

Small craft harbours in Nova Scotia, Canada: Examining livelihoods beyond the
commercial fishery

by

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Abstract

Canadian small craft harbours (SCHs) are vital for connecting the commercial fishery with the global economy. Without the presence of SCHs, many rural communities would fail to sustain individuals' livelihoods. This research will examine the role SCHs play for users and their communities in Nova Scotia through a media analysis and 19 semi-structured interviews with SCH users across the province. Using both an inductive and deductive coding process and the theoretical framework of sustainable livelihoods approach, the results indicate that SCHs in Nova Scotia are essential facilities for their communities both in the economic and social realms. SCHs for most participants are key sites for sustaining one's livelihood and the livelihood of the community. However, some SCHs are not seen as vital for several reasons such as being underfunded or needing repairs. Despite the exploratory results, these analyses provide a baseline understanding for future research.

List of Abbreviations Used

CAD: Canadian Dollar

CBCA: Canadian Business and Current Affairs

DFO: Fisheries and Oceans Canada

MES: Masters of Environmental Studies

PAH: Polycyclic Aromatic Hydrocarbon

SCH: Small craft harbour

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1.0 Chapter One: Introduction

1.1 Thesis Structure

This Masters of Environmental Studies (MES) thesis is structured as a monograph. There are chapters dedicated to an in-depth literature review, methods, results from each method, a discussion, and a conclusion. The concluding chapter will consider all lines of evidence and suggest a possible course of action.

1.2 Scope of Thesis

The parameters of this thesis are limited to small craft harbours (SCHs) in Nova Scotia, Canada. Although the fishing industry is critical to this province, the primary focus is on the SCHs themselves and not the fishing industry or specific fisheries. It can be hard to distinguish the two as they are both closely interconnected to each other. However, this research is interested in why the SCHs are vital to their users and local communities. This restriction can help assist the value of the SCH beyond the commercial fishery component.

1.3 Overview of the Problem

SCHs are the lifeline for many rural communities in Canada. In Canada, SCHs provide almost 90% of commercial fish landings (Government of Canada, 2014), with 2017 fish landings worth \$3.4 billion CAD (Fisheries and Oceans Canada, 2018a). Their presence in coastal communities provides direct economic impacts and indirect effects through the creation of marine-related businesses. SCHs also provide a venue for community events and a channel for harbour volunteerism (Lam & Gislason, 2003). According to Fisheries and Oceans Canada (2019), SCHs are crucial for the fishing industry and part of rural Canadian culture. The operational efficiency of SCHs is vital because many fishing communities are rural and depend on the ocean for their livelihoods

(Lam & Gislason, 2003). This research will assist in filling in these gaps by examining SCHs in Nova Scotia. Figure 1 illustrates the appearance of three SCHs in Nova Scotia.

Figure 1: Examples of SCHs in Nova Scotia. The top left photo is Halls Harbour (August 2020), the image on the top right is of Shad Bay (October 2020), and the bottom picture is Murphys Pond (August 2020).



1.4 Context of the Canadian SCH Program

SCHs provide shelter for vessels and offer commercial and recreational users facilities such as berthage and launching space to pursue their activities (Klancnik et al., 1992; Klancnik, 1994). In Canada, the SCH program began in 1972 by the federal government, falling under the legislation *Authority of the Fishing and Recreational*

Harbours Act and the *Federal Real Property and Federal Immovables Act*. In 1987, the program adopted the Harbour Authority model. The harbour authority is essentially responsible for the SCH, but the federal government owns the harbour facilities (Lam & Gislason, 2003). The program's objectives are to ensure SCHs are operational, well maintained, and act in the users' and the broader community's interests. The program in 2018 was responsible for 1008 SCHs nationally. Of those, 882 were fishing harbours, and 126 were recreational harbours, valued at \$5.6 billion CAD (Fisheries and Oceans Canada, 2019). In Nova Scotia, Canada in 2018, there were 178 SCHs, with 134 harbour authorities managing 161 small craft fishing harbours (Fisheries and Oceans Canada, 2018b).

Core harbours, the main component of the SCH program, are under the responsibility of Fisheries and Oceans Canada and these SCHs types have harbour authorities. Nation-wide there are roughly 5000 volunteers at harbour authorities to ensure safe SCH facilities (Fisheries and Oceans Canada, 2019). The SCH program provides funds to assist core harbours to remain in operational condition. For example in 2018, the federal government increased investment for SCHs in Nova Scotia. The federal government provided \$42 million CAD for 27 SCH projects, including dredging, construction, or restoration to breakwaters, and repair damaged or ageing infrastructure before divestiture (Fisheries and Oceans Canada, 2018b).

If a SCH has low activity and does not contribute significantly to the Canadian economy, the harbour may be transferred from Fisheries and Oceans Canada authority to a third party; this is called divestiture, and the harbour becomes referred to as a non-core harbour (Government of Canada, 2011). The federal divestiture policy came into effect in 1995 with the reasoning that local communities could better support the needs of their SCH (Walker et al., 2015). Whoever takes responsibility for the harbour must pay a fee and

maintain public access to the harbour for five years (Fisheries and Oceans Canada, 2019). If federal departments, provincial governments, municipal governments, First Nations, or non-profits do not wish to take the harbour over, the harbour is put up for sale. If there remains no interest, the harbour is demolished, with the land going back to the original owner (Government of Canada, 2011). The purpose of divestiture is to allow greater spending on SCHs that possess a valuable commercial and economic asset (Government of Canada, 2011). In other words, divestiture of SCHs reflects a framework to place the facility responsibilities onto the users or communities while freeing the federal government of maintenance and expense (i.e., subsidiarity) (Davis & Ruddle, 2012). Figure 2 shows the category and location of SCHs in Nova Scotia.

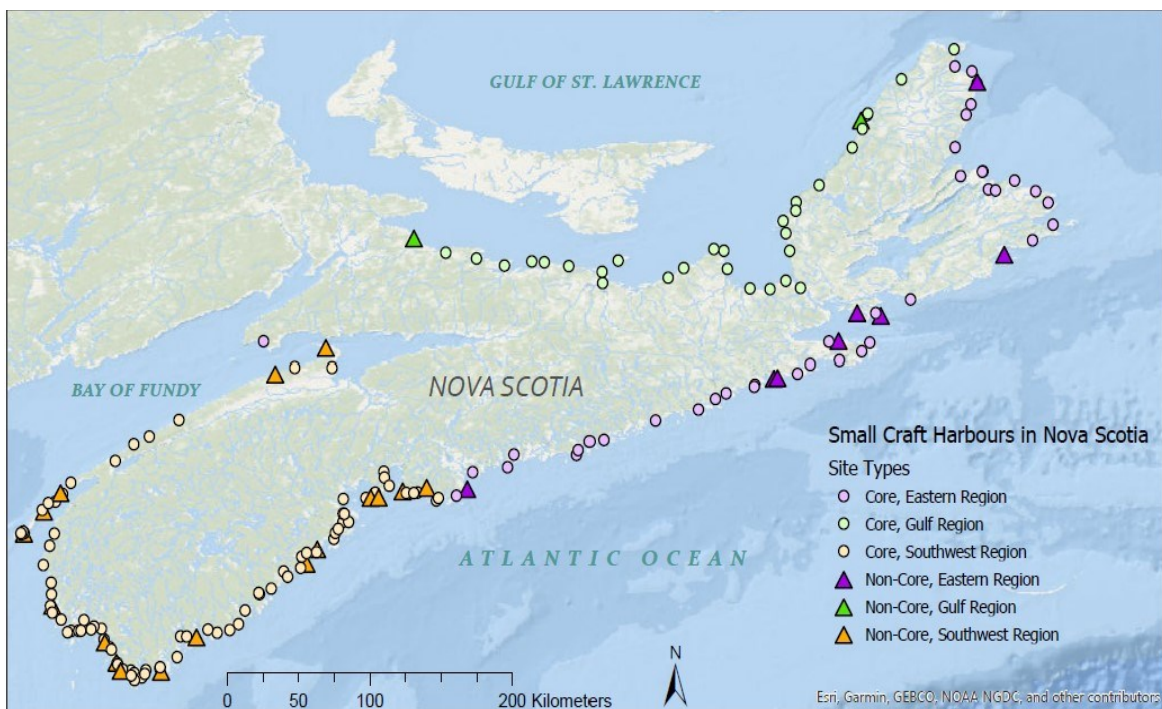


Figure 2: Map of Nova Scotia detailing the location of SCHs (Esri, 2019; M. MacLellan, personal communication, Feb. 18, 2020).

