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FISHING POLICIES AND ISLAND COMMUNITY DEVELOPMENT

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with Ratana Chuenpagdee and Maureen Woodrow
March 2014

The Applied Research Fund 2012-2013



This research project was funded under the Applied Research Fund. The intellectual property vests with the author(s). For more information about this Research Fund or to obtain hard copies of this report, please contact the Harris Centre.

Fishing Policies and Island Community Development



A report prepared for
The Leslie Harris Centre of Regional Policy and Development
Memorial University of Newfoundland

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March 2014

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1. Acknowledgements

The research team would like to thank the Leslie Harris Centre of Regional Policy and Development Applied Research Fund for their support, which made this research possible. Additionally, we would like to thank Mayor Gerry Gros (Anchor Point), Beverley Stevens (Change Islands Fisherman's Improvement Committee), and Craig Pollett (Municipalities Newfoundland and Labrador) for their support of this research. Lastly, thanks must be given to participating community members from Anchor Point, Fogo Island, and Change Islands, without whom this research would not have been completed.

2. Executive Summary

Fisheries have a long history of being the economic backbone of the coastal and island communities that dot the coastline of Newfoundland and Labrador. The policies and management structure that guide resource use in the province have had, and will continue to have, an impact on those communities. The Fishing Policies and Island Community Development project set out to examine these impacts in two areas (Anchor Point and Fogo and Change Islands) and also to explore how these communities have responded to and even influenced these policies, management structures and impacts. Brief comparisons are also made to findings from a related research project in three island fishing communities in Maine.

The study drew from bodies of literature in Archipelagic Island Studies and Co-management. The research involved secondary data and document review as well as 28 interviews conducted with government and community representatives in 2012. A series of knowledge mobilization activities have also been undertaken, including a project web page, presentations and feedback on initial results obtained at a fall 2012 symposium dedicated to fisheries and community research on the west coast of Newfoundland, and a forum scheduled for Fogo Island and Change Islands in May 2014.

The collapse of the groundfishery in the 1990's, coupled with the rise of snow crab and shrimp fisheries, has influenced how communities respond to changes in the fishery. Policies of importance to communities have included those related to licensing, quotas and other methods of controlling and limiting catch, rationalization, processing and marketing and recreational/food fisheries. The two regions focused upon in this study, Fogo Island/Change Islands and Anchor Point and area, have been active players in influencing how fisheries policies and management decisions and other measures impact their communities. Fogo Island and Change Islands share the presence of the Fogo Island Co-operative, Ltd., for example. The Fogo Island Co-operative operates facilities on Fogo Island and has also operated the community-owned fish plant on Change Islands. The Co-operative is joined by the more recent development of Shorefast Foundation, which plays a role in promoting stewardship, experimentation with alternative gear types, and development of new high value markets for island seafood products, particularly cod. Anchor Point shrimp harvesters, in addition to the rest of the 4R fleet, have participated in a voluntary late start to their fishery, delaying the opening of their season to May 1st from April 1st. Entering new fisheries, vessel upgrades and travelling for employment in other sectors have been additional strategies employed. Community quotas were also suggested in both regions. We found that these communities, while threatened by changes in the fishery and Newfoundland economy more broadly, have innovative ways of responding to changes in two key ways: 1) working within the existing management structure (as the 4R harvesters did) to influence local applications of fisheries policy, and 2) creating new way to buy, sell, and market their catch (as the Fogo Island Co-operative and Shorefast Foundation have done). Local governments and community organizations have also lobbied for policy change but the impacts of these efforts are less evident in a system that remains largely driven by centralized decision-makers.

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“I do know that were stuck out here on the northeast Atlantic right in the middle of the best fishing grounds in the world. That’s definitely an advantage because Newfoundland is very fresh. However, if I go back and reflected on what you said in terms of, this as an issue, maybe because, maybe they’re gonna let us die a slow death. You know, to support this island, costs a lot of money, costs an awful lot of money. And the province says, maybe that’s why they’re doing the things they’re doing, by giving licenses down in other places near the resources and so on, because they’re hoping Fogo is gonna be choked out eventually.”

Fish processing sector representative

3. Introduction

3.1. Project Background

This research explored the relationship between fisheries policy and management and island community development in Newfoundland and Maine. Before discussing the rationale and approach to the study background information in three areas is briefly reviewed: fisheries policy in Newfoundland and Labrador (NL), community research on the island of Newfoundland and community organizations engaged in fisheries within the study areas.

Fisheries Policy in Newfoundland and Labrador

In Newfoundland, and across the rest of Canada, formal authority in the fisheries management system lays almost exclusively at the federal level, with provincial jurisdiction limited primarily to licensing of fish processing. Fisheries are managed with input and output measures. Morison defines input measures as ones that control “*who* is allowed to fish, *where* they are allowed to fish, *when* they are allowed to fish, and *how* they are allowed to fish”, whereas output measures as ones that control “*what* they are allowed to catch” (Morison 411, 2004). Licenses, usually specific to a particular species to be harvested, are the most common input measure in Newfoundland and Labrador. Different species-specific licenses confer specific rights and responsibilities to license holders. A species-specific license can be put up for sale on the market by the owner and purchased by another individual. That being said there are restrictions on who can buy a license. In Atlantic Canada, for example, an owner-operator policy mandates that individual harvesters must own their licenses and that corporations may not own licenses, with the exception of corporations holding licenses before this Fleet Separation Policy came into effect (DFO 2013a, 24).

Further, the ability to buy and sell a license is tied to the professionalization that has been implemented in the province and across Canada. Professionalization means that fish harvesters must now be registered and certified, with certification based on levels of training regulated by the Professional Fish Harvester’s Board. With different registration status and certification levels comes the ability to buy licenses and associated different fishing quotas. Both harvesters and

enterprises are licensed separately. As of 1997 an individual may have one of three levels of certification (Apprentice, Level I and Level II) (PFHCB, 2013). While the professionalization system was being introduced, previous harvesters were able to maintain their status by being “grandfathered” into the system. Professionalization has allowed fish harvesters to demonstrate a dependency on fisheries as a career.

Another important part of the professionalization system has been the introduction of a Fishing Masters designation. This designation requires more coursework than the Level II certification and allows for expanded opportunities in both Canada and in international waters. It gives the holder the ability to work on larger vessels that are not in the fishing industry and to travel further (Professional Fish Harvesters Board, FAQ, 2013). Both of these abilities can have an impact on fishing communities and professional opportunities for their residents.

Since 1996 holders of vessel based, key species licences in the inshore sector (less than 65 feet) and their commercial fishing enterprises may be designated as Core or Non-Core enterprises (DFO, 2013a; PFHCB, 2013). A “Core Enterprise” is “a fishing unit composed of a fish harvester who is the head of the enterprise, registered vessel(s) and licences he holds, and which was designated as such by DFO in 1996” (DFO 11, 2013). Enterprises designated as Core

at this time had a standing attachment and dependency on the fishery (DFO 25, 2001). In order to buy a core enterprise today a person must hold a Level II certification (Professional Fish Harvester’s Board, FAQ, 2013). This means they have fulfilled both training and experience qualifications.

Quotas represent an output measure, whereas limits on seasons, areas, or gear control input into the fishery. Both of these systems are used in Newfoundland. Quotas are based upon scientific surveys that have been completed on the resource by DFO and determine how much product can be removed from the water; gear restrictions, vessel classes, and seasons restrict when and how that product may be removed from the water. Sinclair (1985) suggests that fisheries managers moved to seasonal enterprise quotas in 1984 as an alternative (or perhaps better put a supplement) to limited entry licensing.

While quotas are the main measure used to limit the catch of each species in many Newfoundland fisheries, including shrimp, crab, and



Figure 1: Northwest Atlantic Fisheries Management Fishing Zones

Source: Newfoundland and Labrador Heritage, 2000

cod there are some types of gear that can be limited for different reasons. For the lobster fishery, the primary limits are output measures (similarly to how they are regulated in Maine) with no quota, and limits on the types and amount of gear (i.e. number of traps) that may be used. Different gear restrictions and requirements are used for conservation measures in the shrimp fishery, including different mesh sizes and sorting grates. Seasonal openings and closed areas to fishing further limit the fishery (DFO, Sustainable Shrimp, 2013b). Seasonal openings do not always follow when it is possible to fish, as ice conditions can make unfavourable conditions for fishing and for the safety of the harvesters (Fisheries Regulations that Work for the Inshore Fishery: The Case of Change Islands, NL, 2012). This is an area where local activism was seen in the results of this study, specifically with the 4R shrimp harvesters. This will be explored further in this report.

Community Research on the Island of Newfoundland

Both of the case study communities and their surrounding regions in Newfoundland (see Map 1) have previous research that our research has built on. This research provided useful insights into the community and the issues that each one faces.



Figure 2: Newfoundland Study Locations

Source: Google Maps. (2014)

Newfoundland has been the subject of many studies and publications that investigate the impact of the fishery on the development of the province, particularly after the collapse of the cod fishery. Mark Kurlansky's *Cod*, for example, alludes to the development of Newfoundland first as a seasonal fishing outpost and then as a year round residence with an economy based on fishing. In particular, he looks at Petty Harbour and the Sentinel Fishery's impacts on harvesters who had been cod fishermen prior to the moratorium (Kurlansky 1997, 4). Consistent with the elements of co-management described above, the Sentinel Fishery was designed to have inshore fish harvesters and scientists from the Department of Fisheries and Oceans collaborate to track changes in the local cod stocks (FFAW Sentinel Program, 2014).

In another important work, Dean Bavington's *Managed Annihilation: An Unnatural History of the Newfoundland Cod Collapse* looked at the role of natural resource management in the collapse of the Newfoundland cod fishery. He argues that management has shifted in recent years from the management and monitoring of fish to managing people's activities on the ocean and, in turn, their ability to catch fish (Bavington 2010, 71-90). He summarizes the changes that can be seen in the fishery from the beginning, with small uncovered boats, to the larger seagoing vessels that are seen today. He concluded that "...through this process, conditions have been created that favour a return to managing codfish, this time in laboratories and on farms where domesticated cod can be controlled from egg to plate and fish can finally be predictably harvested instead of hunted in a capricious sea (Bavington 2010, 90)." This echoes the sentiments of a change in the fishery, from a small-scale hunting system, to a larger scale industrial system described in interviews conducted in each community.

The Northern Peninsula

Peter Sinclair has focused a great deal of his work on the Northern Peninsula, although with lessons for the rest of the province as well. Sinclair, in partnership with Lawrence Felt, for example, brought together a collection of authors in a volume dedicated to community development and life on the Northern Peninsula (*Living on the Edge*, 1999). Of particular importance to this research is an essay by Craig Palmer, which examines how fisheries policies have impacted tensions between harvesters as well as the importance of how and where fish is processed of the fleets that supply these processing plants. Palmer (1995) highlights "The most frequent defense against abolition of the local dragger fleet is that without them the fish plants would close and the region's economy collapse" (63).

This dependence on fish plants is something that is seen in communities across the province where fish plants are located. Following the 1992 moratorium on Northern cod, employment in fisheries processing fell from an estimated 30,000 full time equivalent (FTE) workers in 1990 to 9,214 individuals in 2012 (Fisheries and Oceans, Canada 1993, p.6; Department of Fisheries and Aquaculture 2012a). The number of licensed primary processing plants decreased over this period from 241 in 1991 (Fisheries and Oceans, Canada 1993), to 87 in 2012 (Department of Fisheries and Aquaculture 2012b). Of these 87 remaining plants, 15 were located on the Northern Peninsula including one in Anchor Point and others in nearby New Ferolle and Black Duck Cove (Department of Finance, 2012).

Sinclair has also conducted extensive research on the changing technologies of fisheries on the Northern Peninsula, focusing on the fishing fleet in Port aux Choix as his case study in his book *From Traps to Draggers* (1985). In this work he examines the process by which the Port aux Choix fishing fleet transitioned from the historical fishing method of traps to the more

modern trawling and dragging technologies. This research also focuses on how small-scale production had been able to remain in place during a time period when industrial efforts were being expanded. Sinclair found that there were small groups of individuals that were able to maintain their small-scale production within the larger system, in part because “the uncertain, seasonal and small-scale nature of inshore fishing” leaves them free from competition, he argues, from large scale capitalists who are not attracted to such an enterprise (1985, 144). Yet he acknowledges that small-scale harvesters are left to compete for access to fishing ground and to markets with larger, near-shore draggers.

