural setting and lifestyle.”

SABRI drew on the experiences of the LFUSC when it developed its 15-year arrangement with a large Canadian fishing company to catch its allocation in return for royalties and other development benefits. SABRI made several conditions on the agreement with the company to contribute to regional development, including offloading 3000 mt of product at St. Anthony and employing fishermen from the area on the company's offshore vessels. SABRI divided the region into 5 zones to help spread out jobs fairly over the region and by 1999, 24 fishermen were employed full-time on three offshore factory vessels [50]. Most importantly, the long-term proposal stipulated that the company catching its allocation would have to establish a processing facility in St. Anthony to process shrimp and other species. The multi-species plant that was subsequently built created work for over 200 people in the region. Over the next decade, SABRI also invested millions in fisheries development activities, including helping establish a cold storage facility in St. Anthony that stores fish from Labrador and the Northern Peninsula before it's shipped directly to market in Europe and elsewhere. It has also invested millions in infrastructure, scholarships, donations, and community grants. According to an elected municipal representative in the region:

that shrimp agreement and that quota is what saved this part of the Northern Peninsula because without that we wouldn't be anywhere close to where we are today in regards to not only the fishery and the plants and all that, but in regards to our towns and our people and economic development and everything else. It's been a huge cloverleaf, really, you know, if you want to look at it for all of this area, the development that's gone has been unbelievable. The way that the area has worked together... all the communities have banded together and worked because each community has representation on the board of SABRI (interview 2012).

Unlike LFUSC and SABRI, the Fogo Island Co-operative pre-existed its shrimp allocation. It was created in the late 1960s to

help prevent federal-provincial government efforts to resettle the island's residents following the departure of private fish merchants from the island. In the late 1990s as some of its inshore owner-operator members gained access to shrimp permits, the Co-op began lobbying for a shrimp allocation in part as a way to provide the funds needed to pay for the construction of a shrimp plant, to upgrade its crab plant, and to diversify into other fisheries. Senior members of the Co-op knew that SABRI was using royalties acquired from firms catching its Special Allocation to develop a shrimp processing plant in the St. Anthony region and they hoped to follow a similar model. By 2000, the Co-op had succeeded on both fronts—it had secured a license to process shrimp from the provincial government and it had been granted a Special Allocation of 1000 mt of shrimp by the federal government. The Co-op's allocation—the smallest community allocation of the three studied here - generated millions in revenue during the years 2000–2011. It used these funds to finance the construction of a shrimp plant and to upgrade crab processing facilities, to employ processing plant workers, and continue its role as the economic backbone of Fogo Island, which has a population of about 2500 people. According to one of the Co-op's leaders at the time, royalty payments from just the first few seasons allowed the co-op:

to invest in exploring new markets, value-added secondary processing, research into partnering with a Chinese firm into sea cucumber production—all of those types of activities we're doing to try to expand the employment opportunities and the revenues to our inshore fishers. That's what we're doing. This money is being used for economic development. I guess that's the point we're trying to make here with common resources. Communities have the ability to be able to create sustainable economic opportunities in their communities. If common resources are going to be allocated, then we should look at what those communities can do with those resources once given to them [51].

In summary, investments in processing plants played a crucial developmental role in each case. They enabled inshore owner-operators based in the region and elsewhere to land product in the region and support local employment. Thus, the nature and extent of the economic development benefits achieved in each region depended heavily on the presence of productive inshore fishing and processing activities, and on allocation criteria and organizational mandates to support regional economic development. In turn, a specific policy environment conducive to embedding social purpose in fisheries governance enabled these criteria and mandates.

#### 4. Commodification by whom and for what purposes?

Processes of marine enclosure often involve the allocation of privileges or rights to access and use fisheries resources for commercial purposes. Commodification plays a role in commercial fisheries in two important ways. One process of commodification refers to the state or other actors making the privilege or right to fish transferable through the marketplace and is most often understood to be the quintessential neoliberal approach to fisheries governance. Commodification of fishing rights through the political and legal sanctioning of transferability creates conditions for severing resources from coastal livelihoods and communities [14,15,52] and can trigger radical changes in who fishes, where, and when they fish, the products sold, and the balance of power among industry participants and sectors [53]. However, in many if not all fisheries, access privileges and rights are not fully commodified and marketized but instead regulated by policies,

institutions, and social relations to varying degrees. In some cases, for example, individual quotas have been implemented, but restrictions have been placed on the ability of quota holders to transfer or sell quotas [54,11]. The second process of commodification occurs in all commercial fisheries: wild marine life is transformed into commodities when they are caught and traded and sold on the market. In the Atlantic Canadian fisheries, including the shrimp fisheries, both processes of commodification have been regulated in specific ways by federal and provincial authorities that help embed significant portions fishing wealth in rural coastal communities.