A vital aspect of the SCH program is the divestiture process. Although not the area of focus for this study, understanding similarities and differences between core and non-core SCHs can help determine how users interact with harbour types and the government

perspective of these harbour categories. Divestiture changes the federal government's relationship with the site, impacting the users and community due to a cessation of funding.

A 2019 report from the House of Commons stated apprehensions with this harbour category and raised questions on maintaining safe conditions for users (Standing Committee for Fisheries and Oceans, 2019). For example, dredging sediments may not be financially feasible for third-party operators as Fisheries and Oceans Canada spends large amounts of money to dredge harbours each year (Walker et al., 2013). Understanding SCH divestiture can reveal insights into how individuals interact and connect with their harbours in Nova Scotia. However, divestiture is only one part of this research. With limited knowledge in this field, a holistic examination of SCHs will provide much-needed information about the role SCHs have in their user's and communities' lives.

1.5 Research Question and Objectives

Since data on the social perspectives associated with SCHs in Canada, specifically Nova Scotia, is lacking, my research will examine SCHs in the province using a social science perspective. The findings from this research will contribute to SCH policy and knowledge for future development by providing primary and secondary data on the current livelihood status of SCH in Nova Scotia. Results can assist Fisheries and Oceans Canada officials about the current situation of SCHs from a diverse set of facility users.

The research question seeks to answer “why or why not SCHs in Nova Scotia impact the livelihoods of its users and communities and determining if any obstacles stand in the way of achieving a sustainable livelihood for either the users and communities?” From this question, three objectives emerge.

1. To explore diverse perspectives of SCHs through a media analysis using news articles;

2. To investigate how users make their livelihoods with SCHs using the sustainable livelihoods approach; and,
3. To make recommendations for future SCH policy development based on findings from objectives one and two.

1.6 Conclusion

SCHs are an essential part of maritime lifeways. Not only is fishing performed for economic benefits, but fishing is part of individual and community livelihoods. To improve this understanding between users, communities, and SCHs, Chapter Two will provide a comprehensive literature review encompassing physical science and social science studies regarding SCHs in Canada. This chapter will also introduce the theory utilized, the sustainable livelihoods approach. Chapter Three will provide an overview of the methods used. Chapters Four and Five will deliver results and discussions of the two-prong data collection approach to capture the diverse set of interests SCHs have in Nova Scotia and Atlantic Canada more broadly. Chapter Four, a media analysis of news articles, will assist this research in finding themes pertinent to SCHs. The purpose of this chapter is to provide background information on SCHs. This information is readily available to the public and will provide a foundation for identifying a temporal perspective of SCH. The second approach, found in Chapter Five, is semi-structured interviews. The interviews are with 19 core and non-core harbour users across the three Fisheries and Oceans Canada regions in Nova Scotia and analyzed using the sustainable livelihoods approach. Finally, Chapter Six is a short conclusion with recommendations stemming from this research.

2.0 Chapter Two: Literature Review

There is a vast field of knowledge available regarding small craft harbours (SCHs) in Canada. However, some studies are older and do not use the sustainable livelihoods approach. The first part explores SCHs in Canada in both the physical science and social sciences domains. The second section describes fishing as part of one's identity and sense of place. The final section explores the theoretical framework used to understand the semi-structured interviews, the sustainable livelihoods approach. All sections examine the literature available, its relevance to this research, and address what knowledge gaps this study can fill.

2.1 Physical Science Research

Several studies are related to risk management and contaminants at SCHs in Nova Scotia. These studies include assessments to determine options for sediment dredged disposal from SCHs (Walker et al., 2013) and research by numerous scholars (e.g., Walker et al., 2015; Davis et al., 2018; Davis et al., 2019; Zhang et al., 2019a; Zhang et al., 2019b) characterized contamination and ecological risk of organic pollutants and metals in sediment samples from 31 SCHs in Nova Scotia. Their research indicated most harbour sediments contained low concentrations of pollutants such as polycyclic aromatic hydrocarbon (PAH) compounds of fluoranthene, pyrene, phenanthrene, chrysene, benzo anthracene and benzo fluoranthene (Davis et al., 2018; Davis et al., 2019) and metals (Zhang et al., 2019a; Zhang et al., 2019b). The main concern with such contaminants is their potential ecological risk to aquatic biota and potential carcinogenic effects on humans (Fang et al., 2012). However, when compared to large industrial harbours, the relatively

low contaminant concentrations found in SCHs provide evidence of negligible ecological and human health risk (Davis et al., 2018).

Over 16 years (2001-2017), no significant changes in sediment PAH concentrations appeared at 31 SCH study sites (Davis et al., 2018). A possible explanation is likely attributed to regular dredging of SCHs (Zhang et al., 2019a). Fisheries and Oceans Canada provide annual funds for maintenance dredging to allow for vessels' safe navigation (Walker et al., 2013). In the context of divestiture, these contaminants could be a deterrent. Although the process can allow for community ownership, the burden of financial and environmental responsibility ultimately falls on the third party, especially when there are potential risks of sediment contamination (Walker et al., 2015).

In addition to contaminant research, two studies by Greenan et al. (2018) and Greenan et al. (2019) examined SCHs across Canada concerning infrastructure vulnerability and climate change. These studies further add to the need to create a robust index using three scales: exposure, infrastructure, and socio-economic, and generate more knowledge surrounding the condition of SCH infrastructure and the effects of climate change on these facilities.

2.2 Social Sciences Research

The field of social sciences research is the primary focus of this study. Several accounts, reports, and academic research regarding SCHs in Canada, but many are older and not readily accessible to the public. This section will provide a detailed overview of key references to set up the current understanding of social research into SCHs in Canada. The findings from this review indicate key trends spanning over several decades noted by journalists, consultants, academia, and the federal government.

2.2.1 Infrastructure

Ralph Surette (1982) provided a detailed account of fishing wharves in Canada, focusing primarily on Atlantic Canada. The article highlighted the critical role fishing harbours have in their community. Surette (1982) noted that harbour funding was crucial for a thriving fishery, but many facilities did not receive adequate monies for some harbours. To add to the uncertainty, funding was fuelled by political connections. Surette further recalled that fishing wharves at this time were in poor condition, and the federal government investment must be doubled to keep the harbours functional. Moreover, siltation was a significant problem wharves face, and dredging should occur three to four times a year. A build-up of sand can cause damage to the vessel. Additionally, harbours in this region were not safe at low tide as some harbours experienced dry conditions. Another problem harbours faced was the changing fishing industry and the need to replace harbour infrastructure. The article emphasized that the sea does destroy wharves. With proper maintenance, the life span is 40 years, as opposed to no repairs, the expectant years of use are closer to 20. The report makes clear the only known fact going into the future is that the sea will cause damage to the harbours and its facilities (Surette, 1982).

Inquiry into coastal infrastructure remains a point of interest 40 years later. Cisneros Linares' (2012) master thesis investigated coastal infrastructure, specifically working waterfronts, in Nova Scotia, intending to suggest improvements for these sites using the criteria based on a coastal infrastructure assessment tool. Representatives from the Fisheries and Oceans Canada SCH division were asked for their opinions regarding adding socio-economic values to this assessment tool. This research demonstrates that more consideration is required to include other factors into the coastal infrastructure assessment and that working waterfronts possess social and cultural values.

2.2.2 Socio-economic Role

Two fundamental studies examined SCHs and their importance outside of the commercial fishery. A report by Lam and Gislason (2003) provided findings to Fisheries and Oceans Canada on the socio-economic importance of SCHs in British Columbia, Canada. The consultants conducted interviews with SCH harbour authorities and analyzed SCH documentation to understand the economic and community significance of the province's SCHs. The findings from their report indicated SCHs in British Columbia held a significant economic value concerning the gross domestic product, employment, and wages. When these outcomes were considered indirectly, there was a considerable multiplier effect on local goods and services. From the community side, SCHs are a vital part of life for these communities. The SCH sites hosted their community's activities and held independent events such as festivals and leisure activities (Lam & Gislason, 2003).

