

**Direct Marketing of Cape Breton Lobster and Its Impact on the
Triple Bottom Line of Fishery Performance**

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Submitted in partial fulfillment of the requirements for the degree of Master of Marine
Management
at
Dalhousie University
Halifax, Nova Scotia
December 2017

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Note: for the purpose for this paper I will use the words “fisherman” or “fishermen” to describe a person(s) who harvests lobster or other marine species in Cape Breton. While there are many female skippers and helpers onboard fishing vessels in this region, I will use the term fisherman to describe both men and women to avoid ambiguity. The term “fish harvester” will also be used interchangeably with “fisherman” as this is a term used often within the Cape Breton Fish Harvesters Association.

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Abstract

The lobster industry is the largest and most valuable fishery in Canada, generating revenues exceeding \$1 billion annually. Although it is an economically rich industry, there are many actors within the seafood supply chain and the earnings are not distributed equitably. There is also a high degree of price volatility in the market which trickles down to fish harvesters, resulting in lobster fishermen that have little control over where their catches are sold and what price they fetch at market. A solution that has been proposed to solve the issues of price volatility in the lobster fishery and of a lack of control over the supply chain structure is that of alternative market strategies such as direct marketing. This study explored the feasibility of and desire for direct marketing amongst lobster fishermen in Cape Breton using the triple bottom line metrics of ecology, economy, and community as fishery performance indicators. Highlighted in this study are the main perceived barriers and motivating factors for the direct marketing of Cape Breton Lobster identified by fish harvesters. Data were collected through wharf interviews (n=56) and participant observation. This report presents potential direct marketing strategies that could be employed within Cape Breton, enabling factors that would allow for an increase in direct marketing, as well as the potential impact that the use of these strategies would have on the triple bottom line of fishery performance.

Acknowledgements

I would like to thank my supervisor, Dr. Megan Bailey, for her support and guidance throughout this project, without which this research would not have been possible. I would also like to thank Veronika Brzeski and the Cape Breton Fish Harvesters Association for allowing me to conduct my internship with their association. I appreciate the time taken by all of the interview participants who engaged with me to help answer my research questions. I am also appreciative of the time taken by my second reader, Dr. Josh Stoll, to review my graduate project. Last, but certainly not least I want to give my immense and unending love and thanks to my Mom, Dad, and sister, Brynn, as well as my classmates, friends, and the entire MAP family for their moral support over the last 16 months.

Chapter 1: Introduction

1.1 The Cape Breton Lobster Fishery

The Island of Cape Breton, located at the eastern tip of Nova Scotia, is highly dependent on its prosperous lobster fishery. While other commercial fisheries exist in this region, lobster is by far the most economically rich industry, with annual revenue exceeding \$1 billion (DFO, 2015).

Lobster is fished commercially worldwide, and the American lobster (*Homarus americanus*) is harvested in North America on the eastern coasts of Canada and the United States (DFO, 2015).

Unlike many commercially harvested species, which rely on catch quotas, lobster harvesting is an effort-based fishery (DFO, 2015). Each licence holder is permitted to fish a set number of traps for a specific time period during the year. In Canada, lobster fishing is managed in geographic regions known as Lobster Fishing areas, or LFAs (Figure 1). In the case of Lobster Fishing Area 27, on the Eastern shore of Cape Breton, lobster fishermen in the area are each allotted 275 traps to be used for a two-month period.

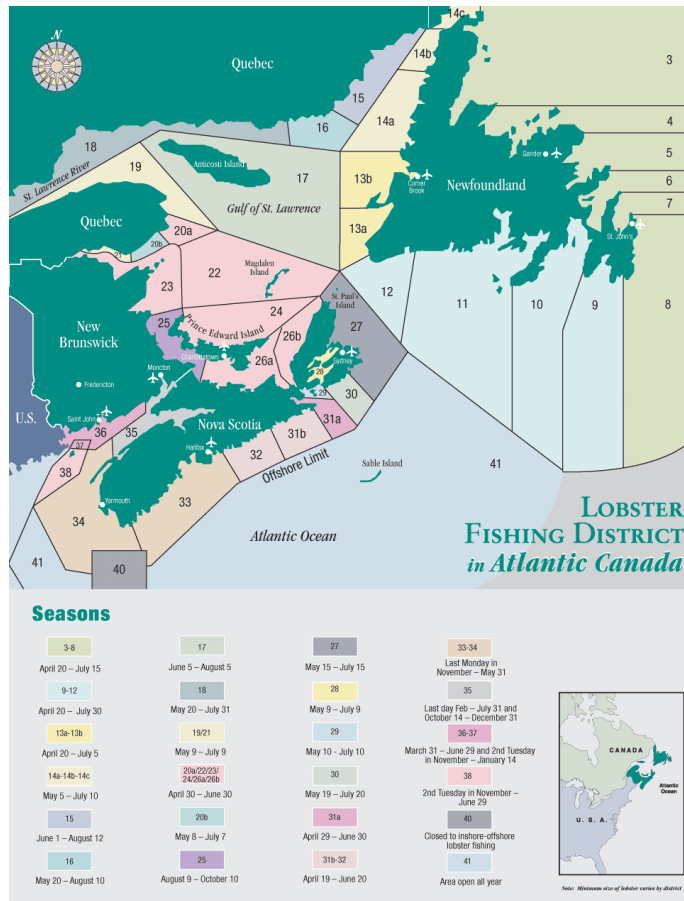


Figure 1. Map illustrating Atlantic Canadian lobster fishing areas and their fishing seasons (Pinfold, 2007)

Cape Breton has a rich history of harvesting a diverse range of marine species in the region since the 15th century (Muise, 2015). This tradition continues today, with many residents of coastal communities on the island relying on both inshore and offshore fisheries for their livelihoods. The ocean economy plays a large role in the Nova Scotia's GDP with almost 15% of the province's entire gross domestic products tied to the ocean sector, with over 60% of this revenue coming directly from fishing activity. A similar trend is seen in Cape Breton as they are heavily reliant on their commercial fisheries to sustain their communities due to a lack of alternative career options. Cape Breton was historically known for its coal mining among other non-

renewable resource extraction processes. The last coal mine in Cape Breton ended production in 2001, leaving many employees forced to find alternative employment (CBC News, November 22, 2001). The decline in other sectors of the Cape Breton economy have forced many residents to relocate to find alternative livelihoods, but the fishery in Cape Breton remains a viable career option for those remaining on the island. Especially in rural communities in the northern part of the island, fishing may be one of the only employment opportunities available (Williams, 2016). In Cape Breton, lobster fishermen are all considered small business owners, responsible for managing their fishing enterprise, and commercial fishing in the region is often viewed as a family business, with children purchasing or inheriting their licences from their parents. Today, fishing remains an integral part of the economy and culture of Cape Breton Island (Gardner Pinfold Rogers Consulting, 2007).

In contrast to other fisheries across Canada, the lobster sector has retained its the owner operator and fleet separation policies. The Federal Government of Canada's Policy for Preserving the Independence of the Inshore Fleet in Canada's Atlantic Fisheries (PIIFCAF) outlines these two policies (DFO, 2010). This owner operator policy requires that the person who holds a fishing licence be onboard their fishing vessel when fishing is occurring. Fleet separation indicates that fishing licences and processing facilities are not owned by the same person; fishing and processing are thus managed by separate entities (DFO, 2010). These policies aim to strengthen the economies of Atlantic coastal fishing communities and to reduce the power that can be obtained by large corporations attempting to buy up licences and control the market. PIIFCAF, while not binding, serves as a legal tool used to guide the minister of the Department of Fisheries and Oceans decisions (DFO, 2010). The Owner Operator policy is critical to the livelihoods of

Canadian fish harvesters. For this reason, the Cape Breton Fish Harvesters association is working with other interested stakeholders to have the owner operator policy included in the Fisheries Act.

1.2 Problem Statement

One of the biggest challenges for the Canadian lobster industry is price volatility, which happens for a variety of reasons including international demand, the strength of the Canadian dollar and the American market (Pinfold, 2007). Unlike in Newfoundland and Labrador, there is currently no price setting mechanism in place for lobster caught in the Maritime provinces (New Brunswick, Nova Scotia, Prince Edward Island), so the prices that fish harvesters receive can change on a daily basis and are largely determined by individual buyers (Pinfold, 2007; Wells et al., 2016). This economic instability is seen as a major flaw within the industry and is a point of contention among fishermen (Thériault et al., 2013). There is a lack of autonomy on the part of fish harvesters to control the price they receive for their catch and to determine where it is sold. Price volatility threatens the livelihoods of fish harvesters and the economic sustainability of the fishing industry (Thériault et al., 2013). Profits within the lobster fishing industry are shared amongst all actors along the seafood supply chain, but this revenue is not always equitably distributed, with the bulk of the economic revenue being generated by those furthest downstream in the supply chain (Thériault et al., 2013). In recent years, lobster catches in Canada have been increasing and this has led to a shortage of storage and processing capacity (See Figure 2) (DFO, 2015), further limiting economic potential of fish harvesters. There thus exists a management

problem in the Cape Breton lobster fishery, that is, how can lobster harvesters remain profitable in an industry where price is in many ways outside of their control?

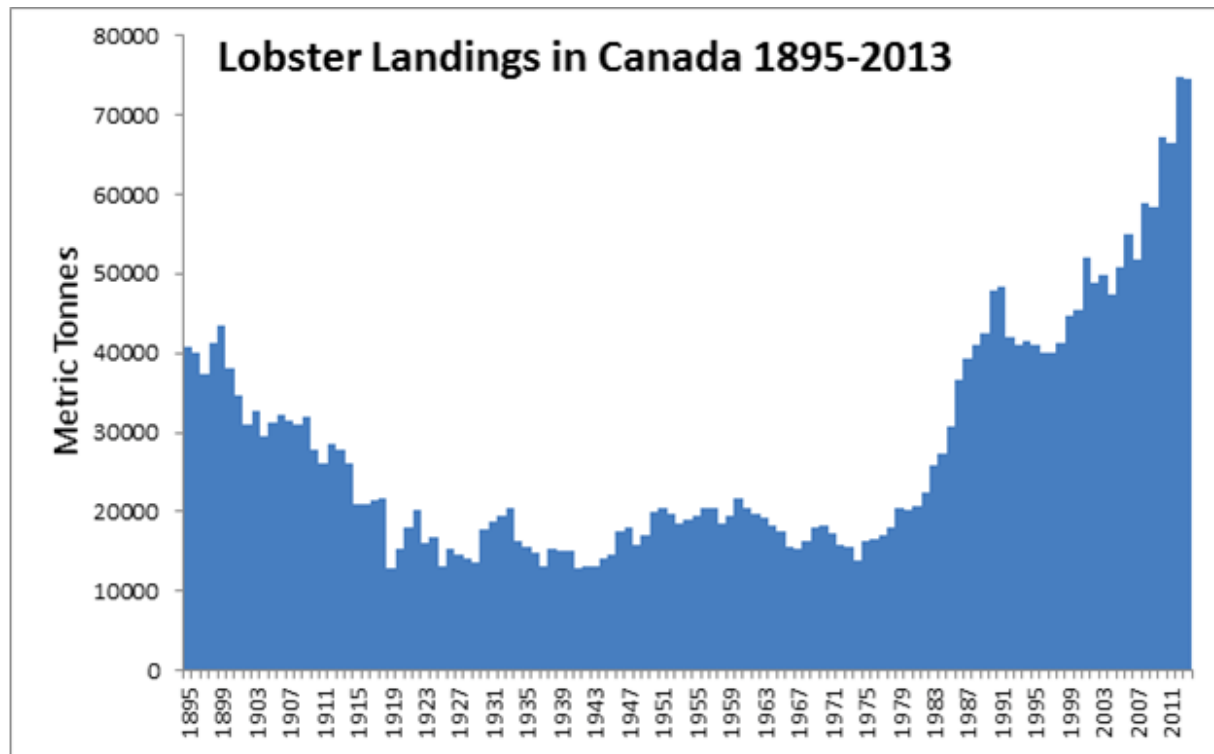


Figure 2. Lobster landings in Canada in Millions of Kg from 1895-2013 (DFO, 2015)

1.3 Objectives

While the economic sustainability of the fishery is open to questions given the above supply chain and price dynamics, it may be equally problematic to community and/or ecological sustainability. To date, the extent to which alternative marketing strategies within the Cape Breton fishery could be used to help increase overall sustainability of the lobster industry has not been adequately studied. In this project, triple bottom line sustainability, as operationalized through the fishery performance indicators (Anderson et al., 2015), will be used to explore the

potential impacts of an alternative form of marketing, called ‘direct marketing’, of Cape Breton Lobster. Here, the three pillars of sustainability, identified by Anderson et al. (2015), are economy, ecology, and community, and these will be used as lenses through which the impact of direct marketing on fishery sustainability will be measured (2015).

1.4 Research Questions

Main Question

Is direct marketing a feasible solution to contribute to the sustainability of the Cape Breton Lobster fishery?

Sub-questions

Is there a demand for direct marketing among lobster fishermen in Cape Breton? Why or why not?

How would direct marketing impact the triple bottom line of fishery performance?

This report is divided into 5 chapters. In the remainder of Chapter 1, the lobster fishery and supply chain, the Cape Breton Fish Harvesters Association, direct marketing, and fisheries performance indicators are reviewed. Chapter 2 describes the methodology undertaken for this research, while Chapter 3 presents results. Chapter 4 discusses the study results in light of the relevant literature on direct marketing and sustainability, and Chapter 5 provides management recommendations and avenues for future research.