##### 4.1. Constraints on the commodification of access rights

In the offshore shrimp fishery, the Government of Canada implemented policies to Canadianize the shrimp fishery in the late 1970s and 1980s and placed a series of conditions on new license holders to limit foreign investment and involvement that conflict with neoliberal trade and investment liberalization principles generally supported by the Canadian and some other governments today.<sup>3</sup> However, the offshore shrimp fishery in which the LFUSC holds two licenses operates under an Enterprise Allocation system that was established in 1987 in the early privatization policy shift towards implementing individual quota systems and rights-based systems [39]. Under this catch share program, each license holder receives an equal allocation within each Shrimp Fishing Area based on a sharing formula (1/17th each). The northern shrimp TAC was divided evenly between each of the offshore licenses, with the size of each quota increasing from about 1200 mt in 1987 to 2211 mt in 1996, the year before access was granted to the inshore sector and to Special Allocations. The Enterprise Allocation approach is in some ways consistent with neoliberal policies because licenses can be transferred permanently with the sale of the company holding licenses. Yet the system does not fully commodify allocations. Annual allocations can be transferred only to other offshore shrimp license holders and only on a temporary basis within season, which occurs when, for example, a company is unable to catch its quota and decides to transfer remaining quota to another license holder [39].<sup>4</sup> The introduction of this allocation system in the late 1980s initially had significant buy-in from the Newfoundland and Labrador fish workers union because at that time, many of the licenses were held by community-based groups and the system was expected to help provide stability to the communities in which offshore license holders, such as the LFUSC, were embedded. However, as one union official explained, over time some of these resource allocations have become separated from communities. The ownership change of one major offshore company in NL resulted in a major transfer of operations and assets, including offshore shrimp license, out of a rural community in which the original company was based. A short period of license consolidation occurred following the introduction of Enterprise Allocations in the late 1980s as some licenses changed hands, resulting in the current situation of twelve organizations holding seventeen licenses (interview 2012). While offshore licenses can be transferred through corporate ownership changes, there are greater constraints against the commodification of access rights for quotas granted to specific communities, regions, and

<sup>3</sup> Despite DFO reports that full Canadianization of the offshore fleet was achieved in 1990, complex corporate ownership arrangements obscure continued foreign interest in the offshore fleet [37].

<sup>4</sup> The relative stability of the fishery may support the argument that the effect of tradability on efficiency is probably limited to trades within a single fishing season [46].

indigenous groups through Special Allocations, which cannot be transferred permanently.

The inshore fishing sector in Atlantic Canada is regulated in certain ways that facilitate the embedding of resource benefits in coastal communities, including ways that are more substantial and direct than are found in the offshore sector. As explained above, the ability of the holders of offshore licenses and Special Allocations in the three case study regions to access, and benefit from, shrimp depended to a substantial degree on the presence and involvement of embedded inshore fishing enterprises and local processing opportunities, largely controlled by these enterprises to which they could sell their catch. The capacity of the inshore fishing fleet and processing sector to contribute to socio-economic development in the three regional case studies was further enhanced by specific policy measures that facilitate distribution of access and benefits. Although federal policies restricting access through limited entry and quotas expanded following the extension of jurisdiction, other restrictions on access were introduced to enhance the distribution of benefits within small-scale fisheries and coastal communities. The Government of Canada divided Atlantic Canada's fishing fleet into three sectors: inshore (vessels under 35 ft in length), midshore (vessels between 35 and 65 ft in length),<sup>5</sup> and offshore (vessels over 65 ft in length). In the 1970s, federal Minister of DFO Romeo LeBlanc, who was also instrumental in the allocation of shrimp to cooperatives and regionally-based groups, sought to institute protections for small-scale fisheries and fishery-dependent coastal communities in Atlantic Canada by introducing an Owner-Operator Policy and a Fleet Separation Policy. The Fleet Separation Policy applies to fishing vessels less than 65 ft in length and is designed to prevent the issuance of inshore licenses to corporations, including processing companies. The Owner-Operator Policy applies to license holders using vessels that are less than 65 ft in length and requires license holders to be present on their vessels and personally fish their license [55]. The goal of the two policies is to promote distribution of fishing access and to restrict vertically integrated fishing companies from owning and consolidating their ownership of vessels. The policies prevent the separation of quota ownership from active participation that resulted in both the corporate consolidation of quotas and the widespread leasing and renting of quotas in Canada's Pacific fisheries, where there are no owner operator policies in place [12]. Within the distinct Atlantic Canadian fisheries policy context, DFO restricted access to shrimp to inshore owner-operators in Newfoundland and Labrador who were adjacent to shrimp grounds. Over 300 owner-operators gained access to the new inshore shrimp permits following the 1997 expansion. The key overall point is that some existing small-scale owner-operators were able to take advantage of policies preventing the separation of quota ownership from active participation by gearing up for shrimp fishing and acquiring access permits.