Throughout the 1990s and 2000s two large interdisciplinary projects continued the research conducted largely by Memorial University on fisheries and livelihoods in the Northern Peninsula region: Coasts Under Stress (CUS) and the Community University Research for Recovery Alliance (CURRA). Although not focused specifically on the Anchor Point area these projects examined strategies for helping communities and created useful resources such as a Fishing Sector Profile for Economic Zone 7, which stretches from Gros Morne National Park to St. Barbe, the neighbouring community to the south of Anchor Point (Red Ochre Regional Board, 2010).

Also during this period the Great Northern Peninsula Fisheries Task Force was established in the fall of 2004 to address regional concerns over the challenges facing the fishery in the region, which the report points out was once known as the “forgotten coast” (Great Northern Peninsula Fisheries Task Force, Red Ochre Regional Board Inc. and Nordic Economic Development Corporation, 2006). The Task Force concluded that one of the most crucial things that could happen for the region, and the province as a whole, was to come together and work regionally as a united force rather than as individual harvesters or small groups (Great Northern Peninsula Fisheries Task Force Red Ochre Regional Board Inc. and Nordic Economic Development Corporation, 2006).

Starting in 2010 a series of research projects were launched examining the importance of fisheries in the region as well as challenges faced and opportunities for change by researchers from Memorial University of Newfoundland in partnership with the Rural Secretariat. The research demonstrated that small-scale harvesters felt that there was a need for more research into how community allocations work and for discussions about establishing co-operatives (Rural Secretariat, 2012). This research from the Rural Secretariat and Memorial University informed two of the themes explored in this research, co-operatives and alternate forms of community involvement in fishing and fisheries management. The large boat sector highlighted the challenges that came from the processing side of the industry (Rural Secretariat, 2012).

In the Northern Peninsula region, much of the previous research reviewed was based on either the entire Northern Peninsula or specifically on the St. Anthony area (just to the north of Anchor Point) where research has been conducted on the community quota developed for the St. Anthony Basin Resources, Inc (SABRI). SABRI has a 3000 ton quota of shrimp and utilizes revenues generating through that quota to pursue economic development for the region. This has had positive impacts on the community, such as expanded economic development, oral history projects, and scholarships for community members for that region (SABRI, 2007). Foley, Mather, and Neis (2013) found that SABRI was a response to federal fisheries policies and has been an example of how communities can manage their own resource in a way that includes “job creation, fisheries diversification and community development” (21).

Fogo and Change Islands

In the Fogo Island and Change Islands region, there have been numerous studies done that look at the relationship between community development and fisheries. This particular region has been focused on due to the presence of the fisheries cooperative and responses to the resettlement program. Bonnie McCay has examined the role of fish harvesters' wives in the co-operative's fish plants on Fogo Island, demonstrating how women have moved from a "behind the scenes" role in processing of fish (working cutting fish at the end of the fishing day) to a more "official" capacity working in fish plants (1988). Another paper by McCay focuses on the role of quotas and transferable quota systems, discussing how access to the fishery dictated the amount of work available to the community on fishing boats and in fish plants (1999). Carter (1988) also reviews the role of co-operatives in Newfoundland, with specific attention to the role of the Fogo Island Co-operative Society. Started in 1967, the co-operative has supported the community despite economic and political challenges that have occurred (Carter 1988, 27).

Derek Smith, Maureen Woodrow, and Kelly Vodden completed the study that guided this research most. This research looked at fisherpeople's knowledge and policy in Change Islands. In particular the authors examined how fisheries governance has impacted the community of Change Islands and the role of local place-based knowledge in the creation of future fisheries policies (Smith, Vodden, Woodrow, Khan, and Fürst 2013). A series of policies briefs stemming from this research specifically highlighted four key issues from the research: rationalization of the fishery, seafood prices and market access, fisheries regulations, and the viability of small coastal and island communities. The authors conclude that while small island communities were historically and culturally important in the province, very little value had been placed upon them in terms of provincial development (Viability of Newfoundland and Labrador Coastal and Small Island Communities, Change Islands, 2012). These issues are further expanded upon in the results of this study. Earlier work by Dr. Maureen Woodrow (2006) related to community adaptation on Change Islands also informed the current study, providing a background on community development and, in particular, the history of the Change Islands fish processing plant.

The comparison of the Northern Peninsula and Fogo Island is not unique to this study. Foley, Mather, and Neis, compared the two, as well as communities on the southern coast of Labrador, in a previous Harris Centre funded project. While they did not focus upon Anchor Point specifically, they did examine the region SABRI has worked in, the tip of the Northern Peninsula. Foley et al. examined the role of shrimp allocations in specific communities and how they have impacted them. They found community quotas to be an innovative way to use small allocations and that communities were able to come together to use these quotas to support not only the harvesters, but also the extended community (Foley, Mather, and Neis, 2013). One of the key findings from their research was that allocating quotas to "*community-based organizations* can play a significant role in the social and economic sustainability of this province's coastal communities (Foley, Mather, and Neis, 2013, 36). In particular they highlighted that the co-operative on Fogo Island had success with an allocation of shrimp quota in the 2000's, but that this specific quota was withdrawn in 2011 due to a reduction in the overall quota (Foley, Mather, and Neis, 2013, 7). This demonstrates benefits if communities are able to administer their own quotas but also their vulnerability to changes in the fishery over time.

Community Organizations Engaged in Fisheries within the Study Areas

Shorefast Foundation

The Shorefast Foundation has been working on Fogo Island since 2003 (“About Us”, 2014). They are a social enterprise that has worked to develop new economic opportunities on the island that can continue in the future. Among these opportunities have been geotourism, the creation of an artists-in-residence program, and a micro-lending initiative (“About Us”, 2014). All of these opportunities are related to the fishery and the community continuing on in the future. Geotourism is dependent on the sense of place in an area. A large part of the draw for Fogo Island is the fisheries; this was discussed in interviews as something that determines whether or not the geotourism will work in the future. As part of its New Ocean Ethic project, Shorefast has also been involved in the development of a cod trap (referred to as a cod pot) used in the waters around the island. In 2009, the first traps were used (DFA, “Baited Cod Trap Fishery—Fogo Island”, n.d.). This was intended to provide traceable local fresh cod to high end restaurants such as Nicole’s Café in Joe Batt’s Arm and for Bacalao Nouvelle Newfoundland Cuisine in St. John’s, with the Fogo Island Co-op acting as an intermediary (DFA, “Baited Cod Trap Fishery—Fogo Island”, 2010). The harvesters who were involved in this experiment were paid \$1.25 per pound for their fish, versus the 46-56 cents per pound that harvesters were typically paid for gillnetted cod (Safer 2010, 1). Shorefast, through its inn, now buys and markets the pot-caught cod, with the Co-op conducting the processing.

Regional Economic Development Boards

Regional Economic Development Boards (RED Boards) were created in 1995 in response to a call for more economic community development opportunities from the Task Force on Community Economic Development (Vodden and Hall, 2013, 8). The boards focused on strategic planning and initiatives in pursuit of regional development opportunities. The Nordic Regional Economic Development Board encompassed part of the Northern Peninsula, including Anchor Point. The Kittiwake Regional Economic Development Board encompassed the region where Fogo Island and Change Islands are located. The boards lost their funding and most of the 20 organizations across the province were closed in 2012/2013. Prior to their closure both Nordic and Kittiwake Regional Economic Development Boards had undertaken fisheries-related projects.

Rural Secretariat

The Rural Secretariat is a part of the provincial government and they work to “advance the sustainability of rural Newfoundland and Labrador communities and regions” (Rural Secretariat, 2014a). There are representatives from the Rural Secretariat across the province who work others to strive towards strong communities. They work on “economic, social, cultural and environmental aspects of regional development” (Rural Secretariat “About”, 2014b). This integrated approach allows them to address both fisheries and community development related issues and to incorporate environmental concerns, such as sustainability.

Integrated Coastal Zone Management

The Integrated Coastal Zone Management initiative is a partnership between the two RED Boards on the Northern Peninsula (RED Ochre Regional Board, Inc. and Nordic Economic

Development Corporation). They work to “foster the integration of economic, social and environmental objectives in a framework of protection and conservation while enduring sustainable development of coastal resources” (ICZM, 2012). Their steering committee is made up of representatives from community development corporations, municipal government, local harvesters, provincial government, and the federal government. They have been working together since 2010 on joint initiatives and in 2012 hosted a Fisheries Forum on the Northern Peninsula.

Three additional organizations are discussed later in this report: the Change Island Fisherman’s Improvement Committee, Fogo Island Co-operative and municipal councils in each of the respective communities. Each of these organizations have also played an important role in fisheries and community development.

3.2 Rationale

Archipelagic Island Studies and Co-management are two key frameworks that have guided this research and formed a rationale for the overall approach to this study.

Archipelagic Island Studies

Islands are unique. Island scholars study islands on their own terms, as the unique places economically, geographically, socially, and culturally that we know they are. Historically, islands have been studied in terms of their relationship to the mainland. Péron (2004) writes of how distance from the mainland determined how much was known about an island by people on the mainland, focusing on “the effect of the maritime barrier that has for so long cut island dwellers off from the rest of the world” (328). Historically, due to the prevalence of sea travel and people who made their living working on the water, islands were not perceived as being as isolated as they are now. While some may see waterways as a barrier, others view them as a workplace and a passageway. Island residents in this study spoke of their strategic location “right on the doorstep of the resource”. In terms of fishing, the grounds are close to where they live, so as a harvester it is easier to get to the grounds before people from the mainland do. Both regions discussed their proximity to fisheries resources as an important part of their life there.

While island studies has traditionally been about studying islands on their own terms, island studies researchers have tended to describe islands in relation to the mainland, rather than to other islands. Archipelagic studies, in contrast, focuses on the study of islands as compared to other islands. Stratford, Baldacchino, McMahon, Farbotko, and Harwood (2011) gave archipelagic studies as “in short, we seek to understand archipelagos: to ask how those who inhabit them or contemplate their spatialities and topological forms might view, represent, talk and write about, or otherwise experience disjuncture, connection, and entanglement *between and among islands*” (114). So rather than comparing their home islands to the mainland, archipelagic study would compare islands to each other. This study compares islands and island communities to each other.

There are shared characteristics of islands that can be seen across regions, especially when comparing small communities. This is true of islands and more generally of places. The disciplines of geography and island studies have many crossovers, and this is one of them.

Geographer Pete Hay (2006) brings the two concepts and fields together when he states that “Because islands—*real* islands, real geographical entities—attract affection, loyalty, identification. And what do you get when you take a bounded geographical entity and add an investment of human attachment, loyalty and meaning? You get the phenomenon known as ‘place’” (31). Islands have become distinct places, with the meaning of the community and island coming from the people who live there and interact with the surrounding space in many ways, including through their fisheries. In conducting this study the research team remained cognizant of the importance of and references to place and place meanings as participants discussed their communities and fisheries.

Co-management and the Commons

Co-management theory has also contributed to the formulation of this study and can help us to understand how a community voice might be included within a resource governance system. Carlsson (2003) defines collaborative or co-management: “the term ‘collaborative management’ (also referred to as co-management, participatory management, joint management, shared-management, multi-stakeholder management or round-table agreement) is used to describe a situation in which some or all of the relevant stakeholders in a protected area are involved in a substantial way in management activities (24)”. Co-management typically strives to involve as many people in the management chain as is possible. This creates a system that is cooperative rather than top or bottom heavy, with different scales of governance becoming involved. Carlsson and Berkes (2003) explain, “in short, co-management agreements serve the purpose of constituting cross-scale linkages among organizational groups that might not otherwise be connected” (12) within the management process.

Co-management is typically used in the management of a common property, or a common pool, resource. The terms common property resource and common pool resource have been defined by leading academics in co-management theory. Ostrom (1990) defined a common pool resource as “a natural or man-made resource system that is sufficiently large as to make it costly (but not impossible) to exclude potential beneficiaries from obtaining benefits for use” (30). These definitions share a common theme; access to a common resource by a large group of people is difficult to restrict.