1.5 Background

1.5.1 Lobster Management and the Fishery Supply Chain

The majority of lobster landed in LFA 27 is bought directly off the boats by buyers at the wharf. Most wharves will have multiple buyers employed there and fishermen have various reasons for choosing one buyer over another. In some cases, certain buyers have a monopoly over specific wharves. An example of this can be seen in both New Haven and Neil's Harbour, where both of these wharves have only one buyer present and that is the Victoria Cooperative Fisheries. The proximity of this co-op to these two ports makes it the logical choice of buyers for the fishermen there, especially for those who are members of the co-op. From the wharf, the lobster is transported using refrigerated tractor trailers to either a local lobster pound (a place where live lobster can be stored), to lobster pounds elsewhere in Nova Scotia, or directly to market, usually to Boston. Lobster is then processed into value-added seafood products such as cooked lobster tails or claws, or sold as a live seafood product. From the lobster pounds, processing plants, and the market, lobster is shipped internationally, with a quickly increasing demand for lobster being seen in Asian countries (Ong & Mulvany, August 4, 2015).

The price that a fisherman obtains for their catch at the wharf ('shore price') is pretty standardized across the region and is dependent on many factors, including American and international market demand, current lobster supply, and the strength of the Canadian dollar (Pinfold, 2007). While shore prices have been high for the 2017 season (CAD \$7-8/lb), in previous years, fishermen saw prices less than half of what they received this season (CAD \$3.25/lb) (Thériault et al., 2013). Prices fluctuate throughout the season and while fishermen

work to keep the prices high, it is always in the buyers' best interest to drive the shore price down in order to increase their profit margins.

Lobster in Atlantic Canada is managed both provincially and federally. This management structure results in a great deal of legal pluralism within the lobster fishing industry. The Canadian Federal government is responsible for granting lobster licenses and determining quota (effort) allocations for each LFA, while the provincial government sets regulations for both the harvesting and processing sectors (DFO, 2016). This means that the processing industry is governed solely by provincial governments, while the harvesting sector is regulated federally and managed provincially, leading to jurisdictional overlap (Anchor Consulting, 2010). This overlap in management, or legal pluralism, is criticized within the lobster fishing industry and calls into question the efficacy of the lobster industry and its supply chain (Anchor Consulting, 2010). Lobster can take a number of supply chain paths once caught, but they generally follow the path of harvester-buyer-dealer-shipper-distributor-retailer-consumer; with profits generated during each transaction along the supply chain (See Figure 3) (Pinfold, 2007). The traditionally linear path that lobster takes within the seafood supply chain allows for little interaction between supply chain actors which are not directly adjacent to one another. This results in a breakdown of communication and collaboration within the lobster industry as a whole (Aucoin, 2017).

Due to provincial regulations, lobster must be sold live to buyers and to other consumers (Province of Nova Scotia, 2015). To sell cooked lobster you must have a specific licence that is not available to fishermen (Province of Nova Scotia, 2015). Some fishermen will still cook lobster to sell directly to consumers, but this is not technically legal and does not make up a large

percentage of total lobster sales in the region. Lobster processing is managed entirely by the provincial government, making it difficult for individual fishermen to sell value-added seafood products instead of whole live lobster.

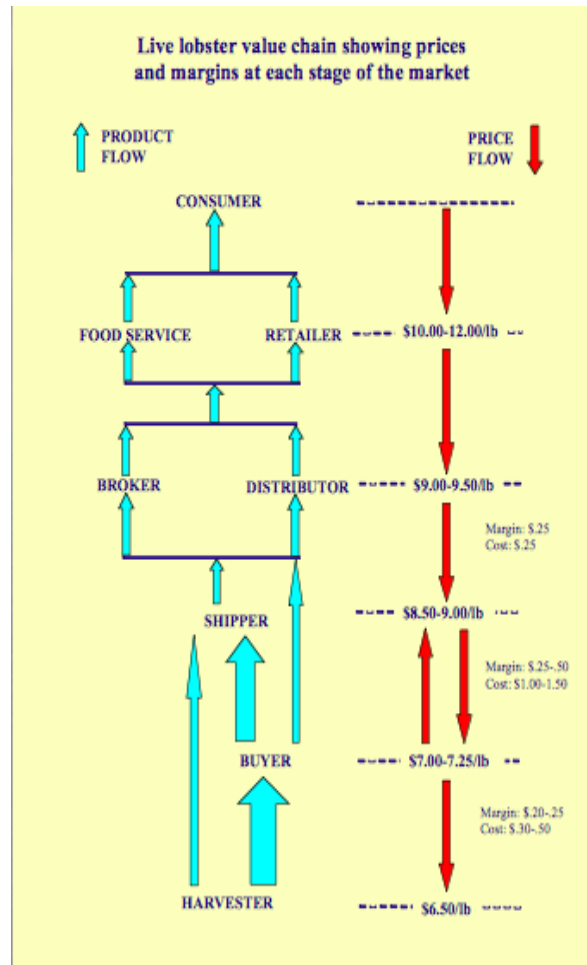


Figure 3. Schematic of a typical seafood supply chain in Atlantic Canada (Thériault et al., 2013)

The supply chain schematic seen in Figure 3 was developed by the Maritime Lobster Panel and illustrates the traditional pathways that lobster travels within Atlantic Canada (Thériault et al., 2013). There is value added at each step with product flow moving in one direction and price flow in the opposing direction. Because fishing is regulated by the federal government and

processing is regulated provincially there is sometimes a disconnect between their two sections of the supply chain. There are also regulatory barriers when it comes to declaring income and lobster sales that are not sold directly to large companies. Unless a consumer or company possesses a buyer's licence it is also illegal for them to buy more than 25kg of lobster from a fisherman on a daily basis (Department of Fisheries and Aquaculture, 2017).

1.5.2 Cape Breton Fish Harvesters Association

While lobster fisheries are managed federally, there are several industry organizations and associations that are involved in sector governance. This research was conducted with the support of the Cape Breton Fish Harvests Association, and under the assumption that any alternative marketing strategies would materialize with support of, and through connections with, the Association. For that reason, the Association's origins and activities are summarized here.

There are approximately 500 lobster licence holders in Lobster Fishing Area 27 and each one is required to be a part of an accredited fishermen's organization. Of these 500 fish harvesters, 170 are members of the Cape Breton Fish Harvesters Association, 100 are part of the Maritime Fishermen's Union, and 250 are part of the North of Smokey Fishermen's Association. Unlike the Maritime Fishermen's Union and North of Smokey, the Cape Breton Fish Harvesters Association aims to benefit all fishermen in Cape Breton whether they have chosen to belong to the Association or not. The Organization is only six years old and only became an accredited association in 2015. This accreditation was motivated by the province of Nova Scotia's declaration that they would no longer be funding non-accredited organizations. As an accredited

organization CBFHA could begin to collect dues from its members. The three primary roles that CBFHA play are illustrated by Figure 4.

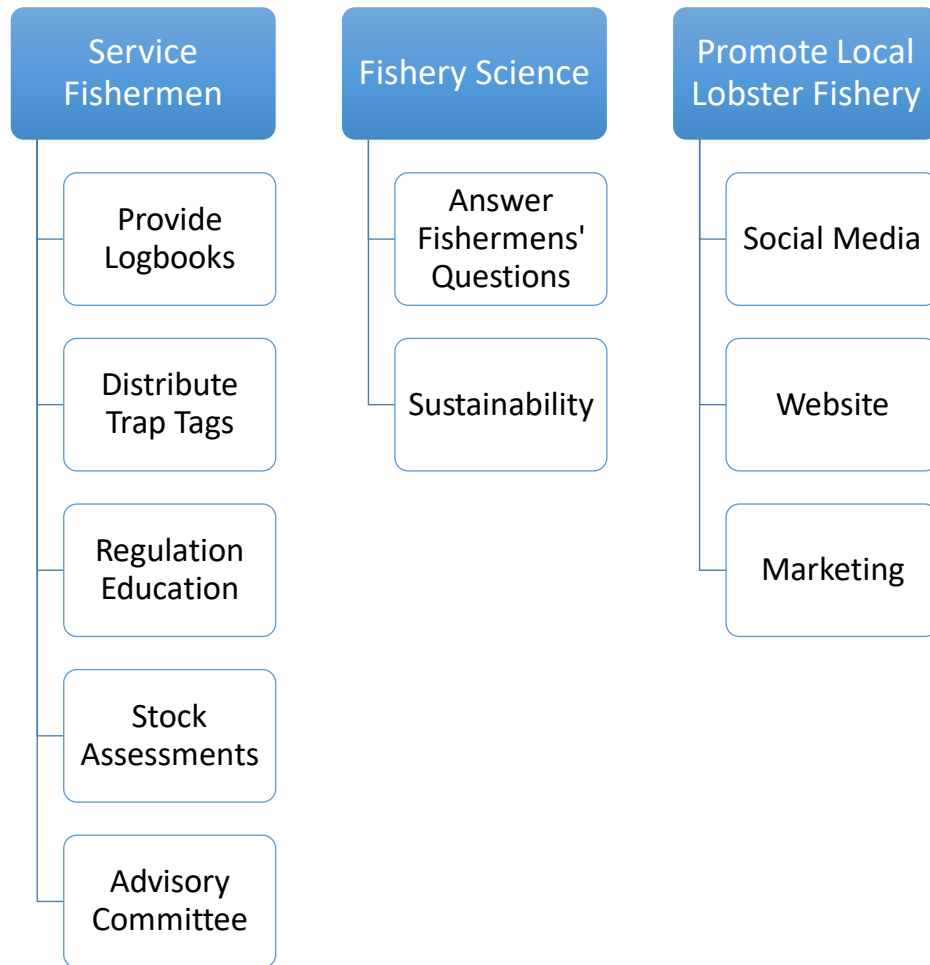


Figure 4. Three primary roles of the Cape Breton Fish Harvesters Association; 1. Service Fishermen's administrative needs, 2. Conduct Fishery Science, 3. Promote the Local Lobster Fishery

For the past 6 lobster fishing seasons (2011-2016), the Cape Breton Fish Harvesters Association has conducted at-sea sampling in order to answer questions posed by fishermen concerning stock science. The data collected each summer is presented to all interested parties in the form of a scientific summary at the end of each season. A history of research projects conducted by the Cape Breton Fish Harvesters Association since its inception can be seen in Table 1.

Table 1 Research projects conducted by the Cape Breton Fish Harvesters Association since its establishment in 2010

Date	Project
2011-Present	Lobster larval tows are conducted annually in Dingwall and False Bay, Cape Breton to assess the stage composition (stages 1-4) of planktonic lobster larvae throughout July-November.
2011-Present	At-sea sampling on board lobster fishing vessels collecting biological data (lobster length, sex, quality, and reproductive stage as well as bycatch)
2013-Present	Port protein sampling to assess lobster quality
2015-Present	Investigating the impact of larger escape hatches on lobster catchability. One fish harvester increased the size of all lobster trap escape hatches, and another has installed three different hatch sizes to see which is the most efficient at catching market-sized lobsters.
2015	Lobster tagging study to learn about lobster movement in Cape Breton
2012	Partner with researcher at the University of New Brunswick to use mathematical modelling to predict lobster larvae settling and distribution.

While lobster landings in Lobster Fishing Area 27 have been steadily increasing in recent decades (Figure 5), lobster prices have not seen a similar trend. High price volatility and great intraseasonal price variability are common occurrences within the lobster fishery (Thériault et al., 2013). In 2013, the price of lobster plummeted and by opening day of the lobster season in

LFA 27, the price had dropped below CAD \$4/pound (See Figure 6). This event caused mass protests throughout the Maritime provinces and one of the most striking examples was found in Cape Breton. All ~500 lobster licence holders in LFA 27 tied up to their wharves and remained there, refusing to fish for 6 days (CBC News, June 17, 2013). The tie-up in Cape Breton lasted longer than any other demonstrations occurring in the Maritimes. This protest was in large part organized by the Cape Breton Fish Harvesters Association. This event created trust and opened lines of communication amongst fishermen and within the Association, with the Association then facilitating a negotiation between fish harvesters and buyers, guaranteeing that fishers receive \$4.50 CAD per pound of lobster as long as the quality of the lobster did not decrease. As a result, Lobster quality is now a parameter that is monitored during every at-sea sample in LFA 27. Protein measurements are taken, moult stages are assessed, and overall lobster appearance is recorded (shell hardness, number of claws, etc.).