#### 4.2. Embedding commodity values in communities

A series of policies has also promoted the development of onshore processing and employment opportunities in both the offshore and inshore fisheries, with much more success in the latter. Vessels in the offshore sector were already owned

<sup>5</sup> The inshore shrimp fishery under discussion in this paper is made up of vessels between 45 and 65 ft in length, which according to this categorization are technically midshore vessels. However, most contemporary policy and industry discourse refers to this segment of the fishery as an inshore fishery. For this reason, the paper uses the terms inshore and owner-operator, rather than midshore, for this fishery. Similarly, there is some indication that not all of these licenses are still owned and controlled by owner-operators but no data are available on the extent to which processors and others have acquired them.

predominantly by fishing companies in the late 1970s [56], but Minister LeBlanc intended to provide licenses to companies, cooperatives and community-based organizations with processing capacity. Initial policies in the late 1970s required offshore license holders to land and process onshore at least 50 percent of their catch in Canada as a way to generate onshore employment, but the policy was dropped at the end of the first year of the fishery because it was apparently more profitable for license holders to process shrimp onboard vessels [37]. The degree to which onshore processing benefits were embedded in communities subsequently evolved in very different ways within the offshore shrimp sector. While the relationship of most offshore shrimp license holders to communities became more tenuous through the entrenchment of onboard processing, processing benefits remained embedded in southeast Labrador through indirect means. The LFUSC institutionalized a strategy of reinvesting revenues it gained from its offshore charter arrangements into onshore processing of ground-fish, pelagics, crab, and shrimp supplied not by offshore vessels but instead by vessels in the small-scale, inshore fishing sector.

Inshore sector processing has remained crucial to community and regional development in these cases. Provincial government policies have been especially important enabling factors for processing opportunities in Newfoundland and Labrador, the location of the three case study regions. During the study period, the Government of Newfoundland and Labrador maintained policies emphasizing a regional distribution and balance of allocating processing licenses, resulting in the allocation of processing licenses along the northeast coast of Newfoundland for the inshore shrimp sector in the late 1990s and early 2000s. It also maintained minimum processing requirements (MPR) legislation through the *Fish Inspections Act*, which required over 30 species caught by provincial fishers to be processed in the province before exported. There is one shrimp processing plant in each case study region and about 20 inshore vessels landed significant volumes of shrimp for processing in each plant. Thus, the provincial government's role in obliging inshore owner-operators to land fish locally to enhance processing infrastructure and employment complimented the federal government's role in instituting direct allocation of shrimp based on geographic adjacency and community development criteria. These provincial policies and organizational strategies were not coordinated with federal allocation policy but had the effect of reinforcing the distribution of access and benefits and further embedding resources in our three case study regions.

In summary, the enclosure of the northern shrimp fishery in Atlantic Canada is an example of only partial commodification. Indeed, policies and institutions governing both the right to fish and the way in which fish are processed and traded in this fishery blur the lines between commodification and de-commodification. While commodification receives much attention in critical analyses of the effects of neoliberalism on fisheries governance, this case provides an example of policies that regulate against "pure" commodification by instituting social and distributional principles.

#### 5. Discussion: lessons for embedding alternatives

The embedding of enclosure, rent relations, and commodification in Newfoundland and Labrador coastal communities has broad relevance. This analysis enhances our knowledge of the growing range of existing embedded alternatives and it enhances our understanding of the conditions under which new alternatives might emerge. It also provides practical insight into the importance of defending and developing innovative principles and politics of social purpose. Three core interrelated lessons are discussed below.