Research by Currie et al. (2012) provided a detailed qualitative inquiry to SCH in Canada. Their work examined whether five SCHs in British Columbia could harness tourism operations through interviews with key informants. The selection of SCHs for the study was in low, population-dense settlements. The study found that not all SCHs were set up to provide touristic amenities. The researchers argued that establishing SCHs as tourist destinations will diversify the local economy. For tourism to be a reality at SCHs, the federal government must change the SCH mandate to include tourism as one of the program's objectives (Currie et al., 2012).

Currie et al. (2012) also indicated that SCHs were an integral part of supporting the greater community through businesses that cater to this industry, such as repair shops, storage facilities, and employment of stevedores at wharves. If the wharf failed, the fishers would suffer, and so would the associated offshoots created by the presence of the wharf.

An essential point of this research found SCHs facilities were intertwined with the local community. Residents see the sites as just as they would with other community infrastructure, and SCHs were a prominent gathering place for residents (Currie et al., 2012).

2.2.3 Divestiture

Toews' (2005) report on coastal management detailed a section dedicated to SCHs and site loss due to divestiture. A key theme emerging from Toews' (2005) focus groups were participants' concern about losing access to the ocean because of divestiture. The report identified that SCHs were essential to communities to provide economic resources such as the commercial fishery. The participants also noted SCH divestiture was contributed by federal policy and coastal infrastructure. As a result of the divestiture, communities or organizations were left to find financial resources to support their SCH. But for many, this task was too great, and the facilities fall into disrepair (Toews, 2005).

2.2.4 Harbour Management

A research report by MacInnes et al. (2006) explored SCH volunteer management and fatigue in Nova Scotia. The research included telephone interviews, sustainability meetings, and training workshops. However, this report is not readily available online and is missing several pages.¹

2.2.5 Summary of Physical and Social Science Research on SCHs

There is comprehensive research available that deals with the physical sciences regarding risk management and pollutants at SCHs in Nova Scotia. However, there is a knowledge gap within the Nova Scotian context about SCHs and their role in their users'

¹ MacInnes et al. (2006) is only available partially online. I contacted Dalhousie Document Delivery to see if they could locate a complete report but were unable. Therefore, this study only used the pages available.

and community's livelihoods. This deficit provides an opportunity to gain new and valuable insights into this sector. Using research about fishing as an identity will assist this project frame SCHs as an entity that embodies many identities. Fishing as an identity in this research means viewing fishing as part of one's everyday life, which can assist in estimating the importance SCHs have in users' and communities' daily life.

One of the most recent federal government commentaries on this topic came from the Standing Committee of Fisheries and Oceans (2019), who released a report entitled "Ensuring the sustainability of the small craft harbours program." The report encompassed several themes surrounding funding, communication, different knowledge systems, the role of harbour authorities, infrastructure, divestiture, and the varying use of the facilities. The report outlined 14 recommendations based on testimonies from participants across Canada in 2018 for the federal government to act upon these findings. The recommendations included for the federal government to improve communications with harbour authorities, conduct regular meetings with vested interests related to the operational efficiency of the SCH, training for SCH volunteers, a consistent maintenance policy, and recognize the role of recreational harbours have on their communities (Appendix One; Standing Committee of Fisheries and Oceans, 2019).

Overall, there is little current academic research on the social aspect of livelihoods and SCHs in Nova Scotia. There is only one academic study regarding the potential benefits of using the sites as tourist attractions (Currie et al., 2012) and a consultant's report on the socio-economic importance of SCHs (Lam & Gislason, 2003). However, both articles deal with SCHs in British Columbia. The other social sciences studies only provide a brief overview of this topic, and most of the research was done more than 15 years ago.

2.3 Fishing as an Identity

In viewing identity, social identity theory can assist by defining what is meant by a shared group identity. According to Hogg (2018), social identity theory attempts to determine how individuals view themselves within a collective group and the links which bridge each person together. Within this theory, the "... group exists psychologically if three or more people construe and evaluate themselves in terms of shared attributes that distinguish them collectively from other people" (Hogg, 2018, p.112). Therefore, the group would refer to themselves as a fishing community with members identifying with this label. For context on this perspective, examining the available literature on fishing and identity will assist how people frame community members' connection with fishing.

Framing fishing as an essential part of an individual's and community's identity assists this research because SCHs are part of users' livelihoods and shape how they interact with the site. Therefore, leveraging this knowledge, I can indicate the role and importance SCHs have on their users and community. The literature on this topic suggests areas of agreement that positively correspond to fishing impact one's identity and community. Although the field is vast and emerging, there is one underlying theme between all the studies presented in this review. When fishing is removed or reduced from the community, parallel changes affect the community's identity and individuals.

From a general community perspective, research by Brookfield et al. (2005) conducted in the East Coast of the United Kingdom defined fishery-dependent communities as "...a population in a specific territorial location which relies upon the fishing industry for its continued economic, social and cultural success" (p. 57). One of the key findings from this study found communities dependent on the fishery have an evident commitment at the local level to support the industry through economic and

political action to ensure a successful future. Therefore, this evidence demonstrates fishery-dependent communities identify with the fishery, not just among fishers, for their overall well-being.

A study in Cornwall, United Kingdom, by Urquhart and Acott (2014) found evidence to corroborate Brookfield et al.'s (2005) claim. Among several results, fishing defines an individual and is also the identity for households and communities; in this sense, fishing is the daily fabric of life. Their research indicates that a fishing identity is part of the social cohesion mechanism and extends beyond the fishers and into the community. As a result, fishing's cultural process is embedded into the collective social identity of those who live there. Furthermore, the physical harbour location is closely connected with the community; the site is part of the community's identity and wellbeing. One participant noted that the fishing sector supports fishers and contributes positively to the community, such as maintaining the local school (Urquhart & Acott, 2014).

Harbours are also crucial from a tourism perspective because of the draw wharves bring. Therefore, having modern and operational harbours demonstrates an activity not from the past but is critical for residents' livelihoods. Because of fishing, communities can remain. However, if the industry changed negatively to harm fishers, participants in the study said that would alter the community's identity (Urquhart & Acott, 2014).

2.4 Sense of Place

Sense of place in the broadest form is understood by Urquhart and Acott (2013) to encompass "...the meanings people associate with places, which are socially constructed as a result of emotional, behavioural and experiential phenomena." Other researchers indicate that including the biophysical elements must be included in this criterion (Stedman, 2003;

Urquhart & Acott, 2013). Stedman (2003) stated that the sense of place understanding must consist of an environmental component:

Empirical research, however, has neglected the role of the physical environment, focusing on place meanings and attachment as products of shared behaviors and cultural processes. This article addresses this disconnect, suggesting that the physical environment itself contributes to sense of place through specifiable mechanisms. Although social constructions are important, they hardly arise out of thin air: The local environment sets bounds and gives form to these constructions. (Stedman, 2003, p. 671)

Therefore, various factors must be acknowledged and included to establish a proper, holistic definition of a sense of place. With these factors, one can determine how people relate and identify to their surroundings.

Sense of place is applied widely in fishery research. Acott and Urquhart (2014) examined the role of the fisheries in the United Kingdom and France. They identified how individual perspectives shape the community, how one identified with a location, and provided a human and environment relationship perspective. The researchers argued that fishing was a relational network. Catching the species occurred in the marine environment, but on land, businesses were set up to deal with the buying and processing of the fish or shellfish and amenities to cater to the vessels and fishers. As a result of this fishing network, the community, in general, developed shared identities and values around the fishery. Further to this point, the researchers discovered that when fishing took place in large centres, the importance of fishing was minute because there was another economic activity to support the region (Acott & Urquhart, 2014).