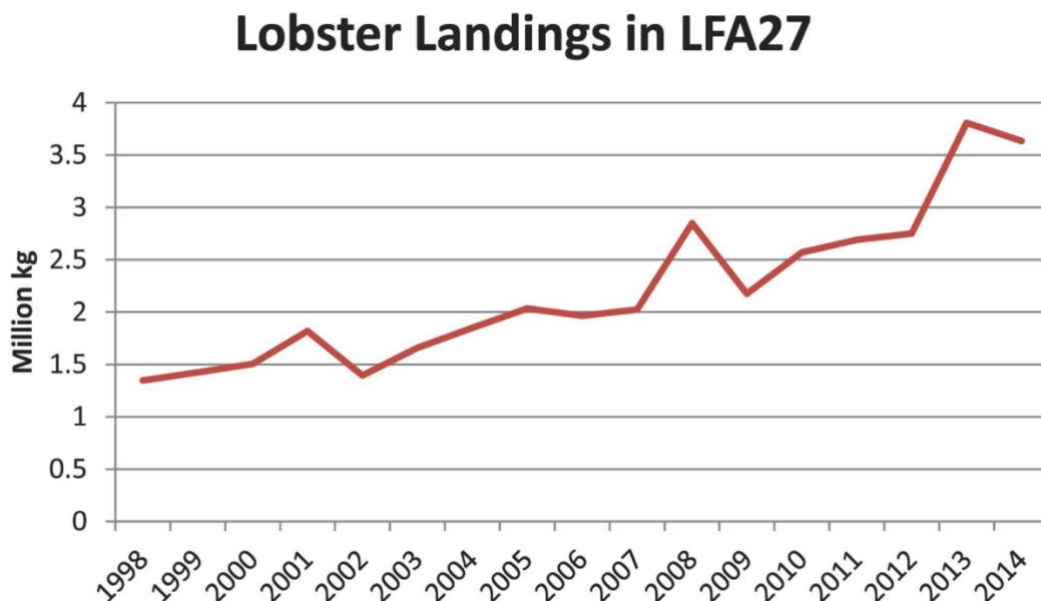


Figure 5. Lobster landings in lobster fishing area 27 in Million kg from 1998-2014, prepared by the Cape Breton Fish Harvesters Association (Brzeski, June 15, 2015)



Figure 6. Average lobster price in the maritime provinces in CAD \$/lb. from December 2012 to October 2013 (Thériault et al., 2013)

While the Cape Breton Fish Harvesters Association focuses on sustainability, it also plays a large role in the logistics of the local fishery such as distributing and collecting trap tags, hosting open information sessions concerning fishery regulation changes, and helping to represent fishermen during disputes such as that seen in 2013. The Association is open to collaborating with buyers as well as other actors along the seafood supply chain to gain more information about how best to increase the sustainability of the local fishery. Marketing is also one of the many tasks that the Cape Breton Fish Harvesters Association aims to tackle within its mandate; this falls under the umbrella of promotion of the local lobster fishery. It has been said of the Atlantic Canadian lobster industry that “We don’t market lobsters, we just sell them” (Thériault et al., 2013). Of growing interest to the Association is the use of alternative marketing strategies

that could help stabilize the economic benefits that accrue to the lobster harvesters, as well as support equity among its members.

1.5.3 Direct Marketing

Given the price volatility in the lobster market, interventions that could potentially offer fish harvesters more security are of interest to the Cape Breton Fish Harvesters Association. Direct marketing is one such intervention, which involves a shortening of the seafood supply chain with the potential to reap economic rewards for all actors who remain (Stoll et al., 2015). Fewer transactions mean that consumers receive a fresher product and that profit sharing can be more equal amongst supply chain actors. The close interaction between fish harvester and consumer is also viewed as a benefit of direct marketing strategies; creating a social connection within the seafood supply chain (Anchor Consulting, 2010; Witter & Stoll, 2017). Direct marketing allows for more transparency within the supply chain and can allow for better information flow to consumers, helping them to make more informed buying decisions (Stoll et al., 2015). A recent trend in food production worldwide has seen a greater demand for local food and direct sales to consumers (Guptill & Wilkins, 2002). This same trend has been observed within the seafood sector in Nova Scotia and Cape Breton (Anchor Consulting, 2010). Despite the demand, there is a growing disconnect between the fishery and consumers in Cape Breton. Unless a consumer has a personal relationship with a fisherman or knows what time fishing boats will arrive at a specific wharf, then it is very difficult to buy seafood directly from a fish harvester. The Cape Breton Fish Harvesters Association has developed an interactive map on their website to help consumers identify when and where fresh lobster can be purchased at wharves in Cape Breton, but it appears that this tool is overall underutilized by those looking for fresh catch (Cape Breton Fish

Harvesters Association, n.d.). While lobster rolls and other seafood products can be purchased from convenience stores, cafés, and restaurants, there is not often a clear indication of where this product has been sourced from. Additionally, the currently high price of lobster has also made its consumption cost prohibitive for some. In fishing communities where the average income is quite low, it is difficult for most to afford to eat lobster on a regular basis.

Direct marketing offers many market and non-market benefits for both fishermen and consumers. Market benefits include a reduction in supply chain operating costs due to a shortened supply chain, a premium price paid to fish harvesters with overall savings passed on to consumers, and a stabilization of revenue to fish harvesters through prearranged orders and negotiated prices (Brinson et al., 2011). Direct marketing of seafood also presents an opportunity to increase both bonding and bridging capital within the fishery to increase the social-ecological resilience of the industry, making it better able to address future challenges (Stoll et al., 2015).

Direct marketing of seafood can come in various forms such as dockside or roadside sales, internet sales, or through the establishment of a community supported fishery (CSF) (Anchor Consulting, 2010). Similar to the structure of community supported agriculture operations, CSFs would involve consumers paying a fee upfront in exchange for a share of the weekly catch (Brinson et al, 2011). Direct marketing could also be achieved through partnerships between fish harvesters and restaurants.

Community supported fisheries are a common market structure within North American fisheries and their prevalence has been increasing rapidly in recent years (Campbell et al., 2014). There have been three main types of CSFs identified within North America; these are Harvester-

focused, Consumer-focused, and Species-focused. A Harvester-focused Community Supported Fishery aims to improve the economic resilience of a fishing community, Consumer-focused CSFs focus on educating and connecting consumers with the seafood system, and Species-focused CSFs generally only sell a few high value seafood species which travel farther distances than the seafood in the other two CSF types (Bolton et al., 2016). Community Supported Fisheries can offer many market and non-market benefits through more direct marketing than is seen in traditional supply chain structures. These include economic benefits for both fish harvesters and consumers, increased seafood traceability, a stronger connection between consumers and the fishery, and if modelled after other community supported fisheries in North America, it even has the potential to fund fishery conservation efforts or other community initiatives in the region (Alaskan's Own, n.d.; Anchor Consulting, 2010; Stoll et al., 2015; Witter & Stoll, 2017). This report will explore direct marketing options, including a community supported fishery, that could be employed in Cape Breton and how this would impact the fishery's triple bottom line.

1.5.4 Triple Bottom Line

The triple bottom line refers to three pillars of sustainability; ecology, economy, and community. As it relates to fisheries, the triple bottom line was operationalized using the 'fishery performance indicators' developed by Anderson et al. in 2015. This framework uses the three categories of metrics to assess the sustainability of a fishery, highlighting specific indicators of importance for each category. These three metrics of community, ecology and economy have also been referred to as "People, Planet, Profits" (Rogers & Hudson, 2011). The sustainability outcomes of these three pillars are not always linked to one another and it is important to view

the metrics separately before attempting to assess the overall sustainability of a system (Rogers & Hudson, 2011). There are often sustainably trade-offs made during management decision which favour one pillar of sustainability over another. The Venn diagram shown in Figure 7 illustrates the states that a project, industry, or company may experience should they value two metrics over a third. If social, environmental, or economic outcomes be ignored the result will be situations that could be described as viable, equitable, or bearable, respectively, but true triple bottom line sustainability can only be achieved through positive outcomes of each metric when assessed individually (Rogers & Hudson, 2011).

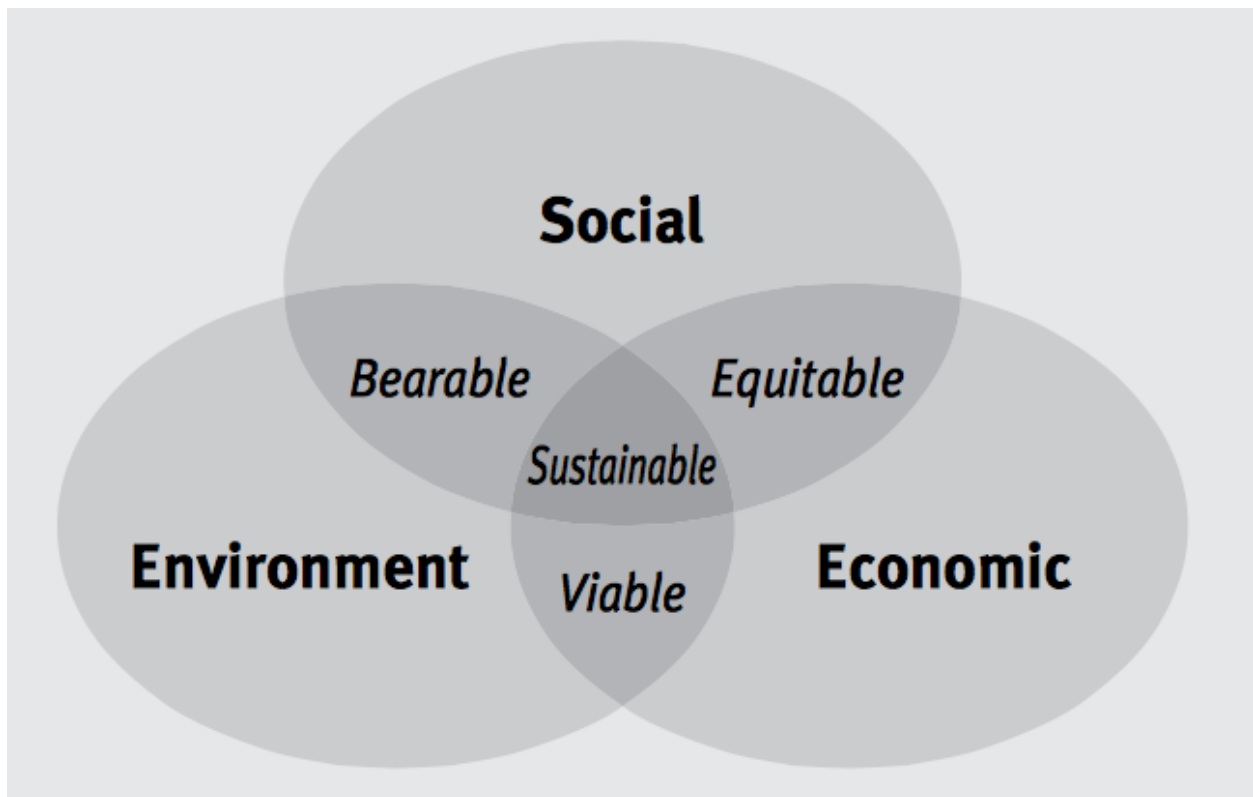


Figure 7. Venn Diagram of the intersection of the three pillars of the triple bottom line as a practical for sustainability (Rogers & Hudson, 2011)

This framework was originally developed to be used in accounting and has the potential to promote corporate-social responsibility by linking the three elements of sustainability instead of focusing on economic indicators in isolation (Norman & MacDonald, 2004). The triple bottom line has been used in many sectors previously, including, tourism, water and energy, and is now increasingly being incorporated into fisheries management worldwide (Anderson et al., 2015). While the concept of the triple bottom line has been present for many years, the fishery performance indicators were developed based on the three pillars of sustainability (ecology, economy, and community) by Anderson et al. in 2015. The fishery performance indicators were then used to assess the triple bottom line outcomes of 61 data-poor fisheries from around the world. Until now, the triple bottom line as a fishery performance indicator had only been used as a comparative tool to assess the fishery sustainability of pre-existing fishery case studies. Through this research it is being used, for the first time, as an analytical framework to determine the impact that the implementation of direct marketing strategies could have on the triple bottom line of fishery performance in Cape Breton.

While the triple bottom line is broadly separated into three the three major categories of ecology, economics, and community, they roughly translate to three other indicators of sustainability, being stock performance, harvest sector performance, and post-harvest sector performance, respectively (See Figure 8) (Anderson et al., 2015). The ecological sustainability of a fishery can be measured by examining the health of a particular stock or ecosystem using metrics such as determining the status of critical habitat, the amount of IUU fishing occurring, or the degree of overfishing that is occurring in the region (Anderson et al., 2015). The indicators relating to

economic sustainability explore harvest, risk, and trade as well as post-harvest asset performance using metrics like landings, price volatility, international trade, processing yield, and season length (Anderson et al., 2015). The third indicator, community is a bit more difficult to assess as it deals with more human elements. Some of the things that fall under the umbrella of community, including labour returns, health and sanitation, community ownership, and career opportunities (Anderson et al., 2015). These elements are measured using indicators such as crew earnings, social standings, harvest safety, access to health care, and access to education (Anderson et al., 2015). All of these measures come together to form a complex web that determines fishery performance.