A common property resource, as defined by Feeny, Berkes, McCay, and Acheson, has two key characteristics: first, it can be nearly impossible to have a single entity control the resource. Second, every user of the resource has the ability to extract part of the resource, possibly leading to its degradation and exploitation (1990, 3). Ostrom’s “Governing the Commons”, written the same year, discussed the challenges of governing common pool resources as well as potential solutions. Ostrom (1990) writes that one of the challenges of governing a common pool resource is defining both the boundaries of the resource and who may extract the resource (91). She adds that without this knowledge, it can be difficult to know what is being managed and by whom.

Hardin in his earlier “The Tragedy of the Commons”, argued that each person who is involved in using a common pool resource, such as fisheries, tends to think in terms of individual gain, which Hardin theorized could lead to resource extraction that continues unlimited and unchecked until complete destruction of the resource has occurred (1968, 1244). While Hardin uses the example of a grazing meadow and farmers raising animals on said meadow, his ideas can be transferred to fisheries resources in the ocean environment and the efforts of fish

harvesters to extract those resources from their ocean habitats. Hardin theorized that resource extraction will continue unlimited and unchecked until complete destruction of the resource has occurred.

In their response to “The Tragedy of the Commons”, Feeny, Berkes, McCay, and Acheson reflect on how Hardin’s work was viewed later on and through a different lens. In their conclusion, they state, “this leads us to amend Hardin’s heuristic fable. The “tragedy” may start as in Hardin (1968), but after several years of declining yields, the herdsmen are likely to get together to seek ways to (1) control access to the pasture, and (2) agree upon a set of rules of conduct, perhaps including stinting, that effectively limits exploitation” (Feeny et al, 1990, 12). This would create a bottom-up rather than a top-down management system.

Yet there are many different ways of ensuring continued access to a resource. This may involve a bridge between a top down and bottom up system, creating a link that combines local knowledge with that of other actors involved in the governing system. Smith, Vodden, Woodrow, Khan, and Fürst (2013) examined the role of local knowledge in the current climate of fisheries management in Newfoundland; they found that the place-based knowledge harvesters have could be useful in maintaining the role of small-scale fisheries in fisheries management (1). The “Too Big to Ignore” network, led by Co-Investigator Ratana Chuenpagdee, has begun to work globally on ensuring the significance of small-scale fisheries is not lost in policy-making or management (“Mission”, 2013).

Marine anthropologist Evelyn Pinkerton has also made significant contributions to the academic literature on fisheries co-management and the role of communities in fisheries management. While much of her work focuses on the west coast of Canada, she highlights lessons that can be crucial for the eastern coast as well. In one of her research projects she and her co-author discuss the changing stages of legitimacy in fisheries co-management.

“Four stages in the development of legitimacy are identified, each building on the previous stage: (1) a vision and local scientific and regulatory legitimacy are established, (2) the local authority gains political legitimacy, (3) the local authority gains regulatory capacity and moral legitimacy, (4) environmental values are revived” (Pinkerton and John 2008, 685).

The process described allowed the fishing villages studied to have more control over their own fishery and input in the management process. They concluded that, “a local management system based on the mechanisms described above can be highly effective and certainly far more effective than a government system working alone” (Pinkerton and John 2008, 690). This demonstrates how co-management can be used effectively to develop a common property resource in partnership with the larger government system that is already in place. The research discussed in this report has explored the extent to which principles and characteristics of co-management are present within the communities of Anchor Point, Fogo Island and Change Islands in Newfoundland.

3.3 Objectives

The key focus of this research was to better understand the impacts that fisheries policies have had on island community development but also how communities have (or have not) been able to influence fisheries policy. Specifically, the research had three key objectives:

- 1) To determine how residents in these island communities have been impacted by and/or are impacting policy decisions about fisheries;
- 2) To examine how communities have challenged past policies or otherwise responded to the impacts of past, current or anticipated future fisheries policies to maintain or enhance community resiliency;
- 3) To connect these communities with one another to provide opportunities for participants to learn about, assess, and critique each other's resilience and coping strategies to enhance their own efforts to create more sustainable local fisheries and economies in the future.

An overarching objective of this project was to contribute to a framework that communities and senior government policy makers could use together in future fisheries policy-making that will incorporate considerations of impacts on and perspectives of fishing dependent communities. We also hoped to contribute findings that could contribute to improved collaboration between decision-makers at local and senior levels of government as they work together to develop policies that will create the fewest possible negative impacts on communities and a more sustainable fisheries overall. In doing so we have sought to identify and share things that have worked for one or more areas, with the possibility that these experiences will inform and benefit others. Yet we also recognize the critical importance of differences between community conditions and local, regional, state/provincial, and federal fisheries policies. These differences are also drawn out to illuminate how context affects policy practices.

This project has explored the relationship between fisheries policy and island communities in Maine and Newfoundland and Labrador (hereafter referred to as Newfoundland as all cases in the province were located on the island of Newfoundland). There were six communities used as case studies for the overall research initiative; however, two of the communities (neighbouring Fogo Island and Change Islands) have been combined as one case study. Particular attention is paid in this report to the findings from the two case studies located in Newfoundland. The case studies were supported by Harris Centre Applied Research funding. Brief comparisons to the Maine case studies will appear in the conclusion.

Each participating case study community (including Anchor Point and Fogo Island/Change Islands from Newfoundland, and Swan's Island, Monhegan, and Chebeague Island from Maine), was selected because their local residents and community organizations have been active in attempting to shape fisheries policy and management discussions in their respective regions. From interviews in these case study communities and with policy makers we were able to examine how communities work to change policy and mitigate the impacts from fisheries policies on their communities. While the study has focused primarily on the community level, this research also highlights several different scales of management and governance, and the interactions that occur between local, regional, provincial/state, and federal levels of fisheries decision-making.

This study is important for the future of island communities because it explores the impacts that fisheries-related policies can have on these communities as well as possible responses to ongoing processes of policy change. For each one of the communities chosen for use as a case study, fishing has been the backbone of economic development in the community, both in the past and in the present. This history has shaped the development of the community's culture and society and how the community relates to the mainland of their respective state or province, and country. Fishing is not only an economic activity for these communities, it is also a way of life that has strong historical roots and ties to community identity.

3.3. Research Methodology and Approach

Case Study Approach

This study used a multi-case study approach, including two study regions (Maine and Newfoundland) and five study communities (or local areas in the combined case of Fogo and Change Islands), two in Newfoundland and three in Maine. The focus of this report is on the findings of the Newfoundland portion of this research. This approach was selected to best understand what community members felt about and how they had responded to policy decisions. The case study method can be seen as “emphasizing the participant’s perspective as central to the process” (Zucker 2009, Conclusion, paragraph 1). This research focused on obtaining the participants’ perspectives, placing community voice at the centre. Yin (2014) writes about the necessity of defining a unit of analysis prior to starting research in order to focus the guiding questions. The study was designed to have each community function as the primary unit of analysis. There are similarities within each region (Maine and Newfoundland), including shared federal and provincial/state policies and regulations, but each community has had different responses to said policies and regulations. Baxter and Jack (2008) maintain that to examine the similarities and differences between cases across different regions, the multi-case study approach is the most appropriate (550). While the regulations and policy decisions within a province or state may be the same, by including different case study communities within the same regions, these differences and similarities could be examined.

Site Selection

Each case study community was selected based upon previous involvement in the fisheries, fisheries policy and community development. In Newfoundland, Anchor Point was selected due to its involvement in the delayed start for 4R harvesters in the shrimping season on both a harvester and community level (Town of Anchor Point, 2012). Harvesters from that region collectively decided to delay the start of the season by one month. Fogo Island was selected due to the creation and presence of the Fogo Island Co-operative. Change Islands was tied into the research based on previous research completed there, as discussed above, that would allow for an expanded perspective on relevant fisheries policy and community development as well as more recent collaborative efforts in the fishery and other sectors between the two neighbouring islands.

Each community in Newfoundland is unique in location. Anchor Point is located close to the top of the Northern Peninsula. Just south of Anchor Point is St. Barbe, which serves as the home port for the ferry to and from Labrador. Anchor Point is 111 kilometers south from St. Anthony, a small regional centre, and 305 kilometers north from Deer Lake and the TransCanada

Highway. The population of Anchor Point is about 326, an increase of 5.5% from the 2006 census (Statistics Canada, 2011 Census). The primary fishery for Anchor Point is the shrimp fishery. There are other species harvested along that coast as well, such as lobster, crab, halibut, and scallops, but the most important fishery financially is now shrimp. The Northwest Atlantic Fisheries Organization (NAFO) fishing region they belong to is the 4R region, along the western coast of Newfoundland (see Figure 1).

Fogo Island and Change Islands are 112 kilometers from Gander, the closest major center. The population of Fogo Island is 1,974, a decrease of 11.2% from the 2006 census (Statistics Canada, 2011 Census). The population of Change Islands is 257, a decrease of 14.3% from the 2006 census (Statistics Canada, 2011 Census). Fogo Island and Change Islands share a ferry service, which departs from Farewell. They are located off of the northeastern coast of Newfoundland in the Notre Dame Bay. The primary fisheries for Fogo Island and Change Islands are snow crab and shrimp. Likewise, there are other species that are targeted, such as cod, lobster, and halibut, but the most financially important fisheries today are crab and shrimp. The islands belong to the 3K NAFO region along the northeastern coast of Newfoundland.

Data Collection

This research was conducted mainly in the communities chosen for the case studies. Interviews and document review were main sources of information used. In Newfoundland the investigating team also all attended a symposium dedicated to fisheries and community research on the west coast of Newfoundland in fall 2012. This symposium connected people from different regions and allowed us to present preliminary observations from our research and to meet as a research team. In Newfoundland Co-Investigators Ratana Chuenpagdee, Kelly Vodden, and Maureen Woodrow have been engaged in several fisheries and community development research projects within the study areas, providing additional insights. In Maine Emily Thomas was on Monhegan and Chebeague islands when they were having open community meetings about the future with the Island Institute and meetings of their respective community associations. These opportunities gave us the opportunity to observe what the communities perceived as issues and to meet possible study participants. Previous research, government and community documents provided evidence of past community impacts and actions with respect to the fishery.

Interviews

Interview participants were approached in a variety of ways. Prior to starting the research, a preliminary list of participants was created through conversations with community members, people who had previously done research in the regions, and others with knowledge of the communities. Other possible participants were identified through previous research and newspaper articles about each of the case study communities. This was used as a way to identify people who had already spoken to researchers or the press, who then might be willing to participate in this research. Finally, a snowball technique was employed where interview respondents identified other potential respondents. After each interview each person was asked who else they thought should be spoken with in the community. Usually the initial respondent was able to provide contact information for the names that they had provided. This process was repeated while staying in the community. The “word of mouth” technique was crucial to this process of contacting people in the communities.

During the time of site visits in Newfoundland (September-October 2012), the fishing season had just ended or the harvesters were in between fishing seasons. Once arriving in each community researcher Emily Thomas contacted individuals that had been identified and, if able, set up a time to meet with them. The interviews took place in a variety of locations depending on where was the most convenient for the respondent. In some of the communities visited interviewer Emily Thomas was able to ensure a private meeting room, such as at the community town office or community centre. In most cases, the easiest way to interview someone was to go to their home. On other occasions interviews took place in their offices and workshops. Out of 28 interviews conducted in Newfoundland, three were completed with a couple. The remaining 22 interviews were completed individually.

Of the 28 interviews conducted, there were 16 people interviewed from Anchor Point, ten of which were recorded. Audio recording was optional and voluntary. Interviews that were not recorded were as a result of the participant's request or the location of the interview. There were seven people interviewed from Fogo Island and three from Change Islands. All of these were recorded. There was two government officials interviewed, one federal and one provincial. Both of these interviews were recorded. One was conducted by phone. The target number of interviews was 15-25 interviews per community, or until saturation was reached. Fewer interviews were conducted on Fogo Island and Change Islands than in Anchor Point due to difficulties contacting individuals during the time frame of the researcher's visit to the community in September 2012. This was similar for government officials, coupled with a shortened time available for the researcher's Newfoundland research trip due to an impending hurricane and resulting revised ferry travel dates.