Williams (2014) used the term identity to understand the social and cultural elements of fishing and the impacts related to the actions of restructuring the fishery on fishing communities in northeast Scotland. The study aimed to find how fishing identities were manifested and what happened to these identities during fishery policy restructuring. Using semi-structured interviews with those connected with the fishery, Williams (2014) attempted to understand what a fishing community's identity means among community members who create and execute fishing identities and determine if other community members share these identities. From the results, a notable reference comes from the employment the fishery provides. Not only are there direct jobs, but many indirect jobs arise to assist all levels of the commercial fishery, which positively impacts the economy (Williams, 2014).

Williams (2014) also noted that when the fishing activity declined, so did the community. The main reason for this decline was due to a lack of contribution from young fishers entering the industry. As a result of the decline, the community suffered. For example, the community spent less money, and fewer socialization events occurred within the community. Overall, with fewer fishers, the harbours were now used for other purposes, such as for recreational activities (Williams, 2014).

Continuing with the theme of a sense of place and identity, a study by Khakzad and Griffith (2016) examined the connection between fishers' sense of place and the link with their community expression of fishing tradition through material culture and heritage from four fishing communities in North Carolina. The hypothesis tested was whether "...there is direct correlation between community sense of place and their amount and quality of heritage and traditional working waterfronts preservation" (Khakzad & Griffith, 2016, p. 96). In other words, they examined the potential impact of the fishers' sense of place by

their community's constructed heritage and cultural artifacts regarding fishing. Khakzad and Griffith (2016) found that economic importance was not the only indication of place attachment. Instead, other qualitative factors, such as cultural heritage, will further expose someone's place attachment. Participants in this research also suggested tourism may assist them economically (Khakzad & Griffith, 2016).

The study found three key areas explaining why people fish: the enjoyment the career brings, they have a family business or connections in the fishery, and/or it is their livelihood (Khakzad & Griffith, 2016). The findings from Khakzad and Griffith's (2016) study indicate the following:

Fishing material culture, including fish houses, boats, docks, etc., are significant for fishermen and their communities in sense [sic] that they represent their authentic activities, and they feel these items and places are repositories of history and memory, representing their individual and community's identity and sense of place.

These buildings and sites are landmarks that form their traditional environment. (p. 111)

The passage from Khakzad & Griffith (2016) demonstrates the tangible and intangible value the physical component fishing held for their users and community in terms of collective belonging with the community at large. The physical structures are a reminder of the shared histories the fisheries provide for the community.

A study by Brown (2015) incorporated both sense of place and fishing in Nova Scotia. Brown's (2015) master's thesis examined the adaptive capacity of the commercial fishery among communities of Nova Scotia's South Shore concerning climate change using a sense of place framework. One of the key findings from this study determined that

sense of place impacts adaptive capacity with climate change. In addition, socio-economic factors affect the relationship users have with their coastal infrastructure.

The fishing themes linked to one's identity and the community at the macro and micro levels demonstrate the economic connection between fishing and the fisher or the region, and how the activity is intertwined with the culture and heritage of the area are key literature findings from this review. This research will use these ideas to determine if SCHs in Nova Scotia are understood in a similar realm.

2.5 Theoretical Framework: Sustainable Livelihoods Approach

Using a theoretical framework guides the formulation and interpretation of the semi-structured interview framework and data analysis. The sustainable livelihoods approach allows me to identify the role that SCHs play in users' or community lives and the value of SCHs in Nova Scotia. This framework will be applied to data analysis to see how SCH users utilize these facilities for their livelihood strategies.

According to Allison and Ellis (2001), the origin of the sustainable livelihoods approach is a response from rural families coping with natural and social plights and the differences among families to deal with these stresses on their livelihoods. The approach focuses on community development, with six core concepts identified as people-centred, holistic, dynamic, building on the community's strengths, understanding the macro-micro links which impact daily life, and viewing sustainability as fluid and understood within the local or cultural context (Department for International Development, 1999a; Hinshelwood, 2003; Allison & Horemans, 2006). The framework attempts to point out whether a livelihood is sustainable if it allows households to improve their living conditions and/or reduce vulnerabilities while maintaining the natural resource assets of their environment (Allision & Horemans, 2006).

The main component of the sustainable livelihoods approach is the capital assets. Capital assets are financial, natural, human, social, and physical resources and assist in identifying areas of concern or desire for development (Hinshelwood, 2003). Capital assets allow households to formulate livelihood strategies (such as mobility or migration) to have better living conditions for survival (Allison & Horemans, 2006). Capital assets must be kept in equilibrium to ensure one asset does not impair another asset (Charles, 2012). When faced with vulnerabilities, the households apply their capital assets, or in some cases, may require the household to increase their capital assets to create a coping strategy (Rakodi, 2002). Table 1 defines each capital asset according to the Department for International Development (1999b).

Table 1: Summary using the information provided from the Department for International Development to describe at a high level what each capital means (Department for International Development, 1999b).

Capital assets	Definition
Financial	Do households or individuals have enough financial resources to carry out their livelihoods? There are two primary sources of money: what the person has available to them and the inflow of money (i.e., pensions).
Natural	Encompasses both the tangible and intangible aspects of the environment spanning from the atmosphere, cycles, and resources. These aspects are critical to relying on natural capital assets for their industry, safety, and health.
Human	This asset is important and viewed as the foundation for the other capital assets because it is a prerequisite for achieving the other assets. The capital asks whether the household/individual has sufficient knowledge, skills, health to participate in the labour force?
Social	Social capital refers to connections through memberships, associations, or relationships that a household/individual can draw upon for resources to improve their livelihoods. With this capital, people may be called upon to help others in times of distress.
Physical	Do households or individuals have the infrastructure and equipment necessary to sustain their livelihood?

Furthermore, the sustainable livelihoods approach can explain how influential and effective policies, institutions, and processes provide or deny livelihoods (Serrat, 2017). Policies, institutions, and processes are accessible to households with enough capital assets to affect change (Allison & Horemans, 2006). Policies, institutions, and processes are found at all levels ranging from household to international levels (Department for International Development, 1999b).

The framework further includes different forms of vulnerability (shocks, seasonalities, and critical trends) that exist and can impact a household’s livelihood (Allison & Horemans, 2006). The vulnerability aspect allows me to investigate any barriers for fishers and their communities to achieve their desired livelihoods. Figure 3 illustrates the different aspects of the sustainable livelihoods approach. Each of these components assists in helping identify whether SCHs enhance (provide) livelihoods or threaten (deny) livelihoods.

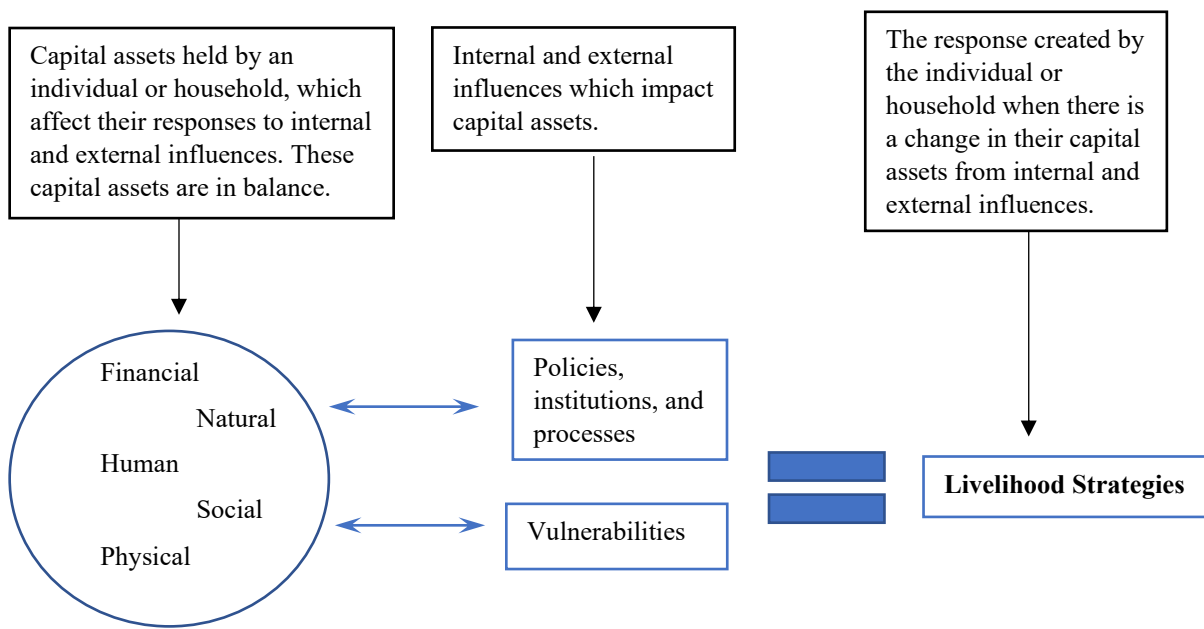


Figure 3: Simplified diagram of the sustainable livelihoods approach. The figure above shows the key aspects of the sustainable livelihoods approach. The capital assets are ideally all in equilibrium, and the individual or household can maintain their livelihood strategies. The capital assets are influenced by two sources policies, institutions, and processes, and vulnerabilities. These two influences thus impact one’s capital assets and require a change in livelihood strategy (adapted from Department for International Development, 1999a).