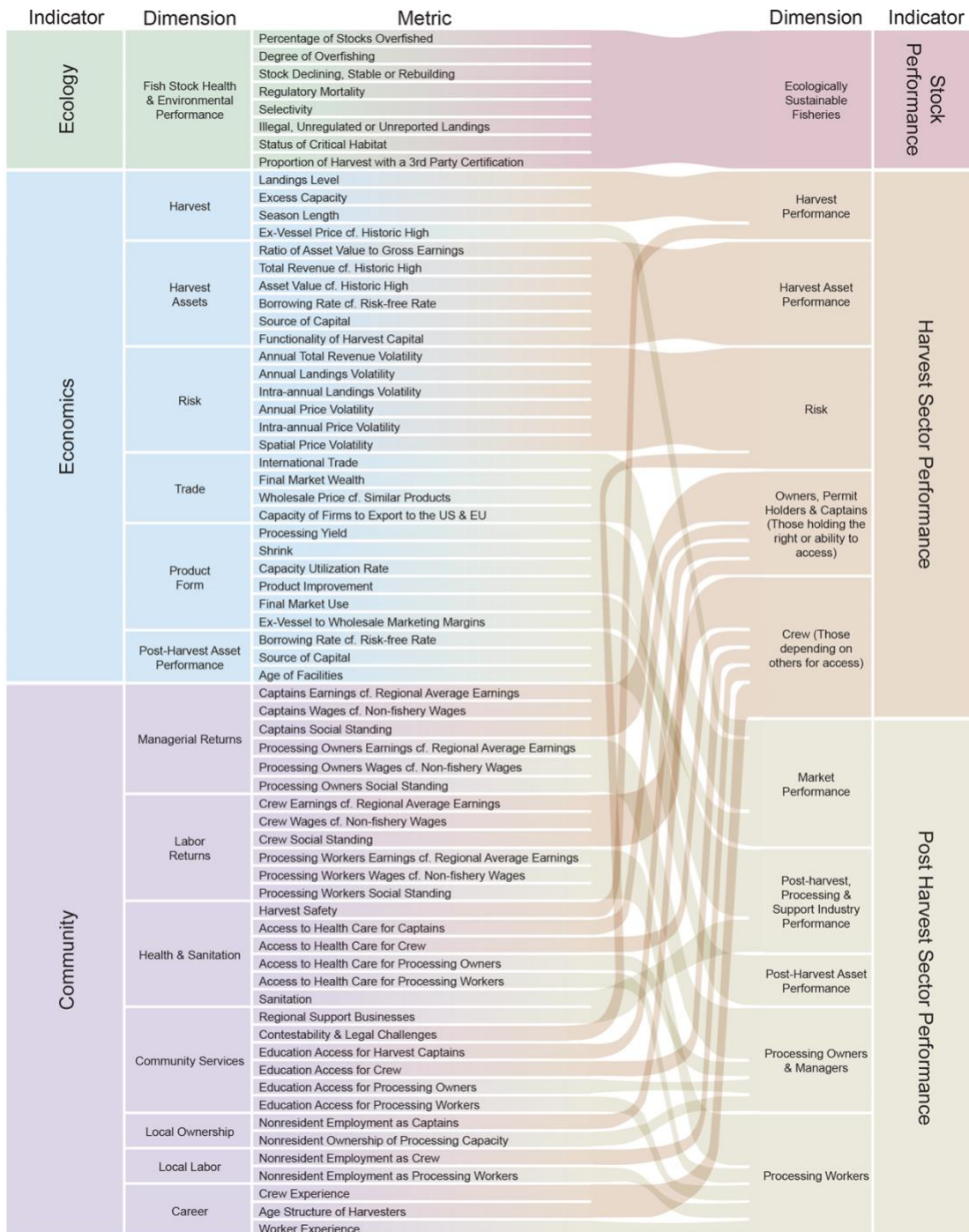


Figure 8. Fishery performance indicators developed by Anderson et al., 2015

Chapter 2: Methods

This study was undertaken in three main steps. In the first step, semi-structured interviews were conducted with fish harvesters at wharves across Cape Breton in accordance with Dalhousie ethics (REB #2016-3912). In the second step, interviews were transcribed and organized relating to the feasibility of direct marketing. In the third step, interview data and available literature were used to determine, using the fisheries performance indicators (Anderson et al., 2015), the potential triple bottom line outcomes of direct marketing. Additionally, participant observation was used throughout the study. Participant observation is a sub-methodology of ethnography; in which the researcher becomes enriched in the culture of the group he/she is studying (Evans, 2012). In this case, the researcher spent eleven weeks living in Cape Breton and interning with the Cape Breton Fish Harvesters Association. Observations were collected during the researcher's time spent on board lobster fishing vessels, while at the wharf, and also when interacting with fishermen in a social setting. The researcher immersed them self in the community so as to be better able to collect valuable information on the fishery and to gain an insider's perspective. Living in the community for nearly three months allowed the researcher to be accepted by the community members and to develop relationships with local fishermen, facilitating better knowledge gathering for this study.

2.1 Qualitative Interviews

During the lobster fishing season in Cape Breton (which coincided with the research field work), fish harvesters work tirelessly to earn a living in sometimes harsh conditions. By the end of their work day they generally do not have the time or energy to commit to a lengthy interview, survey, or focus group. Under the advice of the Cape Breton Fish Harvesters Association, wharf

interviews were decided on as the best way to capture a wide variety of perspectives from fishermen on direct marketing in conditions that would be suitable to the study population during the fishing season. Interview questions can be found in the appendix. Fifty-six port interviews were conducted between June 13 and July 7, 2017 (See Figure 9). This represents over 10% of the approximately 500 lobster fishermen in Lobster Fishing Area 27. In general, one to two ports per day were visited and an effort was made to interview five fishermen per port.

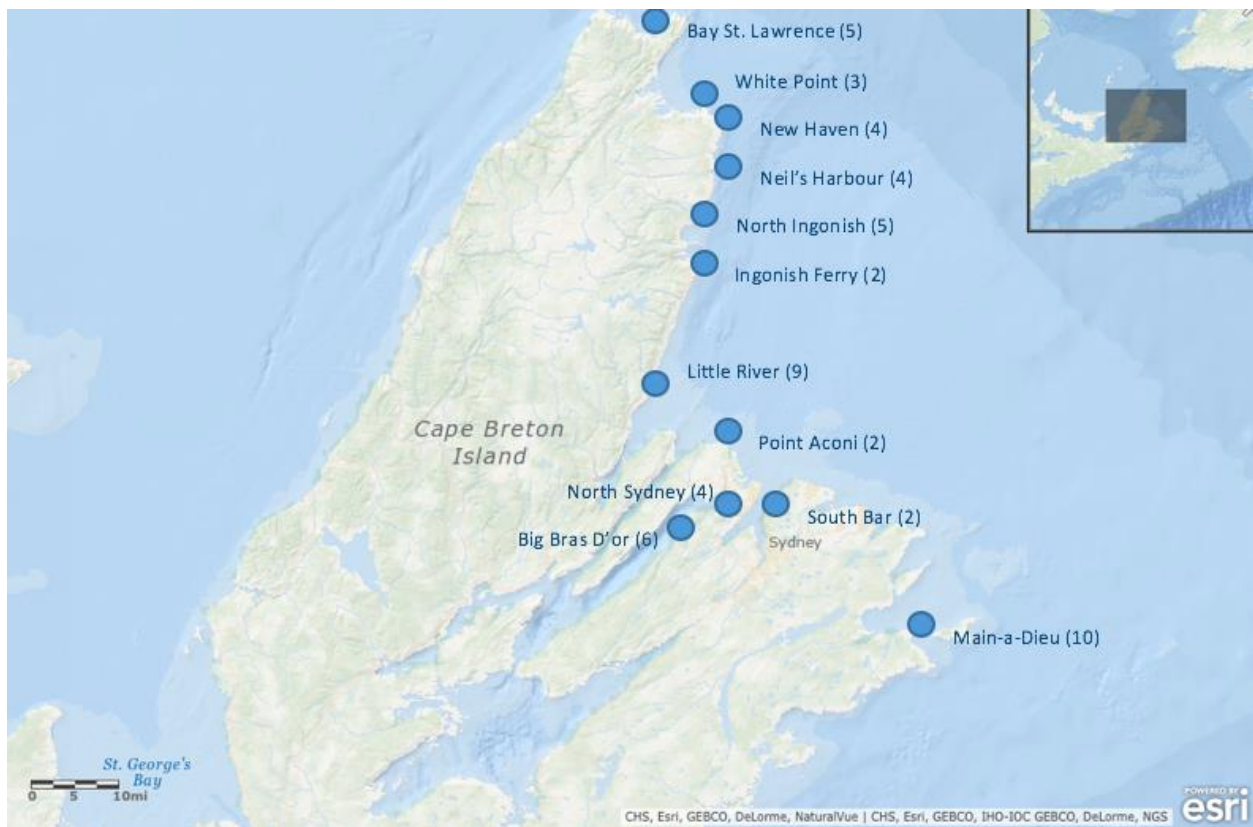


Figure 9. ArcGIS map of Cape Breton interview locations including the number of wharf interviews conducted at each location (n)

The goal of the data collection process was to keep interviews short so as to be able to interview as many lobster fishermen as possible and to not inconvenience them while they were partaking in their end of day tasks (Flannery & Ó Cinnéide, 2008). This data collection technique also

allowed for interview responses to be collected until the data reached a point of saturation. After 56 interviews it was found that novel responses were not being generated by interviewees (Fusch & Ness, 2015). Data saturation principles also indicate that if this study were to be replicated that the same results could be obtained in future research (Fusch & Ness, 2015). It is believed that if this study were conducted at some point in the future that the answers obtained would be similar, barring changes in the socioeconomic layout of the area. For example, if lobster prices were to drop drastically then fishermen may feel differently or be more keen to explore alternative marketing strategies.

Upon arrival at the wharf, the boat captain would be approached by the researcher after they had finished tying up their boat. If a fisherman was to be approached before they sold their catch and tied up, they would likely be too busy to take part in an interview and it would have been challenging to engage them in a conversation surrounding direct marketing. Although the interest among fishermen in this project varied from one interview to the next, no one declined to take part in the survey. Interview lengths varied based on the engagement level of fish harvesters and their interest in the topic of direct marketing. If a fisherman was in a hurry to leave, then the most important interview questions would be asked first to ensure that valuable data was collected from each interview participant. Some fishermen had strong opinions on the topic of direct marketing and were happy to engage in discussion for a long period of time.

Prior to beginning the interview, participants would be made aware of the researcher's affiliations as a volunteer for the Cape Breton Fish Harvesters Association as well as a Master of Marine Management candidate from Dalhousie University conducting research on lobster

marketing. They would also be made aware of the purpose of the research and asked to spare a few minutes of their time to take part in the study. Interviews lasted approximately 10 minutes on average with the minimum and maximum times being approximately 5 and 25 minutes.

The wharf interviews conducted were semi-structured meaning that each interview could take on a different dialogue while still following similar structures; allowing the research questions to be answered. While it was viewed as valuable to gain a diversity of perspectives on the topic of direct marketing as well as other issues within the fishery, for the purpose of this study it was important to have a set of benchmark questions that were comparable from one fish harvester to the next. For a full list of interview questions please see Appendix 1.

2.2 Data organization

The second step of the research methodology involved compiling data for the purpose of analysis. Once the interview data were collected, notes were transcribed into a digital form and organized based on several pieces of information:

- Whether they were currently selling of their product directly, if they had in the past, or if they would like to in the future
- Barriers that they see to the implementation of direct marketing
- Suggestions for how these barriers could be overcome, or for how to improve the fishery structure.

These data were compiled into a spread sheet, and using deductive and inductive reasoning, major emergent themes were continually updated throughout the interview process. These themes will be addressed in the Chapters 3 and 4.

2.3 Comparison with the ‘Fishery Performance Indicators’

The third and final step of the research methodology involved comparing the data collected to the fishery performance indicators. The indicators created by Anderson et al. were examined to determine which metrics could possibly be affected both positively or negatively by the direct marketing of Cape Breton lobster. An extensive literature review was then conducted to assess how direct marketing has affected these sustainability metrics elsewhere in the world and whether similar impacts could be seen in Cape Breton.

Chapter 3: Results

The results will be presented in three sections. The first and second sections will go into depth on the most common interview responses in relation to the feasibility of direct marketing, with section one focusing on perceived barriers to direct marketing and section two focusing on motivations for direct marketing (Figure 9). The third section will highlight the expected impact that the direct marketing of Cape Breton Lobster would have on the triple bottom line of fishery performance (Anderson et al., 2015). Throughout the results information will also be presented that was collected through observational techniques collected by the researcher during the eleven- week study period in Cape Breton. An overview of the main barriers and motivations for direct marketing and where they occur along the lobster supply chain can be seen in Figure 10.

This study found that of the 56 fishermen interviewed, only one actively direct markets their catch. This fish harvester had a deal with a local restaurant and would deliver a small part of their catch to this location several times per week. Besides this fisherman all others interviewed sold the vast majority of their catch to buyers on the wharf. Most fish harvesters interviewed indicated that they sold small quantities of lobster to tourists and locals if they were on the wharf when they arrived, but often times there is no one at the wharf to buy. Most fishermen interviewed showed little to no interest in direct marketing their catch. This could be due to a lack of knowledge on the potential benefits of this alternative marketing strategy.