Respondents were either involved in the fishery directly (in harvesting or processing) or in a position of community leadership. There was overlap between those who were involved in the fishery and those who were actively involved in community development. These overlaps are reflected in the following tallies. In Anchor Point there were eight fish harvesters interviewed, four people involved in fish processing, and seven people involved in community development (people who had taken an official role in the community or in community associations). The authors acknowledge, however, that community involvement is more than official involvement in these communities. Many people are involved in community development and governance that are not involved in an official capacity; likewise, there were people interviewed who had been involved in the past and were not at the time of the interview. All respondents were asked about their involvement in the community regardless of whether they occupied a current, official role. From Fogo Island and Change Islands there were seven harvesters interviewed (two of them were retired), two people involved in processing, and two people involved in community development. Respondents were of a range of ages, with the youngest participants in their mid-thirties and the oldest in their eighties. The bulk of respondents were in their early 50s-mid 60s. Fishing is still a male dominated industry, so most of the harvesters interviewed were male, whereas most of the fish plant workers interviewed were women. Every opportunity possible to interview female fish harvesters was taken to ensure the greatest diversity possible.

Participants were asked to answer a series of questions pertaining to their perceptions of the impacts of policy on their community and how their community has reacted to these changes. The time of each interview varied depending on the participants. The most common interview length was between thirty and forty minutes. The interview process was as follows: introduction of the interviewer and the research to the participant, obtaining a signed permission, discussing

the questions, and finally a debriefing following the interview along with thanks for taking the time to participate. The semi-structured interviews allowed the interviewer to elaborate on responses to a question. During the interviews Thomas also kept a notebook where she was able to record observations during the interviews, such as things that the interviewee may have been adamant about or issues that they had highlighted as ones that were very important to them.

Data Organization and Interpretation

After transcribing the interviews, each interview was coded individually and then collectively analyzed. N-Vivo was used to assist with coding. The first codes created were made up of keywords that had been identified from an initial review of the interviews and through the fieldwork process. While conducting the fieldwork, Thomas noted that there were two themes that came up in each area that provided primary areas of focus for analysis. The two most important themes in each region were limits on catch and, more specifically, licensing. As the interview style was a semi-structured format, it allowed respondents to identify what they thought the most important policies and management decisions had been. These themes then guided analysis and the identification of additional themes in the interviews. Other themes of importance were identified during interview transcription and corresponding codes created. Lastly, once coding began there were a few final themes or specific issues that needed to be highlighted, thus becoming the final codes added. Once coding was completed, coded themes were reviewed for patterns or discrepancies. In addition, individual interviews and notes were reviewed to refresh the researcher on the interview content and the context of extracted quotations. While doing this researcher Emily Thomas looked for things such as specific instances of policies, how they worked, and how the community had responded challenges and changes. With the themes and codes in place and organized using N-Vivo she was able to note trends in the interviews and see how themes connected to each other.

Knowledge Mobilization

As discussed above, initial results were discussed at a CURRA (Community-University Research for Recovery Alliance) symposium in Bonne Bay. Titled "Rebuilding Collapsed Fisheries and Threatened Communities International Symposium", this symposium brought together researchers and stakeholders from across Newfoundland and Canada to discuss the current state of fisheries in Newfoundland. The field researcher, Emily Thomas, participated in a session titled "A fishery for the future?: Exploring fisherpeoples' perspective through collaborative research", led by Co-Investigators Dr. Kelly Vodden and Dr. Ratana Chuenpagdee, and gave initial feedback from the first Newfoundland community visited, Anchor Point. Also participating in the session were Beverly Stevens from the Change Islands Fisherman's Improvement Committee and Nina Mitchelmore from the Rural Secretariat. This session also provided an opportunity for representatives from each of the study regions to meet and discuss the project.

A project page has been added to Co-Investigator Dr. Kelly Vodden's website (http://ruralresilience.ca/?page_id=244) detailing the research completed. Upon posting of this final report on the Harris Centre website the report will also be added to the project site and the link emailed to all project participants. An article summarizing results of the study has also been prepared for submission to Municipalities Newfoundland and Labrador newsletter (*Municipal News*) and a forum to present this and other related studies in being planned for Fogo Island in

May 2014 in partnership with the Harris Centre and Shorefast Foundation. The co-investigators have also offered to present the research results upon request on Change Islands and to the Anchor Point Town Council. Finally, the graduate thesis, titled “Sustaining Island Fishing Communities: Policy and Management in Practice in Maine and Newfoundland”, will be defended and published this spring at UPEI.

3.5. Clearances

This research was approved by the Research Ethics Board of Memorial University and the Research Ethics Board at the University of Prince Edward Island.

4. Project Details and Results

4.1 Results—Fisheries Policies and Community Impacts

Limits on Catch

Ways of limiting the catch were discussed in both study regions and often discussed in each community. Quotas have both positive and negative aspects according to respondents. In a positive respect, they limit the amount of product that can be removed from the ocean by all parties, thus conserving the resource in the long-term. In the negative respect, quotas frequently fluctuate from year to year. Harvesters said that it was hard to predict what they would need for gear and to plan for the fishing season due to the fluctuations; with steadier quotas they would be able to balance their needs and expenses with their predicted income. There was also a mention of using community quotas in the future, such as the example of the St. Anthony Basin Resources Inc. discussed above and further below.

There were two types of input control mentioned in interviews. One was gear limitations and the other was seasons. There are restrictions on how people are allowed to fish, such as restricting the use of different types of gear and traditional methods of fishing, like a community cod trap or the use of the “buddy-up” method of fishing. Another gear restriction mentioned in each community was the restrictions on the size mesh that was used for the gear. Experiments with cod pots and discussions about the use of a communal cod trap are outlined further below.

Seasons for fishing were of particular interest to small-scale harvesters. Whereas shrimp and crab harvesters have a longer season, typically April 8th (and in one case April 29th) (DFO “Snow Crab Fishing Areas, 2013c) through to the middle of June for the 3K crab harvesters and opening May 1st and closing as late as the beginning of September for the 4R shrimp fishery, other fisheries do not. In particular, in the summer of 2012 the halibut had a 24 hour fishing period. Other fisheries have the same problem, that they are only open for a short period of time. This is challenging where the weather may not always be conducive to fishing. One harvester explained “Same thing for gearing up for the nets for turbot, we fished at one time but uh to gear up now to go at that, well to have those fisheries is cut so short...24 hours for two days for catching turbot or three days, 24 for fishing halibut, oh...I say nine days. They’re almost gone for a nine day fishery, how can you stay at it.”

Quota Sharing and Enterprise Combination Policy

A positive aspect of the quota system that was mentioned by a DFO representative was referred to as “the quota sharing arrangement” in the 3K region. In response to quota cuts in 2012 (the year interviews were conducted) 3K snow crab licence holders were provided with two options: 1) to increase their individual quota through Enterprise Combining up to a maximum of three times their individual quota (an increase from the two times the quota allowed elsewhere since Enterprise Combining was introduced in 2007/08 (DFO Enterprise Combining Implementation Guide, 2008); 2) a temporary Seasonal Quota Self-Adjustment option that allowed licence holders to reallocate all or portions of their snow crab quota to other licenses holders in their fleet (DFO, 2012). The federal representative explained:

“What that allows is people to basically transfer their quotas on a temporary basis to other harvesters, and with no commitments, so for a while someone else could catch their quotas and whatever arrangement they come up with between themselves and that harvester who decided to let his quota go to someone else could go work, go work somewhere else, so it gave them some options.”

This allowed harvesters to have a little more control over when they fished and to cooperate with each other in sharing said quota. In 2013 the quota sharing arrangement was discontinued but the 3:1 permanent enterprise combining was extended to all harvesters in 2J/3KL for any key species (crab, shrimp, cod) (DFO, 2013d).

The Enterprise Combination Policy was spoken about in Anchor Point as a policy that has made it possible for harvesters to continue fishing despite reductions in quota. The Enterprise Combination Policy makes it possible for a harvester to own two licenses for their enterprise. A single complete license has a quota share for the Gulf fishing region and a share for the northern fishing region. When a harvester has both, they say they have a “complete” license. The Enterprise Combination Policy was, in part, a rationalization strategy (discussed further below); however, for most that mentioned it in Anchor Point, it was seen as a way to strengthen their community and continue fishing. One harvester said:

“Well what, what it did was it kept a lot of our younger people around because uh, like myself, my crew now makes double the money they would with a one enterprise, exactly double the money they would with one enterprise. They extended the fishing season twice as long, because you’re out there catching the fish with one enterprise, then its 2 enterprises...there’s less jobs but there’s more benefits, that’s my point of view of it, eh, and you’re making the fish plant more or less at full capacity rather than running at partial capacity.”

To this person the enterprise combination policy had been positive for the people who were able to stay in the fishery and the plants. This change kept more people working in the plants than before.

Not everyone was comfortable with the job losses associated with the policy, however. A lower number of licenses when there are already low quotas in the fishery mean that it can be challenging to keep enough quotas on one boat to make fishing economically viable for those

who remain in the fishery. One solution would be to share quota bought through the Enterprise Combination Policy:

“... well right now I’m $\frac{3}{4}$, I can stand another 300,000 pounds of shrimp, see. ... then I’d be full.... I could’ve been there, I could’ve, but I shared that with 2 people, the first one I shared, the last one with, well there were 4 of us, and I was the one who could have had it all to myself if I wanted it... You gotta keep the quota in the area for the plants, see. I could’ve had 2 full quotas, wouldn’t have had to share....that’s the way I believe. It’s too bad we don’t have enough to have it [anyway] but that’s the only way we’re going to stay alive.”

This fish harvester chose to share the access to quota rather than combining so that other people would also be able to stay in the fishery, rather than taking the entire quota for themselves. By doing this, they allowed other people to continue to fish in the area and remain in the community.

Like this Anchor Point harvester, in previous research conducted on Change Islands, the Enterprise Combination Policy was seen as something that was generally not positive for the people there or the community as a whole. In the “rationalization” brief produced by the Change Islands research, the harvesters viewed rationalization as a tool to remove fisheries dependent communities from the fishery and described the Enterprise Combination Policy as a rationalization tool (Rationalization of the Fishing, 2012). This policy was a way to remove fish harvesters from the water and reduce effort in the fishery.

Rationalization

Most respondents on Fogo Island and Change Islands continued to see rationalization as a negative aspect of fisheries policy, reflecting the work done by Smith, Vodden, and Woodrow. The cod moratorium of 1992 was a defining moment in the history of Newfoundland’s fishing and community development. The immediate impacts of the series of cod moratoria were felt directly in the communities, while the long ranging impacts are still being felt. This has been tied to current policy and management decisions, especially those that are related to licensing and output/input measures, which have resulted in a major and ongoing period of rationalization within the industry. The immediate impacts of the series of cod moratoria were felt directly in the communities, while the long ranging impacts are still being felt.

One of the most immediate impacts of the cod moratorium was that people left their communities, particularly after post-moratorium relief programs ended. With no fishery, residents had no other economic activities to generate income. People left for other parts of the country to find work. One respondent said that the moratorium “destroyed the fishery”. Losing fishing as an occupation was particularly hard on those who were older. There were training programs available but the respondent explained that they would have had a hard time getting a new job due to their age and lack of training in other fields. Interviewees from each region also pointed to the ongoing loss of and consolidation of fish plants in Newfoundland. Without a fish plant, they suggested that communities have tended to lose their fish harvesters and plant workers as people leave to find jobs.

Older harvesters have retired due to rationalization and programs have been offered to buy licenses back, sometimes to a financial disadvantage. One former harvester explained: “The

government paid us so much, \$30,000, it wasn't even uh, wasn't even uh, the worth of what I had in traps and everything else I had, I didn't break square on it. It was no big lot of help." Licenses were bought based on their value at that time, which meant that harvesters felt that they were not given the proper worth for the amount of money they had invested in the fishery and the amount of gear that they had purchased and maintained. Harvesters who sold their licenses back during rationalization also lost the ability to sell their gear, which can be expensive to obtain and maintain. Because fewer people were fishing, they were not able to sell the gear to increase the amount they received from the government, which was described as lower than the amount of money they would have previously received for selling the species license and gear. Nevertheless two harvesters from Fogo Island said that they had sold their license using a license buy-back program known as The Atlantic Groundfish Strategy (TAGS), which bought back licenses from harvesters. In a fishery where there is a license but no quota, they did not feel that it was economically viable to continue fishing those species. In a fishery where there was a license but no or minimal quota, they did not feel that it was economically viable to continue fishing those species.