The sustainable livelihoods approach has been used successfully across disciplines, including fishery policy development in West Africa (Allison & Horemans, 2006). Also, through a review of articles, Ferrol-Schulte et al. (2013) found that the sustainable livelihoods approach has also been paired with a coastal and marine social-ecological system research to understand beneficial and failing resource management practices.

Scholars do indicate the limitations of using the sustainable livelihoods approach (Ferrol-Schulte et al., 2013; Serrat, 2017). Primarily, the issue surrounds the risk of gathering too much data and the inability to make general statements. The approach is only a snapshot of a particular moment in time for the sample population (Ferrol-Schulte et al., 2013). Additionally, the approach fails to address how improving one group's livelihoods can impact another group's livelihoods (Serrat, 2017). Despite the downsides established, the sustainable livelihoods approach obliges the researcher to look at all angles and see a heterogeneous community (Serrat, 2017).

2.6 Conclusion

Understanding past research on SCHs and contextualizing this study within the realms of sense of place and identity, along with utilizing the sustainable livelihoods approach, will infer if these SCH facilities assist or deny livelihoods. Additionally, these perspectives can inform the research if opinions are shared across Nova Scotia.

3.0 Chapter Three: Methods

This chapter will provide a detailed overview of the two methods used to gather data. Each method is discussed with the first method described, the media analysis, which details the background information, inclusion criteria, and approach to collect articles. The second method is semi-structured interviews. This section will outline the purpose of utilizing this method, the recruitment and selection of participants, and performing the data analysis.

3.1 Media Analysis

As evidenced in Chapters One and Two, small craft harbours (SCHs) are vital for the regional and global economies, communities, and local cultures (Fisheries and Oceans Canada, 2019). The available literature on this topic includes several natural science studies conducted about SCHs in Nova Scotia (e.g., Walker et al., 2015; Davis et al., 2018; Davis et al., 2019; Zhang et al., 2019a; Zhang et al., 2019b). However, there are fewer qualitative studies related to SCHs. Lam and Gislason (2003) and Currie et al. (2012) investigated SCHs in British Columbia and their effect on users, the community, and the economy. While in Nova Scotia, there are two studies about different characteristics of SCHs: MacInnes et al. (2006) and Cisneros Linares (2012). Each study tackles a different aspect of SCHs in Nova Scotia, volunteer fatigue and coastal infrastructure socio-economic values, respectively. Yet, the issue remains that none of these reports deeply explore the facility's value for the users or their community. Therefore, to gain a better understanding of the role SCHs, additional lines of evidence are required. A media analysis can supplement this knowledge gap and collect different perspectives on SCHs in this region.

Conducting a media analysis will provide secondary data to this study which will assist in understanding the current and past situation SCHs in Nova Scotia face. The media analysis will provide additional voices absent from the primary data collection and triangulate the data. This chapter will provide a detailed overview of the logistics of a media analysis and how the data were selected and coded.

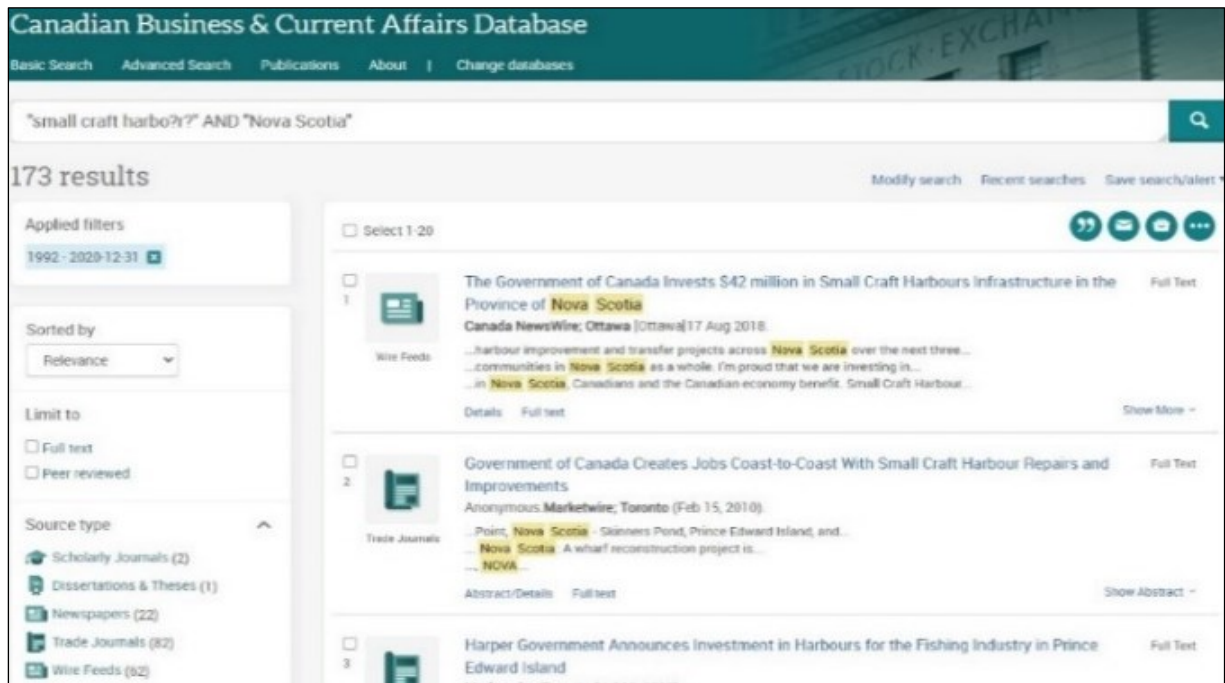
A media analysis is part of the larger content analysis domain (Macnamara, 2005, 2018). Media analyses utilize news articles, and in some cases the photographs, to elicit information. Employing a media analysis has two primary purposes. First, discover new insights, and second, verify current knowledge (Carroll & Rosa, 2016). Krippendorff (1989) first suggests designing the project by outlining the objective to be answered to conduct a scholarly media analysis. Then, determine what databases will be sampled. Next, locate the articles on the databases using advanced search options. Once the articles are obtained, code the articles and validate results (Krippendorff, 1989).

There are two key benefits of conducting a media analysis. First, I can identify perspectives without contacting people and examine opinions over time to track changes (Macnamara, 2018). Second, a content analysis can substantiate findings from other methodologies (Krippendorff, 1989), such as the semi-structured interview data presented in Chapter Three.

Utilizing a media analysis is not new to social science research to further understand issues from alternative sources. This method has been used across various fields, including health (e.g., Claassen et al., 2012; David et al., 2017; Ford et al., 2020; Jenkins et al., 2020; Li & Zheng, 2020), forest management (e.g., Ranacher et al., 2019), framing human-wildlife interactions (e.g., Bhatia et al., 2013), and communication

disciplines (e.g., Ha & Riffe, 2015). These examples of studies use either a qualitative or quantitative approach to conduct their analysis.