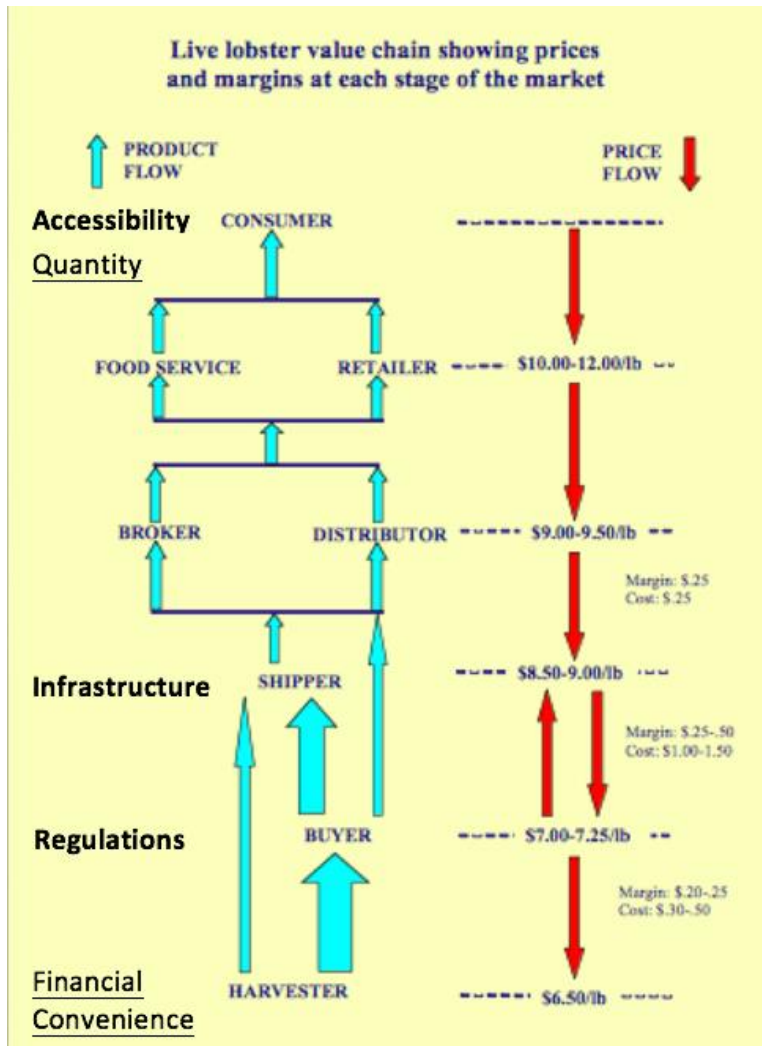


Figure 10. Schematic of traditional lobster supply chain in Atlantic Canada and where Barriers (accessibility, infrastructure, regulations) and Motivations (financial, convenience, quantity) exist along the supply chain (Thériault et al., 2013)

3.1 Barriers

Respondents identified several barriers to engage in direct marketing, with respondents focusing on accessibility (n=13), infrastructure (n=6), and regulations (n=5). Other fish harvesters viewed the high price as a barrier to direct marketing (n=8). This high price has led to greater satisfaction amongst fish harvesters with the current lobster supply chain and a reduction in the desire for change. There was also a number of interview participants (n=12) who indicated that they did not

believe that there was an incentive to partake in direct marketing or that direct marketing of Cape Breton lobster would be inconvenient to them (n=12). In these results, the responses pertaining to the barriers of accessibility, infrastructure, and regulations will be the focus. A diagram of the proportion of responses received can be seen in Figure 11.

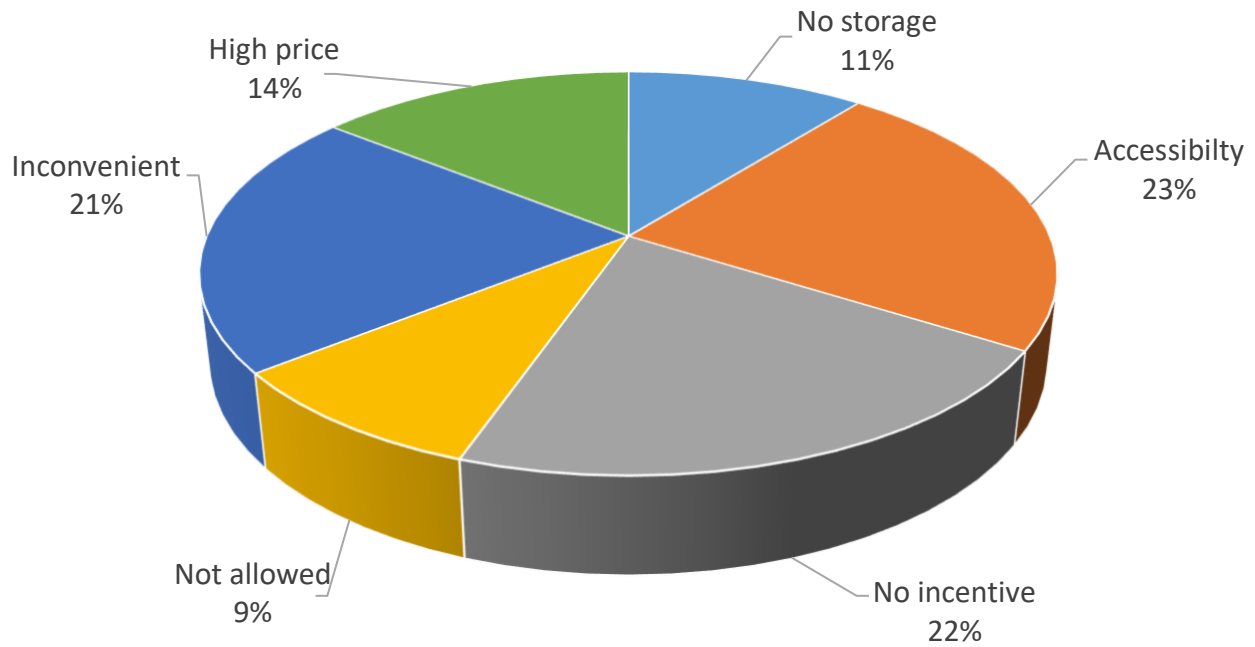


Figure 11. Graphical representation the greatest perceived barriers to the direct marketing of Cape Breton lobster (n=56)

3.1.1 Accessibility

A major barrier to the uptake of direct marketing tactics within Cape Breton is a lack of access. A lack of access to direct marketing was indicated in interview responses by fisherman saying that they either did not know how to market their catch directly (n=2), or that they felt as though there was no market for direct marketing of Cape Breton lobster (n=11). One fisherman said of the supply chain structure currently in place in Cape Breton “This is all we have” (Respondent #23), indicating a lack of knowledge on, or of access to, alternative market strategies which could be employed within the Cape Breton lobster fishery. The current fishery supply chain structure has not changed drastically in recent decades and there is little option for fish harvesters to sell directly to retailers or consumers. Should they choose to sell some of their catch from their boat, they must also take time out of their day to spend time at the wharf selling to tourists and locals. A common comment heard from fishermen during interviews was that “there is no one on the wharf to sell to” (Respondent #1, 3, 49).

3.1.2 Infrastructure

Another major barrier to direct marketing identified by fish harvesters is a lack of necessary infrastructure. Lobster is an energy intensive seafood product to transport and to store as they have specific water quality parameters necessary for their survival. Lobster pounds require a large amount of space for holding tanks and sophisticated technology to monitor water quality parameters and to maintain lobster quality during long periods of storage. Very healthy lobsters can be stored for up to 6 months under the proper conditions. An alternative to storing lobster in pounds is to float crates of lobster in sheltered harbours or to tie them to a wharf or boat. While this practice is done in some areas on Cape Breton, it is often seen as a last resort for lobster

storage. This is due to the fact that lobster have narrow tolerances for certain water quality parameters such as salinity and temperature. A large influx of freshwater into a harbour after a heavy rain can kill any lobster being held there. Toxins or warm water currents that drift into an area where lobster is being held can also trigger large die-offs if not detected early enough. A lobster crate can hold 100lbs of live lobsters and can float on the surface of the water. These crates are often filled with up to 100 lobsters, living in stressful conditions. This stress may also contribute to their likelihood of survival during storage under non-ideal environmental conditions.

For direct marketing to occur, either on the wharf or in partnership with local businesses, it was identified by Cape Breton fish harvesters that lobster storage infrastructure would be needed at the wharves to allow for fishermen to store their lobster prior to selling it, or to have lobster on the wharf for locals and tourists to buy (Respondent #1, 38). In some areas, fishing boats sell their catch at a government wharf before travelling to a different wharf where they have a berth to keep their boat. By the time they return to their wharf for the night they have already sold their lobster and have none to sell to tourists waiting for them (Respondent #38). It was also indicated that in harbours where there is a lot of tourist traffic, that fishermen choose not to store their lobster in the harbour overnight or for extended periods of time for fear of theft. A fisherman from Ingonish Ferry indicated that he does not feel comfortable storing his lobster in the harbour “because they will be stolen” (Respondent #38). He also indicated that “there are lot of tourists on the wharf, but I sell at the government wharf”, meaning that he has no lobster on board to sell to tourists after tying up. Small lobster pounds on wharves in Cape Breton that see a lot of foot

traffic would allow for safe and secure storage of live lobster, increasing access for tourists and locals to fresh, local seafood.

There is also the need for transportation infrastructure. Whether selling directly means that fish harvesters must make their own deliveries or if there is another way for lobster to be sold more directly but transported to its final destination from wharf lobster pounds, a system of transportation will need to be further explored to allow for increased direct marketing.

3.1.3 Regulations

A final barrier to the direct marketing of Cape Breton Lobster lies within the current regulations governing the Canadian lobster fishery. Because of the numerous, and at times, confusing federal and provincial regulations surrounding the purchase and sale of lobster in Canada, several lobster fishermen interviewed believed that that they were not permitted to market their catch directly (n=5). When referring to direct marketing, one fish harvesters said “we’re not allowed to, are we?” (Respondent #3). This ambiguity should be resolved to allow for more fish harvesters to sell directly should they chose to.

The first regulatory barrier identified was that in order for a consumer or retailer to purchase more than 25kg of lobster per day, they must obtain a buyer’s licence form the Province of Nova Scotia. These licences are expensive to obtain and in order to hold one, your business must adhere to a strict set of criteria outlined by the province. The cost and need to adhere to these regulations make obtaining a buyer’s licence cost prohibitive to many consumers and businesses. Some fish harvesters were not aware that they were permitted to sell up to 25kg of lobster per

day per consumer from their boat; they either believed that there was no limit, or that the limit was much lower than this (Respondent #3).

A second regulatory barrier to the implementation of direct marketing of Cape Breton Lobster involves sales slips (Respondent #11). Sale slips are issued by licensed buyers to licensed fish harvesters for their catch. The data from these sale slips transactions are compiled by Fisheries and Oceans Canada and used to track lobster landings in Atlantic Canada. These slips also serve as a record of employment and proof of income for fish harvesters when applying for employment insurance during times when the season is closed and fishing is not permitted. While the sales slip system that is currently in place has many benefits in terms of record-keeping and informing stock assessments, it also does not allow direct purchases between licensed fish harvesters and unlicensed buyers to be recorded by DFO. If the sales slip system remains in place and direct marketing of lobster were to increase in Cape Breton, there would be large quantities of lobster being sold without DFO's knowledge and thus those lobsters would not be accounted for within future stock assessments. Several fish harvesters interviewed expressed concerns that direct sales would not produce these receipts of sale as without these slips they would not be able to collect EI throughout the Winter (Respondent #31). In order to collect EI during fishery closures a fish harvester must have earned a set minimum amount of revenue during the past fishing season. It was noted by a fish harvester that after they had earned that minimum amount during a season and had the slips to show for it, that they would be open to selling directly for the rest of the season (Respondent #31).

Another regulatory barrier to direct lobster sales is that fish harvesters cannot process the lobster they catch and then sell it (Respondent #5). Lobster sold from the boat cannot be cooked or otherwise altered before being sold to consumers. This is an issue because many times tourists or local residents alike would appreciate the option to buy cooked lobster. Some consumers do not want the inconvenience of cooking lobster and others, such as tourists staying in hotels, simply do not have the means of cooking it. While the law states that without a processors license, a fisherman cannot sell cooked lobster, some choose to ignore this rule and sell cooked lobster any way, and as there is little enforcement on this issue, they will likely continue to do so (Respondent #16).

3.2 Motivations

While other motivations for direct marketing indicated by fish harvesters included a desire to sell their catch locally (n=6) and the opportunity to redistribute the power within the fishery structure to give fishermen more power (n=4), the greatest motivation (n=27) overall for the direct marketing of Cape Breton lobster would be for the chance to be able to reap an greater economic reward from this practice. Earning more money from their efforts would motivate fish harvesters to sell more directly or locally. Nine of the 56 interview participants indicated that they had no interest in direct marketing and because of this, their motivations for direct marketing were not captured by this study and thus do not appear in Figure 12. For the purpose of this study the financial (n=27), convenience (n=7), and quantity or critical mass (n=3) motivations will be further explored.