Licensing

Respondents also discussed the connections between licensing and quotas. Some people have a license for a species but do not fish for it because the quota is too low. This was seen with the cod fishery in both Anchor Point and Fogo Island/Change Islands. In both regions there were harvesters interviewed that had cod licenses at the time of interviews. In order to fish for cod they would have needed to switch over all of their gear in the middle of their most lucrative fishery, shrimp and crab, respectively. Other harvesters want access to specific fisheries but are unable to get a license for it due to cost or lack of training.

Licensing combined with professionalization has had some positive impacts according to those remaining in the industry because it has kept people from fishing who were fishing in addition to other activities, such as part-time jobs, and therefore impacting full-time harvesters. One harvester said:

"Well, positive was when they began to lease you the licenses, because I mean years ago, everybody could go fishing and you had what we call moonlighters. They had a part time job, sometime in the day and then just before dark when you would go out, the fishermen would go out on the grounds and do some hand lining and things. Instead of the amount of fishermen that was out there, you would have double or triple and then you would get people messing with your gear and all that sort of things, so that was a positive thing. There's positive things about licenses and quotas, that's for sure."

People who got into fishing and kept their license did so because they wanted to fish as an occupation and livelihood. Harvesters explained that they have stayed in fishing because that was what they had always want to do for a living.

Finally, licensing for plants was also raised as an issue. Plants require a license to be able to process each specific species. Respondents reported that there is someone trying to get a multispecies plant operational in New Ferolle (56 kilometers south of Anchor Point) but they have not gotten a license for it yet. Further, if a plant does not use a license to process a specific species for more than three years, they lose that license. Two people in different areas mentioned

this with respect to a sea cucumber processing license. One person in the processing sector explained the political and contentious nature of licensing decisions:

“There was a license for sea cucumber up there [the Northern Peninsula] that was never used in the last three or four years, so it should have been, according to our policy, if you don’t use it, you lose it. They didn’t use it for three years, policy is, if you haven’t used it in two years, you lose it. She lost the license, this person who had the plant now in Cook’s Harbor, and the Minister and this was done decides well, the only one really processing sea cucumbers is Fogo. They got a monopoly on it, why should they have a monopoly? Ok, I’m gonna give it back, I’m gonna see what I can do to help OCI out. This is the big corporate company now, on the south coast, so you give the license back to her, she sells it to OCI, transfers it for OCI from Cook’s Harbor to St. Lawrence, right next to the fishery where we’ve been fishing for 12 years. That gives them a distinct advantage.”

The Change Islands Fisherman’s Improvement Committee owns and holds the processing license for the Change Islands fish plant, but the plant and license are leased to and operated by other existing operators, including the Fogo Island Co-operative in some years. One respondent noted that there is a license for a co-operative on the Northern Peninsula as well but it is not currently in operation.

Marketing and Processing Catch

The processing, and marketing of Newfoundland seafood were also themes raised by interview respondents. In the Anchor Point region it was noted that there needs to be more done with their seafood product. They explained that the shrimp that is processed there is done in large bags of shrimp (at least five pounds), with little to no specific branding on it. One harvester said “And right, do more with your product. Don’t make me catch more, because the quotas can’t stand it, but let me do more with what we have to catch.”

Processing is an important part of the puzzle. Harvesters sell their catch directly to a processor. In the case of fish harvesters who are members of the Fogo Island Co-op, their Co-op runs their processing plant. The processors make sure that the plant workers are able to get enough work so that they may collect Employment Insurance (EI) during the winter when the plant is shut down.

There were differences of opinion within the respondents on the requirement that harvesters sell their catch to a licensed processor for minimum processing. Several people noted that they want more processing done to create a value added product, while others suggested that it would be more lucrative for fishermen if they were able to market their fish directly:

“if I was able to freeze it at sea I would have a way greater value because you’re eliminating the middle man, but the problem with that is if you have, then your plants don’t have no work, right. I’ll give you an example, this year we were at turbot, and at one time turbot would last all year and this year it was open 12 days this year, so, we brought in 40,000 pounds of turbot, for a dollar sixty a pound. So that’s uh, like \$65,000 worth of turbot. If I were to freeze it at sea and do minimal processing on it, if I had my boat geared up, which I can do, that sixty thousand dollars for the fish I brought in and

landed with, if I landed it frozen it would probably be worth I dunno what the market price is, but I'm assuming its up over 3 dollars a pound, so that would be double for sure, I would say, I would say with that fish we'd be at \$150,000, versus \$65,000."

One respondent highlighted that there are too many people involved with the chain from harvester to consumer, diluting the profits that the harvesters get from their product. Lastly, harvesters sell to certain plants, but they sell based upon which plant has been backing them and not necessarily where their home port is located. For instance, out of seven fish harvesters interviewed in Anchor Point, there were three different locations that their shrimp were sold: Black Duck Cove, Anchor Point, and St. Anthony; one multi-species harvester sold their catch to various companies, but consistently sold their lobster to one particular processor. One shrimp harvester also targeted crab when not fishing for shrimp. They then sold the crab in Labrador.

Recreational Fishing

Harvesters from both study regions, Anchor Point and Fogo Island and Change Islands, identified the food fishery (also known as the recreational fishery) as taking away from the already low quotas that fish harvesters have to follow for the cod fishery. The general public is able to have access to cod through the food fishery and is able to legally catch up to five fish per day. Respondents stated that there were more fish that left the water from the food fishery than the allotted five per person, arguing "There's more quota being taken out through [the recreational fishery] than what they see. And I'd be out on the bet with [you], to every codfish that they know is caught, that's ten more that they don't know about". They said that this has damaged their ability to fish and to sell their catch locally, as there is oversaturation from people illegally selling cod caught in the recreational fishery. One harvester suggested that the structure of the recreational fishery is different than it would have been if they had structured it the way that cod was traditionally caught on a small scale: "We wouldn't have gone out in July... I would rather go out today and get one fish for a meal, be allowed to do it and that's it. If I'm caught with more than one, charge me..." This type of fishery has changed the access to the fish; the recreational fishery is open during specific weeks, typically in July and October, where people are able to catch their allotted five fish per person per day; this person advocated changing the system so that instead of a week-long season with daily catch limits, it would be one fish per day, year round. Clear tensions exist between the commercial fishing sector and other community interests who advocate for the right to fish for food (one fish per day arguably has negative implications for individuals in terms of the cost and time required to fish) and suggest that access to fish for purchase locally can be limited in an export-oriented industry (Lowitt, 2013).

4.2 Results—Community Action and Response

Regional Cooperation

Regional cooperation has a long history on Fogo Island and has been a means of responding to difficult conditions. In the 1960's, Fogo Islanders pulled together to create a co-operative and to repair the roads. At that point in time, each community was fairly isolated from each other. They came together as separate island communities to create a co-op and have continued to operate their co-operative and to work together. Recently they worked together to

regionalize the island and create one municipality (Town of Fogo Island) of the eleven communities on the island. The Fogo Island Co-operative has also operated the fish plant on Change Islands in the past, leased to the Co-op by the Change Islands Fisherman's Improvement Committee as plant owner. This cooperation has enabled the two communities to benefit from each other. The Co-op obtains access to local processing capabilities and the community of Change Islands has an operator for their plant, thus employing community members.

In Anchor Point the region has pulled together on two notable occasions that were discussed. The first was when their fish plant shut down. They were afraid of the impacts of the plant's loss and came together to find a solution to ensure that the plant would continue to operate and provide income for the community. The second was the delayed start for the 4R region shrimp harvesters. Both examples are covered more extensively in the sections on Northern Peninsula co-operative efforts below. Finally, Anchor Point Mayor Gerry Gros participates as the community representative and Chairperson of the Great Northern Peninsula Integrated Coastal Zone Management Steering Committee. The Committee was formed to create a dialogue among local stakeholders on coastal issues and planning on the Great Northern Peninsula to foster ocean stewardship and an integrated approach to coastal and oceans management on the Great Northern Peninsula coastal area and in the Gulf of St. Lawrence as a whole (Great Northern Peninsula ICZM, 2010).

Multiple people also used the example of the St. Anthony Basin Resources Inc. as how a community quota can impact a community. SABRI was created when 3000 metric tons of shrimp were allocated to communities at the tip of the northern peninsula of Newfoundland. Since that allocation, it has grown and spread to other economic activities, including aquaculture, trail building, and scholarships for the community.

Fisheries Co-operatives

Fogo Island Co-operative

Formed in 1967, the Fogo Island Co-operative, interview respondents explained, works because it is on an island and members (both harvesters and plant workers) feel a duty and loyalty towards their island community. People there felt that they had no other option but to work together because they were on an island, with associated difficulties related to access to other markets and distance from the mainland. One retired harvester said about the Co-operative and the island that:

“I think it wouldn't have worked outside of Fogo Island, no, they tried before, to tell the truth, but other communities tried it around Newfoundland and it never worked. And the only reason it worked here was because, I'll be honest about it, we were on an island, our boundary is confined, we're on an island, and all the...main employers...they were all fish merchants, they all closed shop...and the cod fishery wasn't viable...and our backs were up against the wall. If we wanted to stay, we had to do something. But if it would have happened anywhere else in Newfoundland, if they tried to [do] it phases and it hasn't worked yet.”

This respondent felt that the type of environment required to create a co-operative was unique to Fogo Island, as an island community(ies) with no other options for economic activities.

One harvester stated that they felt that the co-operative, which operates three processing plants on the island and processes cod, capelin, herring, mackerel, crab, shrimp, turbot, sea cucumber (Winter, 2012), was the reason the community still exists in the manner it does. In response to whether or not the co-operative had impacted the community, they suggested:

“Oh definitely I, I mean I, if there was a private individual here and times got tough, a private business man, you’ve got one goal and that goal is to make money. And you’re not gonna care if you’re gonna be suffering financially or otherwise and you move on, but the coop has been here there has been some very trying times, times its been close to bankruptcy... we were at that death’s door and it was very difficult to be a volunteer and to uh you know, to do something with your free time but that’s the kind of things you do, at that time I felt that I had a commitment to the island and I saw my term out for three years and after that I moved on but the Co-op has kept Fogo Island going because at least it kept it going to the level we are now, if the Co-op wasn’t here I’m sure there’d still be a community on Fogo Island but how prosperous would we be?”

This type of commitment to the island and community is what created the Fogo Island Co-operative and, according to this harvester, what has kept the co-operative in operation and the community functioning. Another retired harvester felt the same way about the role of the co-operative, stating: “The only thing that kept this island going was the co-op, you know, was most of the most everyone now that’s not fishing is in the crab, is into the processing part of it now. They’re working in the plants, fish plant, that uh, there’s more, there seems to be more work around now than when I was growing up.” When asked about whether the community would be impacted differently if the co-op was located somewhere else, one other harvester said:

“I don’t know what would make it different, if you’re an island, I think Fogo Island survived because it is an island, it is, we are so strong and because [of] being an island the co-op was formed and everybody uh, I think people pull together more and have a better you know, understanding of the place they live and if they want to they need a place to work, right.”

There is a history of co-operative organizing on Change Islands as well. Local fishermen and members of the Seaway Co-op built the Change Islands fish plant in 1944. Northeastern Co-op later expanded the facility, which was later turned over to Fishery Products (1954-1956) and then back to the Co-op. The Province of NL took over ownership of the plant during the 1970s, followed by a series of private operators through the 1980s and early 90s, back to the Province 1998-2002 and then to the community-run Fisherman’s Improvement Committee since 2002. The Committee now leases the plant to other operators (Woodrow, 2006).

Northern Peninsula Co-operative

Efforts to form a co-operative have been long running in the Anchor Point area. Previous efforts began when the fish plant ceased to operate. At that point, one respondent explained, people started pulling together to work on how to find a solution: “when the fish plant had closed previously the community had come together and they were looking at exploring the option of setting up the fish plant as a cooperative...but before they had become formally established...a

current business processor had decided to come in and would set up...without people starting to form a cooperative, maybe there would not have been someone to come in and to actually create long term employment, in the industry”.