First, the case above provides insight into the conditions under which embedded alternatives emerge. Rather than privilege single domains or logics, such as state policy, property, economy, community, or organizations, the analysis above supports the idea that fisheries and fishery-dependent communities are co-constituted domains of political-economic and socio-cultural assemblages [31,32,65]. For this reason, recent studies have underscored the need to understand the historical specificity and contextual complexity of social relations that constitute particular fisheries [7,66]. In the case study examined above, the development of policies, institutions, and social relations that enabled community-based groups to access resources and provide better chances of local socio-economic development occurred under specific circumstances. Factors that enabled them to access resource benefits included: (1) windows of opportunity for policy innovation in both the extension of jurisdiction in the 1970s and in the environmental shift favoring growth in shrimp in the 1990s, (2) the presence of organized interests with access to information and influential political allies, and (3) the alignment of values between key political leaders and organized fishing interests and political willingness to implement policies with explicit objectives to benefit rural coastal regional and community development. Factors that empowered small-scale fisheries and enhanced community capacity and agency for effective community-based development alternatives included: (1) the availability of important resources, including local leadership and organized networks, (2) the capacity to imagine development alternatives to private enterprise and the capacity to negotiate agreements with private interests, (3) the presence of a strong incentive and capacity (e.g., overcapacity) for offshore fleets to engage in royalty arrangements, (4) the presence of organizational and structural constraints that limit capital flight and embed profit and wealth in communities (e.g., organizational mandates for regional development, owner-operator and fleet separation policies, minimum processing requirements), and (5) the active community-based inshore fishery and processing sector supported by an enabling policy context both federally and provincially. This particular pattern of conditions observed are perhaps unique to this fishery, but the enabling conditions are comparable to those present or absent in other cases and thus should provide insight into the necessary and sufficient conditions for the development of alternative fishery systems.

Second, the analysis above both adds a new case study of embedded alternatives to the literature and enhances the potential for developing comparative lessons. Indeed, many fisheries are similarly constituted through policies and institutions that are antithetical to neoliberal principles [57]. These include policies and institutions that tie access and ownership rights and wealth creation to communities or regions through residency requirements, owner-operator licensing provisions, minimum processing requirements, support for subsistence fisheries, limitations on the mobility of capital, and share systems of compensation. Even in fisheries where ITQs have been fully implemented, moral economies often persist through such mechanisms as provisions to prevent absentee ownership [12]. Alternatives have also emerged elsewhere through direct allocations to groups of fishers and community groups with constraints on their use and transferability. Since the 1980s, cases of the allocation of shares of quotas to organized groups of fishers, co-operatives and multi-stakeholder groups within which decisions about more detailed sub-allocations are made have emerged across North America and Europe. Well-documented examples include a community management board program for small-scale fisheries in the Scotian Shelf region of Atlantic Canada [58,11], producer organization quota management programs in the Netherlands and the United Kingdom [59], the Alaska Community Development Quota program [60,61,3] and community-oriented sector management

developed in the last decade in the Northeast US [1]. In some cases quotas or shares have been allocated to marginalized community groups rather than to individuals [62,63,33]. Despite the prominent discourse suggesting that fisheries in developed countries are evolving on an inevitable path towards privatized and commodified access regimes, with community-based approaches only suitable for artisanal fisheries in the developing world [64], this case and others show clearly that embedded alternatives are evolving and emerging even in large, industrial, export oriented fisheries that are competing internationally. These cases show the significant potential that exists for alternative types of fishery systems, but this case and the communities studied should not be overly idealized. While this paper highlights policies and institutions that generated benefits for coastal areas in the emergence of embedded alternatives, institutions and relations shaped by social justice and distributional considerations in this fishery, as in others, exist alongside relations of hierarchy, exclusion, subordination, and inequity. Allocation and distribution of shrimp resources and benefits included tough choices to include and exclude potential beneficiaries in both the early development of the fishery beginning in the 1970s and in the expansion of the fishery in the 1990s; both policy makers and community-based organizations faced these tough choices. As in other fishery systems, problematic and precarious labor relations within and between owner-operator fleets and seafood processing plants were also present in the northern shrimp fishery. And the communities and regions studied above are not self-contained homogenous units, but heterogeneous, fluid, and emergent assemblages of social relations [26] that can be obscured by generalized and sometimes problematic notions of “community” benefits. The key lesson for this paper, however, is that the policies and institutions governing resource access and market relations in this fishery were shaped in profound ways by principles that promote embedded wealth in fishery-dependent coastal communities, with significant effects for enhancing employment and livelihood opportunities of thousands of people living in remote coastal communities in Newfoundland and Labrador.