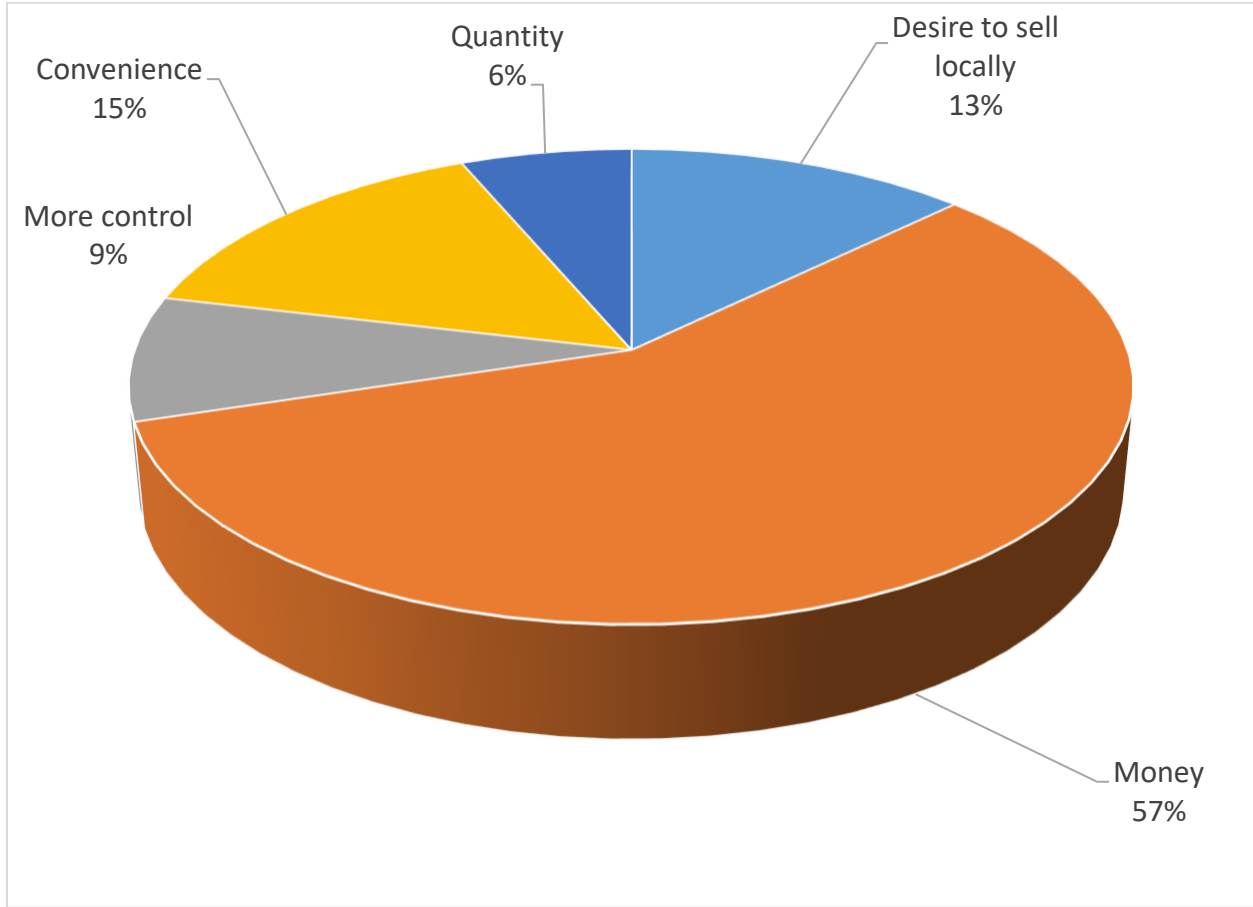


Figure 12. Graphical representation the greatest motivations for the direct marketing of Cape Breton lobster (n=47)

3.2.1 Financial

The current lobster supply chain is important to the Atlantic Canadian economy as it moves large amounts of a premium product globally and offers employment to tens of thousands of people in Atlantic Canada, but it leaves fish harvesters with little control over the price they receive for their catch and few resources to know where their catch goes after it has left the wharf. There is a fair amount of price volatility within the lobster industry in Atlantic Canada and this has been highly criticized in the past. Price control in the lobster fishery is exerted through a top-down

structure and this system can leave fishermen feeling frustrated and helpless (Respondent #52). When the season opened this summer in Lobster Fishing Area 27 the price per pound of lobster was \$8 CAD at the wharf which soon after dropped to \$7 CAD. Even though \$7 CAD is historically one of the highest prices received at the wharf for lobster in this region, the drop from \$8 to \$7 came with little warning or justification, leaving fish harvesters unhappy with the supply chain structure that is currently in place. Unfortunately, because the season is of fixed length and lobster is managed as an effort-based fishery, fisherman have little time or effort to put into fighting these decisions during lobster season because their livelihoods depend on them fishing as much as they can during the two-month season. Fishermen in Cape Breton are all small business owners and they must do what is in the best interest of their enterprise. Nearly 50% of interview participants in this study indicated that money was the number one motivation for them to explore other marketing tactics within their enterprise and this make sense, as they rely on fishing for their livelihood. If direct marketing could be shown to increase the economic revenue to fish harvesters in Cape Breton as has been seen in other regions, many fishermen in the region would be interested in exploring this option further.

3.2.2 Convenience

While some fish harvesters in Cape Breton would ideally like to sell their catches locally or more directly, convenience plays a large role. Lobster fishing is a grueling profession with fishermen often times beginning their work day before 4am and ending in the afternoon. This demanding schedule takes a toll on those working in the fishing industry and by the end of the day it is their goal to sell their catch as quickly as possible so as to be able to get home, rest, and begin preparing for their next day of fishing. Most wharves in Cape Breton have buyers' stations where

seafood processing or distribution companies will have a facility in place that can unload the lobster from the boats and store it for a short period of time before it is transported by truck to a lobster pound. Because these facilities are already in place at the wharf where fish harvesters are ending their day, the vast majority of fishermen will sell their entire catch to these large companies as has been done for decades.

If there were a direct marketing option that would be as convenient or more convenient for fish harvesters than the current system and would allow them to sell their catch for the same or a higher price than is being given by larger seafood companies at the wharf, it is likely that there would be more fish harvesters interested in selling directly than currently exist.

3.2.3 Quantity

Most restaurants, grocery stores, and direct consumers (i.e.: locals and tourists buying at the wharf) buy lobster in small quantities, often ranging from a few pounds for direct consumers to a few dozen pounds of lobster for restaurants during any given transaction. Some fishermen in Cape Breton have arrangements with restaurants or stores in Cape Breton where they personally deliver a set amount of lobster to these businesses (Respondent #30). These arrangements greatly reduce the length of the seafood supply chain; making it fisherman-restaurant-consumer. While this is an ideal situation, most fishermen do not want to be transporting small quantities of lobster to businesses across the island after they have finished fishing for the day (Respondent #7, 48). While it is beneficial for businesses and consumers to buy directly from a fisherman, allowing for an increased connection to the food that they or their customers are eating and allowing for full supply chain traceability, it is unreasonable to believe that a fish harvester could

sell the entirety of their daily catch in small increments to many different buyers. Because of this, any lobster that is not sold directly is sold to buyers at the wharf. Several fishermen who took part in this study indicated that they had sold directly to restaurants in the past but have since ended their arrangements due to the time and effort required to make small deliveries around the island, stating that it was simply “too much of a hassle” (Respondent #52). Some fish harvesters also indicated that if they could sell larger quantities more directly, that they would be open to this possibility (Respondent #1, 28, 48). Because lobster fishermen in certain regions of LFA 27 can catch upwards of 2,000 lbs of lobster per day there is a need for a critical mass when selling lobster. Selling 25 lbs of lobster here and 50 lbs elsewhere is not worthwhile, but selling a few hundred pounds to one location would be enticing. A large enough purchase would motivate fishermen to explore the option of selling their lobster away from the wharf, as was indicated by several fish harvesters during wharf interviews (Respondent #1, 28, 48).

3.3 Triple Bottom Line Outcomes

The goal of this research was to determine the feasibility of direct marketing in the Cape Breton lobster fishery, and to assess whether or not direct marketing may contribute to triple bottom line outcomes. Specifically, to what extent can direct marketing impact the ecological, economic, and community sustainability of the Cape Breton lobster fishery? To answer this question, respondent interviews were analyzed to see if they mentioned some of the metrics associated with the different dimensions of the fisheries performance indicators (FPIs). Table presents all metrics and whether any respondents made mention of the metric, and in what context. In addition to any respondent opinions, the literature was also reviewed to provide studies where direct marketing has in practice or in theory contributed to advancement of the FPI metrics.

Table 2 Fishery performance metrics outlined by Anderson et al. and their prevalence within interview responses and observational data including respondent number if applicable

Indicator	Dimension	Metric	Interview mention (y/n)	Applicability (Context)
Ecology	Fish stock health and environmental performance	% overfished stocks	N	
		Degree of overfishing	Y	Bait fish have been overfished, but not lobster itself. Halibut has also been overfished. Lobster is one of the only species in the area which has seen increases in catch in recent years.(Respondent #56)
		Stock declining, stable or rebuilding	Y	Lobster biomass is increasing (Respondent #50)
		Regulatory mortality	N	N/A
		Selectivity	N	N/A
		IUU	N	N/A
		Status of critical habitat	Y	Increasing industrial development is encroaching on lobster habitat, especially submarine cables
		Proportion of harvest with certification	Y	All lobster caught in LFA 26 is Marine Stewardship Council certified (Cape Breton Fish Harvesters Association, n.d.)
Economics	Harvest	Landings	Y	Landings this year are higher than ever before (Respondent #2)
		Excess capacity	Y	Too many traps being fished (Respondent #8)
		Season length	Y	The fishing season does not coincide with the tourist season (Respondent #1)
		Ex-vessel prices	N	N/A
	Harvest assets	Ratio of asset value to gross earnings	N	N/A
		Total revenue	Y	Revenues this year are very high due to higher than normal lobster prices offered to fishermen (Respondents #8, 24, 39, 42, 41, 52, 54, 55)
		Asset value	Y	The selling of fishing boats and licences is viewed as a retirement package
		Borrowing rate	N	N/A
		Source of capital	N	N/A

	Functionality of harvest capital	N	N/A
Risk	Annual total revenue volatility	Y	Very unpredictable, controlled by buyers (Respondent #52)
	Annual Landings volatility	Y	Varies yearly, but has been increasing steadily in recent years (Respondent #50)
	Intra-annual landings volatility	Y	Landings are generally high at the beginning of the fishing season and decrease throughout the two-month season
	Annual price volatility	Y	Varies year-to-year and is based on many external factors, including the demand and willingness to pay from the Asian market (Respondent #44)
Trade	International trade	Y	Much of the lobster caught in LFA 26 is sold internationally with an increasing amount reaching the Asian market (respondent # 8, 50)
	Final market wealth	N	N/A
	Wholesale price	Y	
	Capacity of firms to export	Y	Need for export of lobster because the market in Cape Breton is not large enough to sell all catch locally
Product form	Processing yield	Y	Processing sector has limited ability to process the increasing volumes of lobster caught in the region
	Shrink	N	N/A
	Capacity utilization	N	N/A
	Product improvement	Y	Lobster caught in Cape Breton is processed and sold in many different forms. Allowing fish harvesters to sell cooked lobster would be beneficial to achieving direct marketing objectives.
	Final market use	Y	Different consumers desire different product forms (Respondent #16).
	Ex-vessel to Wholesale margins	Y	There is a lot of profit generated along the supply chain that is not realized by fish harvesters (Respondent #56).
Post-harvest assets	Borrowing rate of risk free rate	N	N/A

		Source of capital	N	N/A	
		Age of facilities	Y	Processing facilities in the region are aging and in need of upgrades to be able to compete in the international market	
Community	Managerial returns	Captains earnings	Y	As much as 50% of a Captain's earnings go towards paying for gas, renewing their licence, buying and maintain their equipment, and paying off their boat (Respondent #34).	
		Captains wages	Y	Money is the main motivator for change. Interest in direct marketing if there were an economic incentive (Respondents # 3, 9, 15, 19, 22, 26, 27, 29, 30, 34, 35, 36, 37, 51, 55).	
		Captains social standing	N	N/A	
		Processing owners earnings	Y	Money is the main motivator for change. Interest in direct marketing if there were an economic incentive. (Respondents # 3, 9, 15, 19, 22, 26, 27, 29, 30, 34, 35, 36, 37, 51, 55).	
		Processing owners wages	Y	Money is the main motivator for change. Interest in direct marketing is shown if there were an economic incentive(Respondents # 3, 9, 15, 19, 22, 26, 27, 29, 30, 34, 35, 36, 37, 51, 55).	
		Processing owners social standing	N	N/A	
		Labor returns	Crew earnings	Y	Increased revenue could lead to economic spinoff and increased crew earnings.
			Crew wages	Y	Crew wages have to be high enough for them to be able to claim employment insurance in the off-season.
	Crew social standing		N	N/A	
	Processing workers earnings		N	N/A	
	Processing workers wages		N	N/A	
	Processing workers social standing		N	N/A	

	Health and sanitation	Harvest safety	Y	Stronger Transport Canada regulations came into effect as of July, 2017.
		Access to health care for captains	N	N/A
		Access to health care for crew	N	N/A
		Access to health care for Processing owners	N	N/A
		Access to health care for Processing workers	N	N/A
		Sanitation	N	N/A
	Community services	Regional support businesses	Y	Increased spending by those from the fishing industry in local businesses.
		Contestability and legal challenges	Y	There are many legal barriers to direct marketing (Respondent #3)
		Education access for harvest captains	N	N/A
		Education access for crew	N	N/A
		Education access for processing owners	N	N/A
		Education access for processing workers	N	N/A
	Local ownership	Nonresident employment as captains	N	N/A
		Nonresident ownership of processing	N	N/A
	Local labor	Nonresident employment as crew	N	N/A
		Nonresident employment as processing	Y	Many processing plants have trouble securing workers so they seek out foreign workers. Foreign works are viewed as “saving the [processing] industry” (Respondent #16)
	Career	Crew experience	N	N/A
		Age structure of harvesters	N	N/A
		Worker experience	N	N/A

3.3.1 Ecology

From the results of this study, it appears that direct marketing would have little impact on the ecology of the Cape Breton Lobster stocks. This fishery is managed using an effort-based quota system with many conservation measures already in place. Additionally, the entire Lobster Fishing Area 27 lobster stock is Marine Stewardship Council certified. Overall this industry is already ecologically sustainable, and local lobster stocks have seen great increases in biomass in recent years. These increases in lobster biomass are expected to continue in the coming seasons as many lobsters which were below market size this year fell only 1-3 mm below the legal minimum size for kept lobster which is 82.5 mm. Healthy lobster grow approximately 10mm per year but can grow upwards of 15 mm, indicating that many of the short lobster which were caught this year and returned to the sea will be of market size next season.