In the meantime, local fishing interests (e.g. harvesters, municipal officials) have been exploring the idea of creating a co-operative for the purchasing and buying of gear. This has included meetings with harvesters and other fishing and community stakeholders from the area in March 2012 at an Integrated Coastal Zone Management Committee-sponsored fisheries forum and a follow-up workshop held in November 2012 in conjunction with research conducted by the Rural Secretariat and Memorial University. The March 2012 Fisheries Forum indicated that participants saw potential in creating a co-operative fisheries enterprise in the area. Suggestions included a quota allocation to a co-operative and a multi-species co-operative fish plant. In the November session Co-op developer Jim Winter presented to the group at that time on examples of other fisheries co-operatives and details regarding the co-op model. One recommendation to come from these meetings was to assess the viability of a co-operative in the area through a feasibility study.

All of the respondents from Anchor Point area in this research who spoke about the idea of a co-operative (sixteen) felt that a co-operative could be beneficial for their community. As in the March 2012 forum, there were different levels of a co-operative that were discussed. One harvester said that they wanted “Everything. You got to have the whole thing to be good. You got to have the whole shebang to be any good. Now, now you’re creating survival of the fittest, survival in yourself.” Another person interviewed saw a co-op as a way to possibly influence decision-making. Another harvester said that they thought that:

“I think well I would be content if we could get a coop that could do the buying, selling, processing of their products that we can catch right now, we could expand to do more I suppose it would be alright, but that’s the main thing that’s needed, you know. So yeah, we need to be able to, we need to have a co-op who can uh buy sell and be competitive. Have to do that. And in order to do that you see you have to have people who really feel strong and knows what they’re doing, you know, it’s no good for me to be a member of a coop and or agree to be a member of a coop and then as soon as someone comes in and offers you five cents higher you’re going to go away, that’s no good, you gotta be committed for the long haul. Right.”

This harvester thought that it would be beneficial to the community to have a co-operative that focused on the buying, processing, and selling of the product that was obtained from the harvesters. Another respondent interviewed focused on how a co-operative could be used to buy gear together or to bring safety training or gear recertification together to make it more streamlined and cost effective.

When the harvesters from the Anchor Point region had previously tried to establish a co-operative in the area, they were not able to obtain agreement from all of the people that were involved. An important part of the co-operative is the ability of the community to pull together and of the processor (whether a co-op or not) to work with the harvesters. One Anchor Point harvester said:

“Community unity first, like harvesters and processing side of it. We really, we really haven’t got the jointness there. We’re not like a joint community in a way. Like take Port aux Choix there, hundred percent of Port aux Choix boats sells to Port aux Choix... There’s something we could do, we could do better for our community, we could get our harvesters together with our processor, but our the processor we got here I mean they haven’t cooperated with me. Personally, they haven’t come and said boy, we want your product you know, they haven’t, and I think that’s some of the [problem]”.

Access to a community quota would be attractive to a co-operative for the people that are involved. This would create a structure where “if you would let the co-operative have control of the quotas, and make them, and then they get the boats to go out and catch it and then the work would be done in our area and get some smart people in and do much, much, more with our product (Anchor Point)”. By doing this profits would stay in the community and allow the community to expand upon what activities and services can be offered in the area.

Coping with the Cod Moratorium – New vessels, new fisheries

Respondents also described how vessel sizes changed in the community in response to the cod moratorium. On Fogo Island, it was noted that harbors with larger boats were impacted differently than those with smaller boats. One community member said:

“there were no boats going out, especially in a small community like this one where it was just smaller inshore boats. Like Joe Batt’s Arm has a groundfish plant, so they had you know, before the moratorium they had long liners that fished out on the Fogo Island banks and brought in other species and all this kind of things, same with Fogo with its crab plant and that kind of thing. But small communities like Tilting and Deep Bay and Island Harbor and places like that, I mean they wouldn’t, there was no fishing activity, everything was just completely stopped for a while... I think the next year they started fishing lump roe for a week or two, and that was on the go, and you know, little things like that, umm, but the whole readjustment, the adjustment from fishing close to shore to adjusting to other species and fishing further offshore.”

While the small boat fleet was a family based operation, a large boat was not. Fisheries had traditionally been a family based operation, with multiple family members dealing with the cutting, salting, and drying of fish. This system changed when the fishery became an offshore fishery with larger boats.

Aided by new types of vessels and gear, harvesters were able to make the switch to the current target species, shrimp for the Anchor Point and crab and shrimp for Fogo Island and Change Islands. One harvester said, “the moratorium affected it a lot, big time on the first of it, until people got settled in. Then they got settled in, and the shrimp fishery picked up. If it weren’t for the shrimp fishery, Anchor Point would be a ghost town too. If the shrimp fishery closed down, we’re finished, Anchor Point is gone.” Not everyone was able to make this switch, but those communities and people that did are perceived as doing well. A harvester from Fogo Island said, “but in hindsight since then, the shellfish has been higher value than ever we had with groundfish. We would have people say around here that when cod was around and you were poor, when shellfish came up we done well, we done well since the moratorium.” In both areas,

rather than diversifying target species in the post-moratoria fishery, there has been a shifted dependency in target species. The province has moved from a heavy dependence on cod to depending on shrimp or snow crab. Returning to the theoretical foundations of this study despite some successes in collaborative efforts, this shift may be seen as supporting the resource cycle view of Hardin and others of exploiting a resource and then moving from one to another in favor of economic gain instead of focusing on collective effort and working together for the common good.

While switching species has been the most prevalent form of dealing with the moratorium, there have been several other methods. One harvester said that:

“it’s managed from a social perspective. So if he says well the plants gotta have work, communities have to survive, well communities, that’s fine, and you need to have a fishery in Newfoundland with small boats and members and all that...it’s in another 10 years [if] it keeps going the way it’s going and people are not staying in the fishery, which I don’t think they will, who’s gonna work in the fish plant?”

While there may be young people in the community, they are not always be interested in fishing. Respondents highlighted that there had been a decrease in interest in fishing post-moratorium. There was no money involved in the fishery, thus younger people wanted to get a job where they would be able to make money. This respondent wanted more young people involved in the fishery to ensure that there would be a future for small-scale fisheries in Newfoundland and for their communities. However, there still has to be a focus on the ability of each harvester to make a living. If the current dilution of the fishery continues, this harvester felt that there would be no future for harvesters entering the fishery, allowing the current small-scale fishing culture in Newfoundland to disappear.

Local Knowledge and Scientific Surveys

People in both regions spoke to the need for more surveys to be completed on their target species. The most heavily cited need was for more research about cod that incorporates their knowledge of the historical cod fishery. One harvester said:

“Well, for DFO to do better studies on the cod. I can guarantee there’s a lot more cod out there than whatever they’re doing with the cod fishery. I do the Sentinel Fishery right now and...cod comes off the bottom at night and no one did get it then and now they do this sentinel fishery...and a lot of them is done at night...[and he] don’t pick where he’s gonna go. If they let the fisherman pick where he’s gonna go and the time [of the survey], the catch rates would be way, unbelievably the difference. I can go out there and show them where all the cod [is], especially if they got a big boat and got the gear on it on their boats, so there’s much more cod than what they’re showing up with, right...I want to go out and look for cod in 200 fathom of water, somebody got their wires crossed somewhere, right. I mean the cod is [in] inshore water and it’s chasing its main source of food, and the sentinel fishery is getting done in those depths of water and its, oh it never showed nothing up here and up there. Well it’s never gone there...right now I fish the...well I fished cod one [place], 120 minutes we fished and it took me 2-3 minutes on them for to get 2,000 to 3,000 pounds. Right now they’re getting up six nets and they’re

fishing them 6 hours later and they're catching 4 and 5 thousand pounds and someone's telling me the cod haven't picked up, something, like I said, wires got crossed over somewhere. So, I don't know."

This harvester had been involved in the cod fishery prior to the moratorium and continued their involvement in the cod industry through the Sentinel Fishery. They felt that the Sentinel Fishery dictated where to fish and did not give the harvester input into either the time of day that cod were moving or their knowledge of where the cod had historically been present. Harvesters in both regions of Newfoundland spoke to larger amounts of cod being present in recent years than in the past; the quotas still have not risen to reflect this. Harvesters want to be involved in the planning and creation of a study to examine this apparent conflict. This way their knowledge of the area and the historical fishing can be incorporated into studies that already exist, such as the Sentinel Fishery. Local knowledge has already contributed to locally initiated management changes; the late start for the Northern Peninsula began, for example, because the harvesters knew that fishing in April meant more by-catch and catching the shrimp before they had spawned.

Alternative Gears and Returning to the Future - Cod pots and traps

The baited cod pot is an experimental method of catching cod that has been under development since the late 1990s and tried on Fogo Island since 2009 (DFA nd). While respondents discussed both positive and negative aspects of the trials, it is important to note that no one who had used the trap was interviewed. One spouse was interviewed and reported positive results of the cod pot due to the quality of cod that had come from it, since harvesters could immediately gut and clean the fish and get it onto slush ice to preserve it. The Shorefast Foundation as a part of their Ocean Ethic movement has spearheaded the cod pot experiments. The cod pot is viewed as "ocean and habitat friendly and the method produces a top quality product which, in turn, leads to higher prices" (Shorefast Foundation, Our Projects, "Ocean Ethic", 2014). In terms of quality, it was stated that "it's a better quality of fish of course, but a good quality of fish from a cod trap too if it's done the right way." There were harvesters who felt that the quality of the cod specifically caught in a pot was not better than that from a trap or cod that was caught on a handline. Although gillnet caught fish has been shown to be a lower grade (DFA nd), this caused some conflicts within the community over the higher price paid for cod pot fish and has led to the Fogo Island Co-op no longer being the conduit through which the potted cod is sold, as members felt that they should all be receiving the same price. Also, without the proper size vessel a cod pot could not be used on board their vessel, preventing some local harvesters from being able to use it. Although the Co-op is no longer buying cod pot fish Shorefast Foundation has since secured a fish buying license (through their inn) to allow them to purchase the cod directly for use in their hotel and by restaurants in the province (personal communications, Shorefast representative).

The community cod trap is another proposed method of community engagement in the fishery suggested during the previous Change Islands fisheries project (Smith et al., 2013). This method would have harvesters working together to harvest fish out of a community cod trap, as they historically had, in pairs or in small groups ("my uncle had hauled a cod trap and it was full of krill, and it needed two strong men, but two strong men can't haul a cod trap, so they got me in their boat. And I was the third strong man") on daily trips, where at the end of the day they

would return home with cod that would be “cut” and processed at home. Historically, cod traps were used by groups of harvesters together. For harvesters this would minimize the amount of crew they have to hire and maximize effort and profits from the trap, if they were able to work together to fish out of one large trap. For crew, however, it would decrease how many of them were able to work. There was agreement among harvesters that between a cod trap, cod pot, hand line and gillnet, gillnets produce the lowest quality fish. One harvester said, “I’d rather buy a fish from Denmark that’s caught on a hand line than I would that’s caught in gillnet, even if it’s caught in Newfoundland. Because a gillnet fish is a drowned fish.” There has not to date been an official proposal about a community cod trap to the government. Two harvesters from Fogo Island specifically mentioned that the cod trap would not be allowed again, even in a community manner, due to the impacts that cod traps had in the past on the fisheries.

Voluntary Restrictions on Seasons

The 4R fleet has voluntarily delayed the start of their shrimping season by one month, starting in the late 2000’s (Town of Anchor Point, 2012). The opening date set by the Department of Fisheries and Oceans has been April 1st in recent years; the harvesters in the 4R fleet wanted to delay the start of the season until May 1st in order to avoid by-catch and spawning season for the shrimp and have encouraged the government to follow suit. One harvester summarized how the late start had worked:

“DFO lets our quotas open the first of April and we’ve seen drastic things coming out of that, like quota cuts and spawning shrimp which we always believed was better on the ocean floor than on the deck of the boat, we made the decision that we will not fish, as a group of fishermen [from the 4R fleet], and the guys from PEI and New Brunswick that comes into our areas, they respects what we’re doing and they will not be on our ground until the first of May. And steers clear and like I said our quotas this year have increased by 15%, was recommended 35% and where they fished up in the Gulf in their areas and it cost them 15% decrease in quotas and we said it’s time for them to take a look at something that we’ve done, it’s time to fish in April, they said well what the hell are we gonna do, we said well you keep on going like that you won’t have nothing to do in May or June either, right, you’re gonna take cuts, so you better keep maintaining to keep the fishery going the right way.”

In this way, harvesters were not only able to cooperate across the fleet of harvesters in that region, but also with harvesters from other provinces. By communicating what they as a fishing fleet wanted to accomplish, other harvesters were able and willing to avoid those fishing grounds for the month of April. Harvesters report that these efforts have paid off. Since they implemented the later start date they suggest there has been less by-catch and their catch rates have gone up.