Finally, this research provides practical lessons for scientists, practitioners, and community-based groups working through the muddy waters of enclosure politics. Focusing on the allocation and control of resources allows us to ask critical policy questions about whose property and for what developmental purpose [3], questions central to understanding the political economy and political ecology of fisheries [67]. Political and social institutions and arrangements can shape who gets access to what in the enclosure and privatization of fisheries in profound ways [68]. The literature on alternatives for small-scale fisheries and fisheries-dependent communities suggests that who gets access to what, and how they access and manage benefits, can occur in diverse and unique ways. However, *why* access is granted and attained can be based on more generalizable, shared concerns for social, rather than market, principles. This point can be illustrated by comparing the differences and similarities between northern shrimp allocations and Alaska's CDQ program. The origins of embedded alternatives in the northern shrimp fishery in the late 1970s arguably precede the ascendancy of neoliberalism, which contrasts with the Alaska CDQ program's origins as a response to negative effects of neoliberal privatization in the US state's fisheries [3]. Also, embedded alternatives in the northern shrimp fishery evolved not only from federal allocation policies oriented towards supporting existing and new cooperatives and community-based groups but also from unintentional but enduring rent arrangements that emerged and became institutionalized through Special Allocations. This process contrasts with the CDQ program's very specific legal and regulatory guidelines governing allocation and community management of quotas and benefits [3]. The reasons *why* fisheries resources

were allocated to particular groups in Newfoundland and Labrador and in Alaska are quite similar, however, with allocation driven in both cases by general principles of resource claims and distribution of benefits in coastal fisheries: the idea that groups living in coastal regions adjacent to marine resources ought to benefit from the development of those resources. Integrating such social purpose and values, including social justice and ethics considerations, in fisheries governance is inherently and necessarily political and regulatory, an issue that policy makers in the USA are facing as they think about what catch shares could and should mean for coastal communities. A strict commitment to market principles does not recognize these social principles and considerations as legitimate, and thus proponents of neoliberalism tend to favor more radically marketized allocations such as ITQs, seeking to remove politics (and democracy and social concerns) from the allocation process. Cases like the northern shrimp fishery and the Alaska CDQ program, while differing in important respects, illustrate how innovative forms of enclosure can emerge for collections of communities representing extensive geographic areas in relatively thinly populated remote coastal communities adjacent to fishery resources. Enclosure in these cases sought to institutionalize ethical principles and criteria incorporating considerations related to the distribution of access and benefits into allocation policies. Including such principles and criteria into fisheries policy is inherently political, as is not doing so.

## 6. Conclusion

Proponents of neoliberalism advocate for market principles to govern the allocation of goods, services, and natural resources, necessitating an ideological commitment to enclosing *and* commodifying everything [69,70–72]. While the global political trend of neoliberalism is transforming many societal institutions—including fisheries governance regimes—into more liberalized and commodified social relations that disembody nature and economy from society, its disciplinary influence is neither complete nor uniform [73]. The rise of neoliberalism in fisheries is punctuated by political economies, political ecologies, and governance institutions premised on social principles of distribution of access and benefits that create further opportunities for imagining and instituting embedded alternatives. It has been argued here that social purpose policies and practices supporting the ability of otherwise marginalized small-scale fisheries and coastal regions to retain access to local fisheries and local processing are critical to their survival and provide a relatively equitable and economically viable alternative to neoliberal policies whose negative impacts on such communities and regional economies have been only too well and tragically documented. The broader lesson is that paying close attention to alternative enclosure policies and organizational forms that directly embed nature and economy into society in this case and in others can help shift global discussions and policies in more ecologically, economically, *and* socially integrated directions.