To determine what databases to review and search for relevant articles, I consulted a Dalhousie University librarian. After the consultation, I used the Canadian Businesses and Current Affairs (CBCA) database and Eureka to find news articles about SCHs in Nova Scotia. For this media analysis, I only included text from the articles and did not other forms of media such as video or audio. I included results that were either a media article (i.e., newspaper) or a media release from the government about SCHs. For the date range, I went as far back as the database had information. Figure 4 outlines the search terms and a sample of the articles retrieved from the search on February 8, 2021. These pictures assist in further showing how the articles were found for future reproducibility.



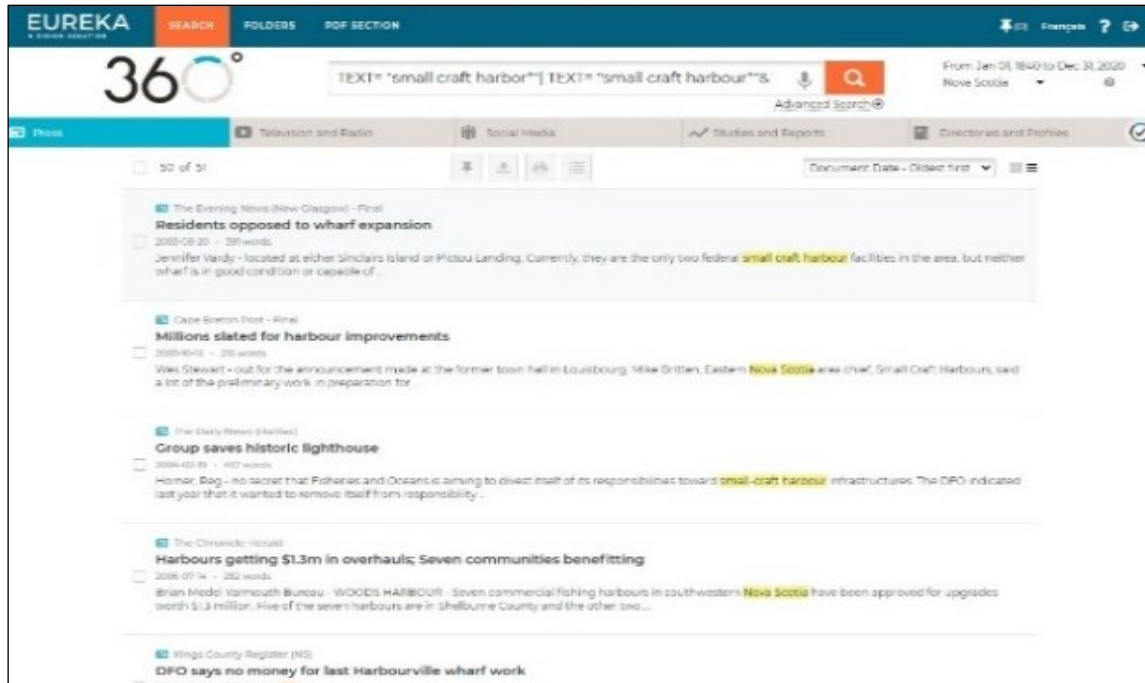


Figure 4: Screenshots of the CBCA (top) and Eureka (bottom) database searches from February 8, 2021.

3.1.1 Data Analysis

The action of assigning text to a category or theme is referred to as coding. A coding book is recommended to ensure coding reliability and consistency throughout the research. The coding book consists of guidelines and notes to reduce human subjectivity. Although cultural factors will impact the coding process, these biases should be noted in the research documentation (Macnamara, 2018). I coded the articles, performing three rounds of coding to ensure I captured all the categories and codes appropriate for this research. I followed a coding guide to guarantee I coded text to the correct category. To assist in coding the articles correctly, I followed van den Hoonaard's (2015) advice on starting to code data. van den Hoonaard suggests taking an open coding approach. Open coding for this research means the following:

...labelling the themes that you find in your transcripts or field notes. At this early stage, do not try to narrow down what you are looking for and do not limit your codes to what seems relevant to your research questions. Do not decide on your

codes in advance, or you may lose the richness of your data and, in fact misrepresent them...Later, you will revise and improve on these initial codes. (van den Hoonaard, 2015, p. 160)

Using van den Hoonaard’s (2015) guidelines provided the essential foundation to code news articles in this media analysis. Coding the articles utilized the computer software *NVivo 12 Plus* (QRS, 2018). Out of the 224 articles retrieved from the CBCA and Eureka databases, 88 articles were deemed suitable to code and categorized (Table 2).

Table 2: Detailed overview of database searches from February 8, 2021.

Database	Search Terms	Search Criteria	Date Range	Number of Articles Retrieved	Number of Articles Kept
CBCA	“small craft harbo?r?” AND “Nova Scotia”	None applied	January 1, 1992- December 31, 2020	173	63
Eureka	TEXT= "small craft harbor*" TEXT= "small craft harbour*" & TEXT= "Nova Scotia"	<ul style="list-style-type: none"> • Source type: Press • Geographical origin: Nova Scotia 	January 1, 1840- December 31, 2020	51	25
				Total: 224	Total: 88

Each media article was coded using an inductive approach. This process means no predefined theory or organized structure was going into the coding process. Coding the articles was an organic process, with themes emerging as more articles become coded. This framework is similar to Ford et al. (2020), who used the same coding software. Ford et al. (2020) first became familiar with the text by noting ideas and themes. This step became the basis for the coding framework. Codes were generated line-by-line and grouped according to the research question (Ford et al., 2020). This data set did not use a theory or predefined framework because the objective was to gain background information and themes emerging over a temporal period.

3.1.2 Inclusion and Exclusion Criteria

All the media articles were unique, and this situation made determining which ones to exclude became difficult. I first cast a wide net of inclusion requirements. Articles must relate to SCHs in Nova Scotia and provide significant details about the site, event, or proposed funding. I included SCHs in Nova Scotia when articles discussed SCHs across Canada but had to discuss a specific SCH in Nova Scotia to be included. I did not include articles that presented general statements, such as the government is providing money but not detailing where or who is receiving the funds. I did not include top news advisories as I did not view them as news articles or media releases. To determine whether an article will be kept, I used the article's abstract to see if the articles matched the inclusion criteria. Figure 5 is an illustration of a few articles included in this analysis. The figure assists in not only providing a glimpse into the different topics covered in this analysis and acts as another form of transparency for future researchers to see what type of media articles were included if they perform an identical study.



Figure 5: Example of media articles headlines included in this media analysis.

Some articles had several parts to them: an abstract, full text, background, quick facts, and for broadcast section. Not all articles shared these sections, and deciding what to include would impact the research. Therefore, I excluded the abstract because that was identical to the text appearing in the rest of the article. The abstract was a feature of the CBCA database and certain news outlets and did not appear on the Eureka articles.

3.1.3 Addressing Repetitive Text

A significant issue incurred during the coding process was repetitive text appearing within and among articles. As mentioned, the abstract for articles contained sentences extracted from the main text. This text was identical and not coded. If the repetitive text (—not in the abstract)— appeared throughout the article, it was coded accordingly to the previous text.

Another critical issue was articles that appeared in more than one newspaper. Acknowledging that the more times the article is printed in different newspapers does show the interest or importance of that topic, this results in duplicating what was already said. To address this problem, I removed the same articles but indicated how many times that article appeared in the media in the results section. Only identical articles were removed, and articles written differently but closely resembling other articles remained in the pool of articles.

There were two instances in which news articles mirrored similar language but had a few notable differences. These news articles remained in the data collection pool because of their subtle differences. Each article was coded appropriately using a chart that detailed the phrase and codes applied. Table 3 illustrates the details of similar articles. The second and third instances are of importance to explain. Regarding the second instance, the article from August 17, 2018, is a press release announcing the funding amount and purpose. The other article follows up on the press release and asks a Fisheries and Oceans Canada official which SCHs will receive the funding. The third example of similar articles is a government press release and a local news story about the funding. With the third instance, the author highlights critical aspects of funding announced by the federal government in the press release on May 2, 2009.

Table 3: Three instances where media articles were written similarly or relate closely to each other and were coded accordingly.