Anchor Point Town Council has also been active in lobbying the Department of Fisheries and Oceans about the voluntary late start as well as harvesters’ concern about the future of the resource (Town of Anchor Point, 2012). They continue to have a municipal presence in the fisheries committee of Municipalities Newfoundland and Labrador and in the Integrated Coastal Zone Management council.

Leaving and Coming Home

One final strategy discussed by interview respondents was temporary and even permanent mobility for work outside the fishery. Prior to the cod moratorium, there was a culture of fishing and staying in the community or surrounding area in the off-season. Historically, some fishermen from Fogo Island and Change Islands used to fish during the fishing season then go onshore to go logging for the winter. In both Anchor Point and Fogo Island and Change Islands they would travel to Labrador in the summer to go fishing there. Woodrow (2006) suggests that sealing and cod fishing off the Labrador coast began to slow in the mid-1920s and had virtually ended by the mid-forties as families turned to the inshore fishery (cod, capelin, squid, herring and some lobster) or to logging in Central region and other occupations.

Interview participants explained that post moratorium this has changed. This type of work has continued in different forms and has become more prevalent since the cod moratorium. Now people will fish when they are able to and then hold another job in the off-season. Examples provided included harvesting fruit and vegetables in the Annapolis Valley in the fall, working at a moose camp as either a guide or cook, or fishing elsewhere (namely Labrador) during the off-season rather than working with just the fishery in that region. All of these options still include involvement in the fishery. One harvester gave two such examples:

“so people in this community and the surrounding communities have, uh like my wife, she goes cooking in with the, with the outfitters for 5 weeks and a lot of the fishermen, some of her brothers, a lot of the fishing communities, they go into these camps guiding for five, six weeks, we got some people who in the fall will got out to Nova Scotia and PEI on the farms picking apples, or at the potatoes, so people, these people, have found a way to stay in the communities...now it's like you know, it's practically impossible now if you want to have anything, to make your living directly from the fishery the way I'm fishing, I'm into a small boat and open boat fishery, right.”

This harvester felt that in their community it was necessary to diversify economic activity, even if it meant traveling, in order to stay involved in the fishery.

Even with all of these changes and challenges, people are starting to move back to the communities, either after working away for a few years or to use the community as their home base while they commute to other jobs (Alberta, Labrador, oil rigs). People have lived and worked elsewhere and then move home. Despite moving back to their home community, they often commute to work for a few weeks at a time, generally working in either construction or in oil and gas due to the money that can be earned in those industries. These people generally work year round in their commuting jobs, typically located in three places that were discussed while conducting interviews: Alberta, Labrador, or Newfoundland. The rise of the oil and gas industry has brought more jobs for people to do in province. However, because this drilling happens offshore, they have to travel to work onsite. The oil and gas industry has brought on a large building spree in Newfoundland, so people are also working construction as well.

There were people in both study areas who talked about isolation, both from major centers and the surrounding area, as one of the major factors in their community's development and as something that impacts them more than other things. Anchor Point respondents discussed their distance from major centers and work options, with more discussion of isolation as opposed to being on an island (a focus on Fogo and Change Islands). For both areas interview participants

felt there were fewer work options there than in other communities, so commuting from home to an office job nearby was not possible; the type of work that they could find was what they could do – or they had to commute, often long distances. On Fogo Island one community member said:

“Well, I suppose in the fact that you know it’s hard to have the commuter work force here, its transportation system here won’t allow it, you can’t commute to Gander, other places to work, so I would think that yeah, it’s probably been a disadvantage for people who want to commute back and forth or take the train to work other places, some of what we have, clear well pretty much got to work with it. We’ve got to fabricate ourselves within the boundary of Fogo Island.”

In this sense, the fact that transportation was an issue was heightened by the fact that these communities are located on an island. To compensate for this, the community had to rise to the challenge and work with the opportunities that they could create on the island to the greatest extent possible.

5. Recommendations for Policy and Future Research

An overarching objective of this project was to contribute to a framework communities and senior government policy makers can use together to develop future policies that will create the fewest negative impacts on communities and more sustainable fisheries overall. Next steps for this work at the local level could include facilitating more conversations between people in the Anchor Point area about the creation of a co-operative. For Fogo Island and Change Islands different stakeholders could be brought together to discuss the potential for a community cod trap and for future use of the cod pot. A long-term study on the role of the late start for the shrimp fishery on the northern peninsula could track landings and how landings have changed. While the role of the changing climate of the ocean was not explored in this research, this is also something that needs to be explored in the future as the species that are available for each community are likely to shift and change along with species ranges. This type of research is likely to become increasingly important as changes in the fishery increase and has important links to how future quotas and access to shifting resources are determined.

In terms of future directions overall, policy changes could be made that would allow for the creation of heightened community-based cooperation and co-operatives across the province. Supports exist for the establishment of cooperatives through the NL Federation of Cooperative in partnership with the Department of Innovation, Business & Rural Development. Special attention could be paid to fisheries cooperatives as part of this partnership. Once established cooperatives or other community-based structures could then become the base for community-administered quota allocations, as well as future experimentation with alternative gear types such as cod traps or cod pots and local seafood marketing efforts. This would allow communities to have a stronger voice in their local management and facilitate communities working together on multiple initiatives, enhancing economic resilience. As outlined in Foley et al. (2013), community allocations have had positive effects on the communities where they have existed.

Second, harvesters could become a larger part of the process of the scientific studies that regulate their fishery. By integrating their knowledge, studies would benefit from the insights of what harvesters are observing on the water. This would then be reflected in the quotas that currently exist and, as suggested by co-management theory, increase harvester buy-in for quota

cuts where required. If quotas were to be expanded, this could also lead to seasons for certain species being lengthened and give harvesters more control over when they were able to fish. The 4R harvesters' voluntary delay is an already viable demonstration of how incorporating harvesters knowledge of shrimp has led to increased quotas.

Finally, relating to the lessons from Maine discussed further below, we suggest that Newfoundland and Labrador fisheries managers and community leaders look to lessons from the island licensing program and state apprenticeship programs. These innovative initiatives have potential to enhance the viability of Newfoundland and Labrador fisheries and fishing communities. Their implementation would also counter the current impression that, unlike Maine, the overall policy aim in the province is to reduce rather than sustain small, island and fisheries-dependent communities. Further to this the zone council model appears to more closely resemble the spirit of co-management and should be explored further for its applicability in the Newfoundland context.

6. Conclusion

This research shows that there is a relationship between the cases examined. Although there are points of similarity, it is also important to note that there are differences between the two regions that can make it difficult to compare the systems. In both areas licensing and limits on catch, were identified by residents as the policies that had made the most difference to their communities. The ways that these policies have affected harvesters and fishermen are similar. Licensing presents barriers to people entering the fishery, for example, with implications for the sustainability of communities in each region. Similarities and differences in both of these areas are highlighted further in this section of this report along with some brief comparisons to findings from related thesis research undertaken by Co-investigator and principal researcher and report author Emily Thomas in Maine.

The Importance of Islandness

First, and most important to note, is the impact of being on an island and the location of the island. Each region varied in the ways and extent to which being on an island fisheries policy changes had impacted them differently than being a community on the mainland would have. In Anchor Point, there was more conversation about distance from major service centers than that of being on an island. This could be due to Anchor Point being a community on a much larger island, Newfoundland, than being a smaller island. On Fogo Island and Change Islands they felt that being on an island had definitely impacted them due to the lack of other options available, particularly for employment and economic development. Like Anchor Point, they also cited their distance from centers as a challenge for the sustainability of their communities. In both cases, they also pointed out, however, that their location was important due to their proximity to the fisheries resources.

In the Maine study communities there was also a sense of being impacted because they lived on their specific island, with a sense of not being different compared to other islands in Maine. There were certain location-specific issues for each community. On Monhegan the cost of energy, distance from the mainland, a history of conservation and their specific zone were discussed as unique. For Chebeague on the other hand participants discussed how close they were to the mainland, and the crowding for fishing territory. They also pointed to their being

different from the mainland, however, and with fewer and more distant markets than the mainland. On Swan's Island crowding in the fishing territory was also noted along with challenges of operating within the boat schedule and getting access to services on the mainland. The feeling of an island, this research suggests, is tied to the size of the island and access to services.

Limits on Catch

In Newfoundland and Labrador a combination of quotas, seasons, and gear regulations is used to control how, when and how much people may fish. In Maine they use mainly gear regulations, with the exception of Monhegan. Both have similar impacts: they can make it either possible or impossible for people to continue living where they are. In the Newfoundland cases the impact of fluctuating quotas is that harvesters cannot predict what their catch will be, translating to challenges with planning and managing gear at the start of the season. Money is a player in this. In Maine the number of traps fished can be prohibitive, but has also been used as a bargaining tool. On Monhegan they used their trap limit as a bargaining tool for setting borders and when entering the apprenticeship program that could bring more lobstermen to the island. The island licensing program for Monhegan allows lobstermen from off island who have completed the state apprenticeship program to move to Monhegan and obtain their lobster license without going through the informal Monhegan apprenticeship program.

In both Maine and Newfoundland the limits on catch are seen as restrictive because it can be difficult for people who are trying to enter or remain in the fishery to do so with limits that could reduce future profits. However, there are also differences of opinion in both jurisdictions on whether limits should be increased as well as how best to impose limits (e.g. on where and on whom). People from Swan's Island had conflicting views on trap limits, for example. Some felt that more traps could make it possible for them to make a better living while others felt that a lower trap limit still allowed them to be able to make a living.

Licensing

The licensing systems are different in each country but they experience similar problems. In particular, entry for youth is difficult in each place. In Canada licenses are a commercially traded entity. In Maine fishing is limited entry based upon waiting lists. Groundfishing is also a commercially traded entity, with the added complication of sector management and the ability to buy a license with the appropriate amounts of quota attached to it to make fishing profitable. The way that lobstermen and fish harvesters enter the fishery is different, but no matter what it is difficult to enter. There are financial and time barriers to entering the fishery. The key difference is due to the zone management and limited entry system in Maine. The zone council is a group of lobstermen who represent each fishing harbour in the zone. Each community chooses their own representative. On a larger scale, each zone determined limited entry individually. Lobstermen from the zone met to determine either how many lobstermen needed to retire from fishing in order to allow new entrants to gain access to the fishery from a waiting list, or whether there was not going to be a waiting list for the zone. For example, Zone C has an open entry fishery, whereas there is limited entry in Zone B and five lobstermen must retire before one new lobsterman can get off of the waiting list.

Each community spoke about the ability of young people to be able to get into the fishery and how this impacted them. In particular, respondents from Anchor Point spoke of the

Enterprise Combination Policy as one that made it possible for people to remain in the community and to have a strong fleet. Despite this, there are financial barriers to people who enter the fishery. In Maine, the biggest concern was the wait time required to obtain a license. The Island Limited Entry Licensing system was seen by some as a way to combat that and to bring more young people back to the community. Others viewed it as adding more effort to an already crowded territory that their community controlled.

Community Strategies

The tie between fisheries and the culture of the communities was evident in both Newfoundland and Maine case studies. Post-cod moratorium, there was discussion of the culture of the community changing in Newfoundland. This has to do with commuting to work and changing how the harvesters had changed their fishing style to match the new target species and where they needed to go to catch said species. This type of change has led to a fear of losing their cultural heritage of fishing and the old ways of fishing that had traditionally sustained their communities. In Maine, fisheries are seen as integral to the identity of the community. Without fisheries, it was felt that the communities would lose their character. Fisheries are what brought people to the islands and kept them there; access is necessary to keep people there and the communities continuing.

Each community has challenged policy decisions both in the past and in the future. These challenges have been done because they, as a community, felt that there needed to be a change to benefit both their community and their ability to fish. These challenges are also mechanisms for change. The Fogo Island Co-op and efforts of Shorefast Foundation, late start to the 4R shrimp season, and Chebeague Island's Dropping Springs LLC (Limited Liability Company) and later the Calendar Islands Lobster Company are all ways that communities have responded to changes in their fishery and strengthened their communities without necessarily going the route of changing formal policy or management. Dropping Springs LLC buys and sells lobstermen's catch at the end of the day and sells bait and supplies to the lobstermen who are members, essentially functioning as a co-operative. Although it is officially an LLC, Chebeague Island residents informally call it a co-op. Calendar Islands Lobster Company is related to Dropping Springs and focuses on creating and marketing value-added lobster products. Monhegan and Swan's Island have changed the management for their specific islands and their zones, making it possible for their communities to maintain specific access in their area. They are thus able to maintain their access to the fishery despite increased pressure from surrounding communities; it is this access to the fishery that makes it possible for them to maintain their livelihoods.