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## References

- [1] McCay BJ. Enclosing the fishery commons: from individuals to communities. In: Cole DH, Ostrom E, editors. Land and other resources. Cambridge, MA: Lincoln Institute of Land Policy; 2011.
- [2] Hersoug B, Holm P, Rånes SA. The missing T. Path dependency within an individual vessel quota system—the case of Norwegian cod fisheries. *Mar Policy* 2000;24(4):319–30.
- [3] Mansfield B. Property, markets, and dispossession: the Western Alaska Community Development Quota as neoliberalism, social justice, both, and neither. *Antipode* 2007;39:479–99.
- [4] National Oceanic and Atmospheric Administration (NOAA), United States Department of Commerce. NOAA catch share policy; 2010. Available on-line: ([http://www.nmfs.noaa.gov/sfa/management/catch\\_shares/about/documents/noaa\\_cs\\_policy.pdf](http://www.nmfs.noaa.gov/sfa/management/catch_shares/about/documents/noaa_cs_policy.pdf)).
- [5] EcoTrust. National panel on the community dimensions of fisheries catch share programs. Community dimensions of catch share programs: integrating economy, equity, and environment. EcoTrust; 2011. Retrieved from: ([www.ecotrust.org/fisheries/NPCDFCSP\\_paper\\_031511.pdf](http://www.ecotrust.org/fisheries/NPCDFCSP_paper_031511.pdf)).
- [6] Costello C, Steven D, Gaines JL. Can catch shares prevent fisheries collapse? *Science* 2008;321:1678–80.
- [7] Olson J. Understanding and contextualizing social impacts from the privatization of fisheries: an overview. *Ocean Coast Manag* 2011;54:353–63.
- [8] Mansfield B. Neoliberalism in the oceans: rationalization, property rights, and the commons question. *Geoforum* 2004;35:313–26.
- [9] Brandt S. The equity debate: distributional impacts of individual transferable quotas. *Ocean Coast Manag* 2005;48:15–30.
- [10] McCay BJ, Apostle R, Creed C, Finlayson AC, Mikalsen K. Individual Transferable Quotas (ITQs) in Canadian and U.S. fisheries. *Ocean Coast Manag* 1995;28:85–116.
- [11] McCay BJ. ITQs and community: an essay on environmental governance. *Agric Resour Econ Rev* 2004;33:162–70.
- [12] Pinkerton E, Edwards DN. The elephant in the room: the hidden costs of leasing individual transferable fishing quotas. *Mar Policy* 2009;33:707–13.
- [13] Pálsson G, Helgason A. Figuring fish and measuring men: the individual transferable quota system in the Icelandic cod fishery. *Ocean Coast Manag* 1995;28:117–46.
- [14] Carothers C. Tragedy of commodification: displacements in Alutiiq fishing communities in the Gulf of Alaska. *Marit Stud* 2010;9:95–120.
- [15] Carothers C, Lew DK, Sepez J. Fishing rights and small communities: Alaska halibut IFQ transfer patterns. *Ocean Coast Manag* 2010;53:518–23.
- [16] Macinko S. Lipstick and catch shares in the Western Pacific: beyond evangelism in fisheries policy? *Mar Policy* 2014;44:37–41.
- [17] Coward H, Ommer R, Pitcher T, editors. Just fish: ethics and Canadian marine fisheries. St. John's, Newfoundland: ISER Books; 2000.
- [18] Ommer R, Perry IR, Murray G, Neis B. Social-ecological dynamism, knowledge, and sustainable coastal marine fisheries. *Curr Opin Environ Sustain* 2012;4:316–22. <http://dx.doi.org/10.1016/j.cosust.2012.05.010>.
- [19] Pinkerton E. Alternatives to ITQs in equity–efficiency–effectiveness trade-offs: how the lay-up system spread effort in the BC halibut fishery. *Mar Policy* 2013;42:5–13.
- [20] Worm B, Myers RA. Meta-analysis of cod-shrimp interactions reveals top-down control in oceanic food webs. *Ecology* 2003;84:162–73.
- [21] Koeller PA, Fuentes-Yaco C, Platt T. Decreasing shrimp (*Pandalus borealis*) sizes off Newfoundland and Labrador—environment or fishing? *Fish Oceanogr* 2007;16(2):105–15.
- [22] Koeller PA, Fuentes-Yaco C, Platt T, Sathyendranath S, Richards A, Ouellet P, et al. Basin-scale coherence in phenology of shrimps and phytoplankton in the North Atlantic Ocean. *Science* 2009;324:791–3.
- [23] Lilly GR, Parsons DG, Kulka DW. Was the increase in shrimp biomass on the northeast Newfoundland Shelf a consequence of release in predation pressure from cod? *J Northwest Atl Fish Sci* 2000;27:45–6.
- [24] Foley P, Mather C, Neis B. Fisheries allocation policies and regional development: successes from the Newfoundland and Labrador shrimp fishery. A report prepared for The Leslie Harris Centre of Regional Policy and Development. St. John's: Memorial University of Newfoundland; 2013. Available from: (<http://www.mun.ca/harriscentre/reports/arf/2011/11-12-ARF-Final-Mather.pdf>) [accessed 14.03.14].
- [25] Polanyi K. The great transformation: the political and economic origins of our time. Boston: Beacon Press; 1957.
- [26] Jentoft S, McCay B, Wilson DC. Social theory and fisheries co-management. *Mar Policy* 1998;22:423–36.