3.3.2 Economy

Because within direct marketing arrangements prices paid to fishermen for their catch are generally negotiated prior to a transaction with a consumer, fishermen have more control over the price that they would like to receive for their catch. Direct sales allow a fish harvester and their buyer to secure an agreed upon price for the fishing season. This eliminates the volatility that is often seen in the current lobster supply chains as prices can fluctuate on a daily basis.

This one-on-one interaction greatly increases transparency within the seafood sector and allows fair and stable prices to be negotiated. A fish harvester's ability to choose their price would overall decrease price volatility related to total annual revenue, annual price, intra-annual price, and spatial price. Unfortunately, while direct marketing can decrease the risk of price and revenue volatility, it can place a greater overall risk on a fish harvester. Because risk in a seafood

supply chain is distributed to all actors to one degree or another, when the supply chain is shortened, all actors left within the chain are subject to higher individual risks (Anchor Consulting, 2010). But as is often seen, with greater risk comes greater reward (Anchor Consulting, 2010). Loss of product or another cause of breakdown in the seafood supply chain would hurt a direct marketing fishermen more than it would one who does not sell directly, but as has been shown but studies conducted in fisheries elsewhere in the world, over the long run, direct marketing has increased the revenue seen by fish harvesters by up to 33% (Stoll et al., 2015).

The impact that direct marketing could have on various product forms is more linear than that of risk. Some of the product form variables highlighted within the methodology of Anderson et al. that have the potential to be impacted by direct marketing tactics were processing yield, capacity utilization rate, product improvement, final use, and ex-vessel to wholesale marketing margins (2015). Direct marketing initiatives are intended to supplement current supply chains, not take business away from them. Because lobster landings have been increasing steadily in recent years into a system that has limited capacity to accommodate more product, alternative and innovative strategies are needed to process the excess catch that cannot be held or sold for a profit from larger seafood companies. Direct marketing could increase processing yield and capacity utilization rate (through diversified supply chains), product improvement and final use (through value-added lobster products), and ex-vessel to wholesale marketing margins as was indicated by Stoll et al. when exploring the economic benefits of direct marketing to fish harvesters (2015). One of the direct marketing options that has been explored extensively in academic literature is that of the establishment of a community supported fishery programs. CSFs have shown to

increase the revenue to fishers by as much as 33% annually as was seen in the first year of the Walking Fish CSF, co-created by students at Duke University (Stoll et al., 2015). A community supported fishery in Cape Breton is an option that can be further explored to assess its feasibility in the region.

3.3.3 Community

Under most direct marketing structures, including community supported fisheries, revenue to fish harvesters is increased over earnings from traditional supply chain structures, overall increasing managerial returns within the seafood supply chain. This allows more revenue to go towards the earnings of captains as well as the local people who process the seafood, and in turn to be reinvested in the community. Greater managerial returns are one of the main motivating factors when determining whether to employ a direct marketing strategy or not (Hardesty & Leff, 2008). As indicated by fishermen during wharf interviews, the greatest motivation for adopting direct marketing into their business model would be the potential for greater economic reward for their product. Direct marketing would ensure greater economic returns to both the fishing and processing sector, should live and value-added lobster products be sold directly.

Similar to the impact that direct marketing could have on the revenue generated by boat captains and processing plant owners, the return on labour to fishing crews and processing workers is also projected to increase. The extra revenue generated by business owners could trickle down to their employees, increasing their wages.

If more revenue is generated by direct marketing practices and this revenue ends up in the pockets of those working in the fishery sector, these people will have more disposable income to spend within their communities. This would help to support local businesses in Cape Breton. If local retailers also have agreements with fish harvesters to buy their catch from them directly this could decrease the cost of seafood paid by said retailers. Cutting out the middle man helps to reduce profit sharing so that fish harvesters reap greater economic rewards and this could result in lower prices being offered to local restaurants and grocery stores than they would see buying from larger companies and processing facilities.

The metrics pertaining to access to health care were not touched upon by any interview participants. This is likely due to the fact that Medicare is in place in Canada. Changing the fishery structure would not impact a Cape Bretoners' access to health care because as a Canadian citizen they would have access to health care regardless of their income. A similar trend is seen in access to education. Access to education could be increased through increased earnings, but many people in the fishing industry do not seek higher education, or if they do, they obtain their education prior to entering the fishery. There are currently funding programs in place to assist Canadians to fund their education and these programs would function the same way regardless of a change in the fishery structure.

Chapter 4: Discussion

Direct marketing of seafood is viewed as an alternative market strategy (Witter & Stoll, 2017), ‘alternative’ because the current fishery structure is already so well established. Despite the widely adopted top-down control arrangement, it is not without problems and as previously explored, direct marketing shows potential to address some of these issues. Overall, fish harvesters show some interest in direct marketing their catch if they could reap economic benefits from this practice, if a large quantity of their catch could be sold locally, or if a direct marketing arrangement could be equally as convenient for them as their current marketing tactics. For lobster to be sold more directly in Cape Breton there is a need for new provincial regulations that would facilitate the shortening of the seafood supply chain as well as a need for increased infrastructure which would allow fish harvesters to store lobster to be sold at a later date.

From a feasibility standpoint, direct marketing is believed to be a viable option for lobster sales within Cape Breton. While it is not reasonable to expect that all lobster caught in Cape Breton could be sold locally due to high catch volumes and low population, a greater portion of the catch in this region could be sold directly instead of following more circuitous supply chain routes as are often seen in the Atlantic Canadian lobster fishery. Some of the major enabling factors that would be needed for direct marketing in the region are consumer and fish harvester desire, funding for restructuring, and for individuals to give up their time to help with the project. It also appears that direct marketing could address some of the metrics found in the fisheries performance indicators, notably those found in economy and community. Direct marketing

shows promise for increasing fish harvester revenue which could trickle down to others working within the fishing industry, such as crew members, allowing for increased recirculation of revenue within fishing communities, enhancing both the profit and people elements of the triple bottom line. Overall, it appears that direct marketing may be feasible under the right conditions, and could contribute to triple bottom outcomes. This is not at all a guarantee however.

Some of the ways in which direct marketing could be employed in the cape Breton Lobster fishery are outlined below.

4.1 Eliminate Regulatory Barriers

There are many rules surrounding who can purchase lobster and in what quantities, but in general if someone is looking to buy more than 25kg of lobster per day, they will need a buyer's licence (Department of Fisheries and Aquaculture, 2017). The cost to apply for this licence is \$257.65, which may be cost prohibitive to some. This fee is deemed an administration fee, meaning it is the price that must be paid for the permit application to be reviewed. It is nonrefundable and does not guarantee that the buyers' license will be granted to a person or business that requests it (Department of Fisheries and Aquaculture, 2017). Without retail businesses obtaining permits to buy, it makes it impossible for fish harvesters to sell that critical mass of lobster that would make their direct marketing efforts worthwhile. According to provincial regulations, permit holders must meet high regulatory standards within their facilities in order to be eligible to hold and maintain said permit (Province of Nova Scotia, 2015). They must also satisfy the "lobster holding and handling criteria" outlined by the province of Nova Scotia (Province of Nova Scotia, 2015). These criteria are numerous, one of which being that the buyer must possess a lobster

pound or holding facility that can hold a minimum of 2,000lbs of lobster (Province of Nova Scotia, 2015). This criterion in particular would make it nearly impossible for any retail outlets to hold a license allowing them to buy directly from fish harvesters as lobster storage facilities are expensive to construct and to maintain.

In order to sell cooked lobster at a restaurant, a business needs a food establishment permit which can cost up \$222.59 annually and similarly to the buyer's license comes with a strict set of guidelines that must be adhered to in order to maintain the permit (Province of Nova Scotia, 2015). A restaurant will also need to obtain a fish processors license for a cost of \$265.40 annually in order to be able to buy live lobster and cook it for resale (Province of Nova Scotia, 2015). There is a great deal of red tape in place to help conserve the current supply chain structure, but with a few regulatory changes, lobster in Cape Breton could easily be sold more directly than is currently seen

A second regulatory hurdle comes from the issuance of sale slips. Lobster sales in Canada are currently tracked by Fisheries and Oceans Canada (DFO) through the use of sale slips, or standardized receipts used for lobster purchases (DFO, 2011). Authorized buyers must issue sale slips to fish harvesters that indicate the quantity of lobster that has been sold during this transaction. Once again, special permits are required in order to obtain these sale slips (DFO, 2011). The information contained on these receipts is accessible to DFO officials and is used to keep a detailed record of landings and exchanges between licensed lobster harvesters and buyers (DFO, 2011). This information contributes to lobster stock assessment conducted by Fisheries and Oceans Canada (DFO, 2011).

The current regulations in the Canadian lobster industry favour selling and purchasing in large quantities. This is something that can realistically only be done by large companies (Anchor Consulting, 2010). As previously mentioned, one reason for the strict regulation of the lobster fishing industry is because landings and sales data are used as the primary method of lobster stock assessments in Canada (DFO, 2015). While this is a cost effective and opportunistic method of conducting science, it is neglecting a wide variety of biological factors. If more science were to be conducted in this high value fishery, then there would not be a need for such stringent regulations.

Some of the changes that would help facilitate an increase in direct marketing of seafood in Cape Breton include the following.

- a. **Allow retailers to purchase more than 25kg of lobster per day without a fish buyers license**
- b. **Allow value added products (cooked/packaged lobster) to be sold by fish harvesters without a food establishment permit.** This permit is highly inaccessible to fish harvesters as it is hard to meet the standards set by this permit on their vessels or in a home kitchen. Live transport is difficult for all species, but live seafood generally fetches a higher price than non-live products. The only way to sell non-live lobster is if it sold cooked, meaning that unlike most seafood products, lobster will fetch a higher price when it is not alive because it has become a value-added product (Sea Grant, 2007).

- c. **Establish alternative lobster sales recording and stock assessment methods.** If stock assessment methods were updated, then there would not be such a heavy reliance on sales slips for stock information. Lobster sales recording should also be required of all sales, be they to small or large buyers. This would allow for even better data to be collected on the fishery. As it stands, to issue sales slips you must have a buyer's license which is not feasible or realistic for small sales.
- d. **Reduce jurisdictional overlap to allow for greater local autonomy.** As both the federal and provincial governments play a role in lobster governance there is legal pluralism in this sector. Reducing jurisdictional overlap by streamlining management could help to address some of the regulatory issues seen in the fishery and to allow greater autonomy for fish harvesters to control their sales and manage their enterprise in innovative and sustainable ways.

Important to note, is that these changes could not only allow options for direct marketing, but may in and of themselves promote better fisheries performance, at least by FPI metrics.

4.2 Increase Lobster Storage Capacity

One of the major complaints made by lobster fishermen in Cape Breton was that there was a lack of capacity to store lobster. Lobster is an expensive commodity in part due to its storage requirements. Cape Breton Lobster is a premium hard-shelled shellfish product. The characteristic of being hard-shelled as opposed to soft shelled means that they can be stored for an extended period of time and sold at a later date (McLeese & Wilder, 1964). This is ideal for Cape Breton which has a booming tourist industry with a season which unfortunately does not coincide with the lobster fishing season. The fishing season lasts for two months (mid-May to

mid-July) and the tourist season lasts four months (July-October) but the two only overlap by two weeks (first two weeks of July). There are two options for lobster storage which would solve the problem

- a. **Cold storage on wharves** would involve the construction, maintenance, and surveillance of small lobster pounds on wharves or larger lobster pounds built at centralized locations, based on which direct marketing option is explored.
- b. **Safe storage in harbours** would require harbour authorities install proper surveillance systems placed at wharves to ensure that if any product theft were to occur the thieves could be found. This surveillance would also serve as a way to discourage thefts from occurring in the first place. Surveillance does not prevent environmental accidents from happening and product stored in harbours is still at risk of being affected by freshwater influxes or pathogens, making this storage method less ideal than that of a lobster pound or land-based storage facility.

4.3 Establish a Community Supported Fishery

Alaskan's Own is a community support fishery in Alaska that operates as a non-profit organization with the goal of using any revenue generated to fund conservation research in the fishery (Alaskan's Own, n.d.). All of the fishery research conducted in this region of the United States is facilitated by fishermen cooperation and explores questions posed by fishermen (Alaskan's own, n.d.). This is the same way in which the Cape Breton Fish Harvesters Association conducts their research within the Cape Breton Lobster Fishery. The establishment of a community-supported fishery would likely require that a diversity of species be available for purchase through the catch share program. Those who subscribe to the program would commit to

being a member for the full season and would receive weekly deliveries or travel to a centralized pick-up location to obtain their catch share. Consumers and chefs surveyed by a report on small scale fisheries in Nova Scotia like the idea of weekly deliveries (inconvenient for fishers but convenient for consumers) (Anchor Consulting, 2010). As is customary in most Community Supported Fisheries, or CSFs, consumers should receive a variety of species of locally-caught Cape Breton seafood. Due to the nature of lobster being sold as a live product the vast majority of the time, it is difficult to have them transported or held for long distances or periods of time. As CSFs tend to cater to a local market, by shortening the supply chain they dramatically reduce the distance that a share of seafood must travel to reach its final destination. If bycatch from the lobster fishery (Cod and other species), as well as other commercially harvested species that are captured just prior and/or just after lobster season could be sold within a community supported fishery arrangement, this could increase the amount of funding available for fishery science, increase the accessibility to local seafood, keep food more local, and provide a high quality and fresh product for Cape Bretoners to enjoy.