Regional cooperation was seen in each community in different ways as a notable strategy for coping, adaptation and attempting to exert influence on policy. In Maine Chebeague worked with other island communities to become involved in the island licensing program. On Monhegan they have worked with other island communities to educate their children with the Outer Islands Teaching and Learning Collaborative. Through the Collaborative five island schools team teach via teleconferencing units and create a sense of unity among island students. In Maine there was little evidence of cooperation between individual harbors. However, there are times when they are able to work together. The example of Swan's Island Co-op is illustrative. Not only are there people from other communities who sell their catch there, there are lobstermen from neighboring Long Island (Frenchboro) that sell their catch there. What is seen

more frequently in Maine is cooperation between island communities. This is seen with both the Island Institute and the Maine Islands Coalition, among other ways. This type of cooperation has allowed them to work together to create things like the island licensing system which has been implemented in three towns (Chebeague Island, Cliff Island, and Cranberry Isles), which are composed of four islands (Little Cranberry Island and Great Cranberry Island both maintain year round populations and are part of the Cranberry Isles). This is also seen in school designations and the work that is carried out by the Maine Sea Coast Mission. By carrying out this work, students and community members from island communities are connected to one another and can create relationships prior to leaving the islands. This has connected people from island churches and for medical work. They are able to meet to discuss the possibilities of “aging in place” and the challenges of elder care on isolated islands.

In Newfoundland cooperation between the harvesters in the 4R region has made it possible for their quotas to increase. Harvesters reduced their seasons for the good of the resource and because they felt it would make their fishery more resilient to change. This can also be seen in the recent discussions about amalgamating or regionalizing the communities to create one large municipality instead of many small ones. By doing this, they hope to create a system where they are able to pay for and afford more as a town. Fogo Island has already taken this step. For Fogo Island and Change Islands there is both cooperation and competition. They have cooperated in their ability to use the processing has s (Fogo Island Co-op operated the Change Islands plant in previous years), but there is also competition between the two islands. One community member from Change Islands pointed to Fogo Island as watching out for Fogo Island, and making sure that they are the ones who are able to continue. On Fogo Island the recent amalgamation of the communities into one town has shown an ability to work on a smaller regional scale, across the island. While this had already been demonstrated with the Fogo Process and the creation of the co-operative, it shows that they are willing to continue this type of communication and cooperation for the good of the whole. The communities are maintaining their own identities but have an enhanced ability to provide services.

Concluding Remarks

In conclusion, we did observe there to be a relationship between fisheries policy and management and island community development. With one seemingly simple relationship, that between harvesters and the resource that they work with, there are many layers of complexity. There are many shades of how policy and management decisions can impact a community. Their ability of residents to fish and work with the resources that surround them is governed by different systems and mechanisms. Policies and management decisions are the difference for communities between survival and extinction, and one policy can have drastically different impacts on two similar communities. One distinct example of this is the Enterprise Combination Policy, which has created a stronger community for Anchor Point, while at the same time has made it more difficult for people from Fogo Island and Change Islands to remain there. Not every management decision is this clear cut however; most impacts felt in communities are a combination of many policies or management decisions. Without the quota to fish with, harvesters cannot continue to fish; without the quota on the licenses, harvesters are not able to enter the fishery, nor can newcomers afford the proper licenses to get involved in the fishery.

There are specific community strategies in response to changes in the policy and governance system that were shared across regions. In Anchor Point, the strongest example of

this was the 4R delayed start. While this has not impacted policy, the harvesters were able to shift the date to the one that they were comfortable with while maintaining their resource in a healthy manner and working within and contributing to the governance system. They remain active in petitioning the government regarding why they made the decision that they did and changes they would like to see in the fishery in the future. In Fogo Island and Change Islands, the most evident early forms of responses to policy change were the presence of the Fogo Island Co-operative Society and the ownership of the community-owned Change Islands fish plant by the Change Islands Fisherman's Improvement Committee. This has allowed for greater harvester control over the sale of their product. Both of these are community-driven initiatives designed to help the community remain in place on their home islands. These two ways of responding to changes in the fishery were similar in Maine. Monhegan and Swan's Island worked within the existing management structure to create their own conservation zones and Monhegan and Chebeague Island joined in the island limited entry licensing program, while Chebeague Island lobstermen created Dropping Springs LLC and then the Calendar Islands Lobster Company and Swan's Island lobstermen created the Swan's Island Fisherman's Co-op.

We should conclude by noting that there were challenges with doing this work. There were limits to the amount of people that could be interviewed while in the field, both due to time restrictions and the snowball method. The field researcher was able to talk to people who were noted by community members as people involved in policy decisions. For the most part, this meant the participants were in the 45-65 age range, with a few outliers of older and younger participants. Most of the people in the communities who have a history of activism have done so for a long period of time; they have a long memory of their involvement and can track multiple changes. The researchers were able to gain a timeline of changes in the fishery from these people; other perspectives from people in their 30s were obtained, but that was the youngest group of people interviewed. There are younger people who have started to become involved and are coming up through the ranks. People who have been active in fisheries are also more comfortable speaking to people in public. Future research could include longer stays in each community to access a wider range of perspectives.

The case study communities chosen have shown different examples of how co-management theory can play out in practice. While Monhegan and Swan's Island chose a similar strategy of creating a conservation zone with a limited number of traps, Monhegan took further control of the resource by creating the only fishing ground in the state that has an open and closed season, much like the shrimp and crab fisheries in Newfoundland that have opening and closing dates. Both of these initiatives in Maine were pushed for by lobstermen. In Newfoundland, the Anchor Point method of a delayed start shows how the people in the community were able to come together to change what they thought was a premature start to their season; they have had changes come from this and seen improvement in their quotas.

Despite many challenges, there is hope for the future in each region. While licensing may be restrictive and challenging, there was hope that the outlined changes would increase the number of people in each region. There was some fear for the future of the fishery and a loss of focus on the fishery's historical importance in Newfoundland, but they still felt that they might be able to make a difference in the future. There were people in Maine who felt the same fear, of the loss of fisheries and a change in how important they had become. People who were living in the region recognized the increased dependency on the lobster fishery in Maine.

The most important result from this research is the resiliency of the communities studied, all of whom found ways to work around and with different challenges that have come with changing fisheries and fisheries policy. There are many different changes and challenges that each community has faced, but each has worked to mitigate the negative implications of these changes and to keep their community functioning. While there are many concerns about the future, and by no means will there cease to be challenges in the fishery, each community has kept itself going by changing how they were approaching the fishery and/or how they use their product. Community ties to the geography and how communities are impacted by their geographic circumstances demonstrates how important location is to each community. While each community has been impacted differently by policies and management decisions, their responses can be similar. Likewise, while a policy or management decision may be the same, the reaction and response often differs in each community. These similarities and differences transcend regional, provincial, and international lines and differences in management systems. With the knowledge from each place visited, new strategies and shared strategies for resiliency can be created. Fisheries have historically been the lifeblood of Anchor Point, Fogo Island, and Change Islands; with a properly managed fishery fish harvesters, community leaders and other residents feel that fisheries can continue to support and sustain their communities.

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Appendix A— Interview Questions

What term do you prefer to be called when referring to your occupation? (e.g., fisherman, fisher, fish harvester, etc.)

How long have you been involved in fisheries? If you have a license, how long did it take you to get it and how did you get it (purchased, lottery, apprentice, etc.)?

Why did you want to get involved in fisheries?

What fishery was the one that traditionally was done here? Are there any other forms of fishery that are done from this community at this point?

Is there one species that is most important today?

What do you think would be necessary in order for fishermen to want to fish other species in the area? Do you think there would be interest in creating a niche for other fisheries (groundfish, shrimp, herring, etc)? Do you think this could be a viable option for the people of your community to fish additional species?

Do you think that where you live (your location/the location of your community) has impacted how policies affect your community? Do you think that being on the mainland (or another island) would change how policies have affected you?

Do you think distance is a factor that has affected how your community is able to deal with changes in the fishery (from large centers, from processing, from the mainland, etc)?

How has your community changed in recent years with relation to fisheries (particularly the Maine communities that have conservation zones surrounding them)?

Do you think the culture of the community has changed at all?

What policies and/or regulations have impacted you/your community the most? Why? How?

Did you take part in the creation of any of these policies or regulations? If so, how were you involved? What role did your community play? Why?

Has your community changed management locally? If so, how? Do you feel that it has changed things on a state/provincial level or at a federal level?

Where do you sell your catch? How many options do you have?

Is there anything additional to the questions asked that you feel could be (a) key factor(s) that I did not cover in this interview?

Who else in this community has a stake in the fishery? Is there anyone else you would recommend I speak to?

Is there anything else you think is important for me to know in the context of your community and fisheries?

NL COMMUNITIES

How did the 1992 moratorium affect you/your community?

Have you or your community tried any different techniques to cope with those changes? If so, what?

Do you work regionally on issues related the fishery (i.e. with other nearby communities)? If yes, how do you work together? Has this kind of regional collaboration increased or decreased in recent years? What are some of the factors that have led to this change?

FOGO ISLAND/CHANGE ISLANDS

Has the existence of the Co-op influenced how the communities of Fogo Island have been impacted by fisheries policy? (and for Change Islands of the locally owned fish plant) If yes, how? If no, why not? Please explain.

Has the existence of the Co-op influenced how the communities of Fogo Island have responded to changes in fisheries policy? If yes, how? If no, why not? Please explain.

What cod pot experiments have you been a part of? How did they work? How do you feel that the presence of a community cod pot experiment affected the community? How was this idea received?

How do you feel that the presence of a community cod trap would affected the community? How would you like to see this idea proceed in the future? How has this idea been received by policy-makers?

Could you think of an alternative community-based method of fishing that might give better results?

ANCHOR POINT

Why do you feel that the regulations surrounding the shrimp fishery need to be changed? Do they need to be changed?

Have you ever fished for anything other than shrimp?

Do you feel that current policy will allow the fishery to sustainably continue in the future? How do you think that this could happen?

Did you participate in the voluntary late start for the shrimp season? Why or why not? Do you think that the practice of a voluntary late start could impact what happens in the future with the sustainability of the fishery or with fisheries policy? Do you think that this kind of action could be a viable strategy for other regions?

How do you think the presence of a fishery Co-operative would impact your community? What is the ideal structure for a Co-operative in the area and how would you like to see it work (if you would like to see a Co-op formed)? What activities would you like to see covered by the Co-op (i.e., fuel and/or supplies purchasing, buying and marketing your catch, other)?

MAINE COMMUNITIES

How do you feel that having a specified island licensing system would have impacted your community?

How could a changed system help islands to recover or maintain their island populations?

Will it help islands to maintain their “islandness” if fishing communities are maintained? Do you see fishing as an integral part of your island and its identity?

Do you think that your island fishing community was impacted differently than a mainland community was this past summer with the fluctuations in price? How do you think that the impacts from those changes could be lessened in the future?

SWAN’S ISLAND

Do you fish in the conservation zone? Why or why not?

Were you a part of the creation of the conservation zone?

How do you feel the creation of the conservation zone has impacted the community on Swan’s?

MONHEGAN

How long did it take you to get a license under the Monhegan apprenticeship program? How did you get your license?

How do you think the changes to the apprenticeship program passed this past spring will impact your community?

Do you think that the system Monhegan uses could be done elsewhere? What facets of this system make it work here?

CHEBEAGUE ISLAND

Is your community more dependent on fisheries since you seceded from Cumberland?

How do you think the limited lobster license entry program will impact your community? Will it make it possible for people to stay on the islands longer?

POLICY MAKERS, GOVERNMENT AND TOWN OFFICIALS, NON-PROFITS

What agency do you represent?

What fisheries policies have you (or your organization) played a role in? Why?

What policies or management changes in the fishery have you seen that you view to be the most effective?

What policies do you think impact island communities the most? Why?



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