Instance Number	Name of Articles	Author	Date	Source
First	MacKay announces federal funding for maintenance of containment cell at Skinners Cove	N/A	13-01-2015	<i>Truro Daily News</i>
	Government announces maintenance of containment cell at Skinners Cove Harbour	N/A	14-01-2015	<i>The Advocate</i>
Second	The Government of Canada invests \$42 million in small craft harbours infrastructure in the province of Nova Scotia	N/A	17-08-2018	<i>Canada NewsWire</i>
	The Government of Canada invests \$42 million in small craft harbours	N/A	22-08-2018	<i>The Reporter</i>
Third	Canada's Economic Action Plan: New small craft harbour projects in Nova Scotia will strengthen the local economy and create jobs	N/A	02-05-2009	<i>Marketwire</i>
	Money for rink, wharf and tall ships	Jennifer Vardy Little	04-05-2009	<i>The Evening News (The News)</i>

The other characteristic of news articles was whether there were duplicates of the same articles, and if so, how many and where did they appear. Of the 88 unique news articles, nine appeared in other sources. Table 4 details the unique article with the number of times it appeared and the other news outlets. It is beyond this project's scope to investigate whether the additional news outlets belong to the same parent company. However, this insight provided from Table 4 indicates that many news outlets are interested in events occurring at their SCH. That could be attributed to news outlets belonging to one large corporation. Also, some articles reappeared in the same news a few days or months later.

Table 4: Names of media articles retained and where their duplicates were located during the database searches.

Name of Article Retained	Author	Date	Source	Name of Duplicate	Author	Date	Source(s)
Federal government to invest \$6.9 million in West Nova small craft harbour projects	N/A	11-10-2016	<i>Truro Daily News</i>	Federal government to invest \$6.9 million in West Nova small craft harbour projects	N/A	11-10-2016	<i>The Shelburne County Coast Guard</i> <i>The Digby County Courier</i> <i>The Yarmouth County Vanguard</i> <i>The Journal Pioneer (Summerside, Prince Edward Island)</i>
Wharf funds for Cape Sable	Kathy Johnson	24-10-2006	<i>The Coast Guard</i>	Wharf funds for Cape Sable	Kathy Johnson	02-01-2007	<i>The Coast Guard</i>
Feds invest \$42m in N.S. small craft harbours	Alex Cooke	18-08-2018	<i>Chronicle Herald</i>	Ottawa invests \$42 million to repair and restore N.S. small craft harbours	Alex Cooke	17-08-2018	<i>The Canadian Press</i>
N.S. lobby group to convene forums on crumbling coastal wharfs	N/A	20-03-2005	<i>Canadian Press NewsWire</i>	Dozens of structures are falling apart: N.S. lobby group holding forums to discuss crumbling wharfs	N/A	23-03-2005	<i>Daily Commercial News and Construction Record</i>
MacKay announces federal funding for maintenance of containment cell at Skinners Cove	N/A	13-01-2015	<i>Truro Daily News</i>	MacKay announces funding for maintenance of containment cell at Skinners Cove	Sueann Musick	13-01-2015	<i>The News</i>
Local wharf in for upgrade	Sueann Musick	18-04-2015	<i>The News</i>	Local wharf in for upgrade	Sueann Musick	17-04-2015	<i>Truro Daily News</i>
Federal government will invest \$49M in Nova Scotia harbours	N/A	20-05-2016	<i>The Chronicle Herald</i>	Fisheries; Feds pour \$49m into N.S. harbours ²	Andrea Gunn	21-05-2016	<i>The Chronicle Herald</i>
Wharfs visited by federal committee	Kathy Johnson	20-06-2018	<i>The Tri-County Vanguard</i>	Wharfs visited by federal committee	Kathy Johnson	19-06-2018	<i>NovaNewsNow</i> <i>The Yarmouth County Vanguard</i> <i>The Shelburne County Coast Guard</i>
Wharf work underway	Kirk Starratt	17-05-2017	<i>Annapolis Valley Register</i>	Wharf work underway	Kirk Starratt	09-05-2017	<i>Kings County News</i> <i>Hants Journal</i> <i>The Annapolis County Spectator</i> <i>NovaNewsNow</i>

² This media article appeared in both the CBCA and Eureka searches.

3.2 Semi-structured Interviews

Semi-structured interviews provide valuable insight into the different perspectives surrounding SCHs in Nova Scotia. The primary data obtained from conversations with SCHs users will complement the media analysis findings in Chapter Four and provide a current and personal view. This section will outline the reasoning for using interviews for this research and the approach.

This research used semi-structured telephone interviews to engage with participants in a conversational way that is both respectful and fruitful in generating data. Interviews provide more rich information than opposed to surveys, and the researcher can probe the participant further. Therefore, according to Adams (2010), interviews can provide new insights beyond those anticipated. Yet, at the same time, semi-structured interviews offer me control of the data I seek and allows the participant to express their opinions in a space where we both can build off new ideas (Bernard, 2011).

As with any research method, there are benefits and challenges. According to Diefenbach (2009), semi-structured interviews provide an avenue of flexibility and creativity and allow the researcher to interpret their data as they wish. However, concerns arise with the researcher's subjectivity and drawing inappropriate conclusions without grounding the research with a theoretical framework and not presenting the study's societal context (Diefenbach, 2009). Bernard (2011) further cautions researchers about the potential pitfall of boredom and fatigue associated with relying on only semi-structured interviews. As the interview process develops through the fieldwork season, there is a chance of less effort exerted in both asking questions and the quality of transcriptions (Bernard, 2011).

Data gathering ends when the researcher determines they have completed enough interviews to answer the research question. The quality of qualitative research, such as

interviewing, is thus constrained to two critical elements: the quantity of the interviews and the timeline to complete the research (Diefenbach, 2009). Each element impacts the other regarding how much data can be obtained in a certain timeframe that is useful for the researcher to answer the research question.

In a thematic review of papers using semi-structured interviews, Kallio and colleagues (2016) found five phases of development to create a robust interview guide. The first was to determine whether interviews were appropriate for answering the research question. Second, obtaining knowledge related to the research question. Third, creating a draft interview guide, and fourth, testing the interview guide with colleagues, experts, or the target population. And fifth, including the interview guide in any future publications to demonstrate transparency and potential replication by other researchers (Kallio et al., 2016).

I initially planned the interviews to be in-person. However, the decision to conduct the interviews via telephone arose because of the COVID-19 pandemic and the public health order in Nova Scotia to refrain from gatherings with individuals outside your household and practice physical distancing from other individuals when in public (Nova Scotia Government, n.d.). I selected telephone interviews over Internet video calls due to the inaccessibility of reliable Internet access in rural Nova Scotia, where many SCHs and individuals do not have access to or knowledge about video calling technology.

3.2.1 Recruitment

To ensure adequate representation, the selection of participants came from the three Fisheries and Oceans Canada regions: Gulf, Eastern, and Southwest (Figure 6). Fisheries and Oceans Canada supplied publicly available contact information along with locating contact information available online for all core, non-core, and recreational harbours in

Nova Scotia. Therefore, this study's harbours selection was selective because participants could only be recruited if their contact information was available. In total, the contact information was available for the Gulf region, which had 30 core and two non-core contacts, the Eastern region had 34 core and four non-core contacts, and the Southwest region had 67 core and seven non-core contacts.



Figure 6: Map of the three Fisheries and Oceans Canada regions in Nova Scotia. From left to right: Gulf region, Eastern region, and Southwest region (Fisheries and Oceans Canada, 2018c).