The CSF structure that is being proposed for Cape Breton is that of a harvester-focused community supported fishery. The goal of this operation would be to increase the economic revenue generated by fishing and for fish harvesters to reap this reward. Should any revenue be generated by the broker or organizer of the CSF program, that money would be used to fund conservation efforts or fishery science within the region, similarly to how Alaskan's Own Community Supported Fishery operates (Alaskan's Own, n.d.).

4.4 Managing and Meeting Demand

Of the 56 Fish Harvesters interviewed only one indicated that they sold their catch directly to a restaurant and none indicated that they sold to retail outlets such as markets or grocery stores. If a fish harvester has a desire to sell locally or more directly this is an easy way for them to shorten their supply chain, as long as a retailer is willing to buy a large enough quantity of lobster to make it worth the fisherman's while. The retailer would also be required to have a buyers permit and be able to hold lobster at their facility.

A small scale option for direct marketing is for fish harvesters to sell their catch directly from their boat, from the back of their truck on the side of the road, or at a roadside stand. While some lobster fishermen in Cape Breton operate their own lobster pounds, this is not the norm, and individual sales directly to consumers do not make up a large portion of the transactions within the region. Some fishermen would sell from their boat but many wharves do not see any foot traffic. Captains need to know that there are consumers on the wharf looking to buy before they sell their catch to a buyer, which is not always possible. Some wharves even discourage consumers from visiting boats to buy due to limited parking. For most fish harvesters there is no economic incentive to sell directly under the current supply chain structure so unless they are selling to their friends and family, they simply sell their catch to the large buyer, gas up their vessel, tie up to the dock, and go home. Should a fish harvester have a desire to sell their lobster from the wharf there are several tools that they will need to make sales. They will need to invest in a scale as well as buckets for weighing. They should also have plastic bags on hand so that lobster can be easily transported by consumers (Sea Grant, 2007). Additionally, harvesters should also make a point to keep cash on board to make change for consumers who buy their

lobster. Proper signage indicating that they are open for business and willing to sell their lobster to tourists and locals alike should be displayed on their vessel and/or at the roadside so that tourists will know that they can travel down the wharf road to buy fresh catch. It is also desirable from a consumer stand point if a boat is kept clean, making it more appealing for potential customers (Sea Grant, 2007). They should also moor their boat as close to the beginning of the wharf as possible to make it easier for consumers to reach your boat as well as for them to carry their purchase back to their vehicle (Sea Grant, 2007). A decision that needs to be made by a fisherman is how much they are going to sell their catch for. This value can be above the price being paid by large buyers but only if everyone who is selling directly within that harbour has agreed upon this higher price. If one fisherman wants to sell their catch for a value above the shore price without consulting other fish harvesters at the same wharf, they could easily be undercut by others who are also direct marketing in the area.

Similar to a community supported fishery, but more catered to selling in large quantities is the possibility of hiring a sales broker for a fishing enterprise. Fishermen can sell their catch to retailers (local restaurants, stores, etc.) at a specified price and brokers will facilitate the sale, taking a commission of the sale for themselves. While this lengthens the supply chain by one actor and removes the face-to-face interaction between lobster fishermen and retailers, it also alleviates a lot of the stress placed on fishermen by having to find buyers and deliver their catch to said buyer. A broker works as the sole middleman in a short supply chain (fisherman-broker-retailer-consumer). Once a fish harvester has established connections with the seafood industry through their broker and are comfortable with their arrangements, they may opt to work directly with their clients and forgo the broker, increasing the profit to the fish harvester over time. A

broker could be an individual in town who is hired by a lobster fisherman to cover the marketing side of their business, or it could be a fisherman's association that is already in existence such as the Cape Breton Fish Harvesters Association. The Cape Breton Fish Harvesters Association could work as the middleman for lobster sales in Cape Breton, using the revenue from their commission to fund scientific research on the LFA 27 lobster industry. The Association could facilitate deals with any form of recognized business such as retailers, stores and restaurants.

4.5 Enabling Factors

4.5.1 Fish Harvester Desire

The first and most important requirement is that there needs to be desire among fish harvesters to move in this direction. Many of the perceived barriers expressed by fish harvesters were just this, perceived and not factual. The misconception that they were not allowed to direct market or that there was no desire for local seafood in the region may not be completely true statements. Cape Breton is no different than any other region in Nova Scotia where there is a widespread and increasing demand for local seafood. "Consumers, including chefs, expressed keen interest in supporting direct marketing schemes, especially those that can overcome the barriers of inaccessibility and inconvenience.", (Anchor Consulting, 2010). Access to locally caught and sustainable seafood is very desirable right now and a surge in demand in recent years can be linked to consumer awareness and an increase in environmental consciousness (Anchor Consulting, 2010). Even better than making local fish and lobster accessible is to make it convenient to obtain; making it an easy option for consumers and restaurants to choose over other forms of seafood and other protein options.

Another barrier identified by fish harvesters was that they did not know how to market their catch directly. If there were more education on the subject of alternative marketing strategies offered to fish harvesters this could increase the interest and uptake of direct marketing options in the region. Lobster landings have been increasing steadily in recent years with this year's landings far exceeding those seen in any previous lobster season in LFA 27. Both landings and prices were so high this year that large companies who buy lobster in the region are not able to handle the quantities that they are purchasing and in some cases have lost money on their lobster business during the 2017 season (Leblanc-Smith, June 15, 2017). Processors do not have enough capacity to hold the lobster and cannot find consumers willing to pay high enough prices so as to allow for a profit on their product. Creating alternative paths that seafood can take in the region could help to alleviate some of the burden placed upon local buyers when catches are high.

4.5.2 Consumer Desire

It was also indicated by a number of fish harvesters who took part in this study that they believe that direct marketing is not an option because the price of lobster was too high this year. They observed a reduction in the number of consumers coming to the wharf because of the CAD \$7-\$8/pound price tag of lobster seen in LFA 27 this year was cost prohibitive to some, especially in communities where many residents belong to low-income households. While this may be the case, this trend does not accurately represent an overall trend towards a greater desire for local food, including lobster in recent years. If grocery stores can sell lobster for more than double the price that is being offered to fishermen at the wharf, as was seen by the researcher at a grocery store in Halifax, Nova Scotia (CAD \$16.99/lb live lobster), then there is still a market for lobster even when it has a higher price tag. Direct marketing on the wharf may not be possible in years

when the shore price of lobster is high, but lobster can still be sold directly to restaurants or grocery stores to make a greater profit than would be realized if the lobster were sold to a buyer at the wharf. Discomfort or discontent within a system is often a trigger for change. Because lobster prices were high this year there is little desire to change the way in which lobster fishing, buying, and selling is conducted but in previous years when the shore price for lobster was low, there was great desire for change. Extremely low lobster prices in 2013 triggered 500 lobster fishing boats in Cape Breton to tie up to the wharf and cease fishing activity for 6 days during the lobster season that year. This action triggered an agreement to be reached between buyers and fish harvesters to settle on a fair price for lobster for the remainder of the season. This also motivated the establishment of the maritime lobster council, tasked with identifying issues within the lobster industry in the Maritimes and how it could be improved upon (Thériault et al., 2017). Because of the high prices this season, fish harvesters were generally content with the fishery structure. If prices were to drop again in the near future this would be an ideal time to employ alternative market strategies within the fishery such as direct marketing tactics to help increase fishery revenue within the communities.

4.5.3 Resource Requirements

Another requirement for the establishment of a direct marketing venture is the need for a person or organization with the time and energy to make the needed changes. There is also a need for the financial resources to do so. Restructuring of a seafood supply could be an expensive and time consuming endeavour, but there are several provincial and federal funding options to help facilitate this transition. The first of which is through the Atlantic Canada Opportunities Agency (ACOA) and the second is the Atlantic Fisheries Fund (AFF).

ACOA – Atlantic Innovation Fund (AIF) or Innovative Communities Fund (ICF): This fund is supported by the federal government and is not specific to the fishery sector but has funded fishery innovation projects in the past. The goal of the agency is to create economic prosperity within Atlantic Canada and to strengthen the local economy. It has been estimated that each dollar that is invested in Atlantic Canada by ACOA increases the GDP of the region by \$5.40. If ACOA were to financially support the establishment of direct marketing of seafood in Cape Breton it would stimulate economic growth within the fishing sector in the region. The Atlantic Innovation Fund is targeted towards small businesses to fund research and development to help generate innovative ideas within the fishery sector. The Innovative Communities Fund aims to support community-based initiatives to stimulate small-scale economic growth which benefits rural communities. Because most fishing in Cape Breton takes place in rural communities it could be argued that direct marketing could have a direct impact on the economy of small communities in the area.

Atlantic Fisheries Fund (AFF): The Atlantic Fisheries Fund is a recently announced joint endeavour between the Canadian Federal Government and the Atlantic Provinces provincial governments. This Fund will distribute over \$400 million over the next 7 years to fund innovative proposals from within the Atlantic Canadian Fishing industry as well as academic institutions and non-governmental organizations with strong ties to the fishery. The goal of the funding program is to facilitate innovation, the creation of infrastructure, and to foster science partnerships. If a fisherman's association such as the Cape Breton Fish Harvesters Association were to put forward a proposal to the AFF committee sometime before 2024 to implement a community supported fishery or another direct marketing strategy it would have a high

probability of being funded by this entity. The goal of the Fund is to revitalize the fishing sector in this part of the country and for the money to make as large of an impact as possible. Because the CBFHA represents nearly 200 fish harvesters in Cape Breton if this project were funded it would have widespread benefit for fish harvesters in this region and it would have the potential to “generate increased recirculation of capital in the local economy” (Halweil, 2002).

If the enabling factors for direct marketing of Cape Breton lobster could be realized, then it is believed that it could be a very successful venture in this region. Direct marketing would allow for greater economic gains for all those along the supply chain as well as a greater autonomy for fish harvesters and greater returns to the community.

Chapter 5: Conclusion

5.1 Should Lobster Be Direct Marketed in Cape Breton?

Direct marketing of Cape Breton lobster could be feasible under the right conditions, and could have marked economic and community impacts within Cape Breton should it be employed in this region. It has been stated that “local direct marketing has the potential to lead to greater stability, local autonomy and opportunities” (Anchor Consulting, 2010). For the lobster fishery, as it already performs well on ecological sustainability, the ecological impacts on the ecosystem may be negligible through direct marketing. However, direct marketing could keep more revenue and seafood in the region instead of economic gain being spread more widely within the province, country, or the world. For direct marketing to be established in Cape Breton, there are several enabling factors that would have to be in place. Should these enablers be realized in the region, it is believed that a variety of direct marketing strategies could be employed in Cape Breton, producing diverse benefits for the lobster fishing industry and the population of Cape Breton as a whole.

5.2 Management Recommendations for Implementing Direct

Marketing

- Alter provincial regulations to allow for increased direct marketing of Cape Breton Lobster
 - Buyer’s License

- Sales Slips
- Processor's License
- Reduce jurisdictional overlap
- Educate Cape Breton fish harvesters on the proven benefits of seafood direct marketing
- Offer direct marketing training to Cape Breton Fish Harvesters on how best to market their catch in order to shorten the supply chain
- The Federal and Provincial governments should provide funding to fish harvesters who choose to restructure their supply chain to sell more directly
- There should be an increase in secure lobster storage capacity available to fish harvesters. This could involve the construction of small lobster pounds or holding facilities on wharves to allow fishermen to store their catch.
- Shift the fishing season to coincide with peak tourist season
- Increase marketing and advertisement of locally caught Cape Breton lobster on wharves roadsides, restaurants, and grocery stores to help promote a sustainable and nutritious seafood product

5.3 Future work

Future work could involve the implementation of small direct marketing programs in Cape Breton to assess their desirability among consumers and uptake among fish harvesters before employing more widespread direct marketing strategies. Another avenue to explore would be to assess whether the enabling factors needed for direct marketing to be established successfully can be met within the region. To further the knowledge surrounding the triple bottom line

outcomes of fishery performance, these metrics could be used to assess the success of any direct marketing within the fishery in the future. The metrics could also be used to assess the sustainability of implementing other alternative market strategies within the Cape Breton fishery sector. The triple bottom line as a fishery performance indicator is a relatively new development and it shows great promise for its use as an analytical tool in many different fishery contexts.

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Appendix 1

Interview Questions for Reference

Direct Marketing (covered if a fish harvester had a comprehensive understanding of direct marketing)

1. Do you direct market?
2. Would you be interested in selling your lobster directly to consumers? To restaurants?
Why/why not? What support do you need?
 - a. Define direct marketing, or rephrase (do you sell directly to consumers? Do you transport your lobster?)
 - b. Could ask if the person cooks them, is that important in your sales?
3. Do you have suggestions for increasing the direct marketing of Cape Breton Lobster?
Local sales?
4. Do you think that the government should support direct marketing?
5. Do you think that training courses in lobster handling and transportation would be of use?
Cooking?

Benchmark questions (asked to all interview participants):

- 1: Where do you sell your catch?
- 2: Do you sell any of you catch directly (i.e.: consumers on the wharf, restaurants, grocery stores)?
- 3: Would you like to sell you catch directly?
- 4: What do you see as the largest barrier to selling directly?
- 5: What would motivate you to sell directly?