- [27] Bakker I, Gill S. Power, production and social reproduction: human in/security in the global political economy. Basingstoke, UK and New York: Palgrave Macmillan; 2003.
- [28] Marchak P, Guppy N, McMullan JL, editors. Uncommon property: the fishing and fish-processing industries in British Columbia. Vancouver: UBC Press; 1987.
- [29] Campling L, Havice E. The problem of property in industrial fisheries. *J Peasant Stud* 2014;41:707–27.
- [30] Parsons LS. Management of marine fisheries in Canada. Ottawa: National Research Council of Canada and Department of Fisheries and Oceans; 1993.
- [31] Mansfield B. Property regime or development policy? Exploring growth in the US Pacific groundfish fishery *Prof Geogr* 2001;53:384–97.
- [32] Mansfield B. Thinking through scale: the role of state governance in globalizing North Pacific fisheries. *Environ Plan A* 2001;33:1807–27.
- [33] De Alessi M. The political economy of fishing rights and claims: the Maori experience in New Zealand. *J Agrar Change* 2012;12:390–412.
- [34] Paterson B, Kirchner C, Ommer RE. A short history of the Namibian hake fishery—a social-ecological analysis. *Ecol Soc* 2013;18(4):66.
- [35] Department of the Environment (DOE). Policy for Canada's commercial fisheries. Ottawa: Fisheries and Marine Service, Department of the Environment; 1976.
- [36] Parsons DG, Frechette J. Fisheries for Northern Shrimp (*Pandalus borealis*) in the Northwest Atlantic from Greenland to the Gulf of Maine. In: Caddy JF, editor. Marine invertebrate fisheries: their assessment and management. New York: Wiley; 1989.
- [37] Allain M. Lessons learned from the domestication process of the Canadian Coldwater Shrimp fishery. Unpublished report for Greenpeace International; 2010.
- [38] Noble BF. Institutional arrangements for cooperative fisheries management: a case study of the Newfoundland and Labrador northern shrimp fishery. (Masters thesis). Wilfrid Laurier University; 1999.
- [39] Barrow J, Jefferson GE, Eagles MD, Stevens GJ. Allocation of harvesting rights in three Atlantic Canada marine fisheries. In: Shotton R, editor. Case studies on the allocation of transferable quota rights in fisheries. Rome: FAO Fisheries and Aquaculture Department; 2001 (FAO fisheries technical paper-T411).
- [40] SABRI. St. Anthony Basin Resources Inc. (SABRI). Available from: <http://www.sabrinl.com/> [accessed 14.03.14].
- [41] Gordon HS. The economic theory of a common property resource: the fishery. *J Polit Econ* 1954;62:124–42.
- [42] Libecap GD. The conditions for successful collective action. In: Keohane RO, Ostrom E, editors. Local commons and global interdependence. London: SAGE Publications Ltd.; 1995. p. 161–90.
- [43] Christy FTJ. Fishermen's quotas: a tentative suggestion for domestic management. Kingston, Rhode Island: Law of the Sea Institute, University of Rhode Island; 1973 (Occasional papers no. 19).
- [44] Bromley DW. The crisis in ocean governance: conceptual confusion, spurious economics, political indifference. *Marit Stud* 2008;6:7–22.
- [45] Havice E, Reed K. Fishing for development? Tuna resource access and industrial change in Papua New Guinea *J Agrar Change* 2012;12(2–3):413–35.
- [46] Bromley DW. Abdicating responsibility: the deceptions of fisheries policy. *Fisheries* 2009;34(6):280–90.
- [47] LFUSC. Labrador Fishermen's Union Shrimp Company Ltd. Available from: <http://labshrimp.com/> [accessed 14.03.14].
- [48] SABRI. Tides: the newsletter of St. Anthony Basin Resources Inc; 1998.
- [49] Graham J. Exploring creative solutions for small coastal communities: final report and declaration. Labrador Straits: Graham Consulting Services; 2007.
- [50] SABRI. Tides: the newsletter of St. Anthony Basin Resources Inc; 1999. Available from: [www.sabrinl.com](http://www.sabrinl.com/) [accessed 14.03.14].
- [51] Dwyer B. Minutes of proceedings, Meeting no. 44. The Standing Committee on Fisheries and Oceans; 2002. Available from: <http://www.parl.gc.ca/HousePublications/Publication.aspx?DocId=1036502&Language=E&Mode=1> [accessed 14.03.14].
- [52] Carothers C, Chambers C. Fisheries privatization and the remaking of fishery systems. *Environ Soc: Adv Res* 2012;3:39–59. <http://dx.doi.org/10.3167/ares.2012.030104>.
- [53] Huppert D. An overview of fishing rights. *Rev Fish Biol Fish* 2005;15:201–15.
- [54] Apostle R, Barrett G, Holm P, Jentoft S, Mazany L, McCay B, et al. Community, state and market on the North Atlantic rim: challenges to modernity in fisheries. Toronto: University of Toronto Press; 1998.
- [55] Department of Fisheries and Oceans (DFO). A policy framework for the management of fisheries on Canada's Atlantic Coast. Ottawa: Fisheries and Oceans Canada; 2004. Available from: <http://www.dfo-mpo.gc.ca/fm-gp/policies-politiques/afpr-rppa/framework-cadre-eng.htm> [accessed 14.03.14].
- [56] Davis R, Komeski K. In a pinch: snow crab and the politics of crisis in Newfoundland. *Labor/Le Travail* 2012;69:119–45.
- [57] St. Martin K. The difference that class makes: neoliberalization and non-capitalism in the fishing industry of New England. *Antipode* 2007;39:527–49.
- [58] Apostle R, McCay B, Mikalsen KH. Enclosing the Commons: individual transferable quotas in the Nova Scotia fishery. St. John's: Institute of Social and Economic Research, Memorial University; 2002.
- [59] Crean K. Centralised and community-based fisheries management strategies: case studies from two fisheries dependent archipelagos. *Mar Policy* 1999;23(3):243–57.
- [60] Ginter JJC. The Alaska community development quota fisheries management program. *Ocean Coast Manag* 1995;28:147–63.
- [61] Holland DS, Ginter JJC. Common property institutions in the Alaska groundfish fisheries. *Mar Policy* 2001;25:33–42.
- [62] Eythórrsson E. A decade of ITQ-management in Icelandic fisheries: consolidation without consensus. *Mar Policy* 2000;24:483–92.
- [63] Carothers C. Equity and access to fishing rights: exploring the community quota program in the Gulf of Alaska. *Hum Organ* 2011;70:213–23.
- [64] St. Martin K. Mapping economic diversity in the First World: the case of fisheries. *Environ Plan A* 2005;37:959–79.
- [65] Olson J. Changing property, spatializing difference: the sea scallop fishery in New Bedford, Massachusetts. *Hum Organ* 2006;65:307–18.
- [66] McCay BJ, Micheli F, Ponce-Díaz, Murray G, Shester G, Ramierez-Sanchez, et al. Cooperatives, concessions, and co-management on the Pacific coast of Mexico. *Mar Policy* 2014;44:49–59.
- [67] Campling L, Havice E, McCall Howard P. The political economy and ecology of capture fisheries: market dynamics, resource access and relations of exploitation and resistance. *J Agrar Change* 2012;12(2–3):177–203.
- [68] McCay BJ. Everyone's concern, whose responsibility? The problem of the commons In: Ortiz S, Lees S, editors. Understanding economic process. Lanham: University Press of America; 1992.
- [69] Gill S. Globalisation, market civilisation, and disciplinary neoliberalism. *Millenn: J Int Stud* 1995;24:399–423.
- [70] McCarthy J, Prudham S. Neoliberal nature and the nature of neoliberalism. *Geoforum* 2004;35:275–83. <http://dx.doi.org/10.1016/j.geoforum.2003.07.003>.
- [71] Castree N. Neoliberalising nature: the logics of deregulation and reregulation. *Environ Plan A* 2008;40:131–52.
- [72] Heynen N, McCarthy J, Prudham S, Robbins P. Neoliberal environments: false promises and unnatural consequences. London and New York: Routledge; 2007.
- [73] Gill S, Cutler C. New constitutionalism and world order. Cambridge: Cambridge University Press; 2014.