After compiling the contact information, I completed my Dalhousie University Review Ethics Board applications (Appendix Two). With the approval, I contacted the SCHs in June 2020. Due to the many SCHs in NS and a two-year timeframe to complete this Masters of Environmental Studies (MES) degree, I could not interview all the SCHs. Therefore, I contacted one core and one non-core harbour from each Fisheries and Oceans Canada region. To determine which SCH to contact, I listed the SCHs alphabetically and separated them into their respective Fisheries and Oceans Canada category and divided between core and non-core harbours in a Microsoft Excel worksheet with their contact information. Next, using the website random.org, which generates a number based on the input range to randomly selected what SCH to contact (Randomness and Integrity Services Ltd., n.d.). Using a talking script to introduce the research, I contacted five core and five non-core SCH representatives asking their level of interest in participating in this research and if I could interview 3-4 individuals at that particular harbour (Appendix Three). I

contacted the Southwest region first on June 23, 2020, because their lobster season ended at the outset of this research. I conducted the last interview on September 1, 2020, which gave me a total of 19 interviews with SCH users across 15 different SCHs. Table 5 indicates the participant and the SCH type they belong to. The purpose of this table is to provide context to the direct quotations from the participants. In terms of demographics, four participants were fishers, two were from harbour authorities, eight were both fishers and members of harbour authorities, three participants were recreational SCH users and members of harbour authorities, and two participants were contact people for the SCH (not SCH users or harbour authority members).

Table 5: Number of participants and the SCH type they associate with at the time of the interview.

Participant Number	SCH Type	Participant Number	SCH Type	Participant Number	SCH Type	Participant Number	SCH Type
1	Non-core	6	Non-core	11	Core	16	Non-core
2	Non-core	7	Core	12	Core/Non-core	17	Core
3	Non-core	8	Core	13	Core	18	Core
4	Non-core	9	Core	14	Non-core	19	Core
5	Core	10	Non-core	15	Core		

I followed Glogowska et al. (2011) methodology to begin the study by speaking with the interview participant about the synopsis of the study: introducing the researcher, providing an overview of the project (Appendix Four), obtaining consent from the participant, and explaining how the transcripts would be analyzed. I asked participants a series of questions about their experience and knowledge with SCHs and their divestiture perceptions (Appendix Five). Each interview lasted between 15 to 100 minutes.³ Once I completed the interview, I began the transcription phase.

³ Despite the range in interview length all the questions were answered. The 100-minute interview consisted of conversation not related to the research.

3.2.2 Transcription

I transcribed each transcript verbatim. To assist in this process, I used a custom Python command-line interface application created by Rockhopper (2020) that leveraged Google Cloud Platform Speech to Text. A private server hosted the application in Montreal to ensure the data did not leave Canada. When running the Python command-line interface application, it uploaded the local interview audio file recorded at 16khz or higher sampling rate. The application then transferred the audio file over a secure transport layer security connection to ensure privacy and data integrity. The application uploaded the file to the private server and transcribed audio recording by Google Cloud's Automatic Speech Recognition powered by Deep Learning. After the transcription, the audio text was returned over the secure transport layer security connection, ensuring privacy and data integrity. The automatic speech recognition server never retained logs or data after the transcription; the information only lived on the computer and was never permanently saved on the server. Once the server processed the audio, the application purged the audio file from the server, and no logs or metadata remained (Rockhopper, 2020). Next, I reviewed the text audio file twice to ensure accuracy. Once the transcription was completed, it was sent to participants for member checking.

3.2.3 Data Analysis

Coding the interview data used the software *NVivo 12 Pro* (QRS International, 2018) and a coding guide to ensure coding consistency. Coding used both a deductive (using codes generated from the sustainable livelihoods approach) and an inductive tactic to understand the data and elicit themes. By taking this procedure, themes arose both organically from the interview text and aided by using the sustainable livelihoods approach to obtain critical ideas.

3.3 Conclusion

Together these two methods offered vital insights into how users and communities view their SCH and the impacts the site has on one's livelihood. Despite the two different methods to answer the research question, this approach is not new. Bhatia et al. (2013) also used a media analysis to understand how the media framed human-leopard conflicts in Mumbai, India but complemented their findings with 17 semi-structured interviews with stakeholders on this issue. Combining these two methods can fill in gaps left by the other and provide a vast temporal framework of both past and present.

4.0 Chapter Four: Results and Discussion of Secondary Data Findings from Performing a Media Analysis

Results of the media analysis are presented in two different sub-sections. The first sub-section explores the news articles' bibliometrics, including the number, frequency, and themes. This sub-section will help contextualize the media articles and provide help supplement the themes emerging from data. The second sub-section investigates the developing themes from coding the news articles, which will help triangulate data from Chapter Five.

4.1 Sub-Section One: About the News Articles

News articles ranged in topics from funding announcements to concerns about divestiture. Out of the 88 unique news articles, 69 news articles were about the federal government providing funding to small craft harbours (SCHs) in Nova Scotia. The other 19 news articles were about different aspects of SCHs such as divestiture, contracts granted for construction, awards for the harbour authorities, weather, and public forums about the conditions of certain SCHs. There were no time frame constraints implemented (see above in Table 1). The only limitation was how far back each database could retrieve. The 88 news articles deemed appropriate for this study ranged from April 1997 to January 2019 and are illustrated in Figure 7.

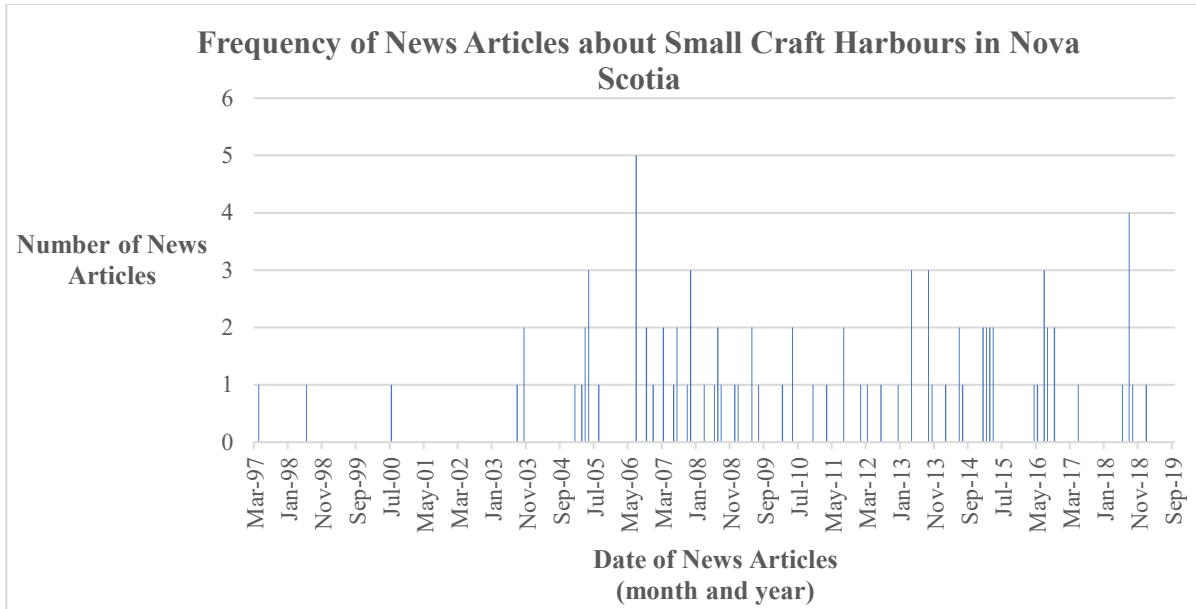


Figure 7: Graphical representation of when the news articles retrieved from CBCA and Eureka databases were published between April 1997 and January 2019.

4.1.1 Context of Certain Media Articles

There are three SCHs mentioned in the media articles that need clarification for their inclusion in this analysis: Harbourville, Margaretsville, and Gabarus SCHs.

Harbourville, featured in the article “DFO [Fisheries and Oceans Canada] says no money for last Harbourville wharf work” (Keddy, 2006), stated the SCH was divested in 1976.

However, the Harbourville wharf is not listed as a non-core harbour by Fisheries and Oceans Canada at the time of writing on their website (Fisheries and Oceans Canada, 2020). The second case is the Margaretsville wharf which appeared in the article “Small town goes big time [Margaretsville]” (Kulczycki, 1997). The article mentions a decline in government funding of the wharf but does not allude to the status. When writing these results, the Margaretsville wharf is not listed on the Fisheries and Oceans Canada website as either a core or non-core harbour (Fisheries and Oceans Canada, 2020).

The third case relates to the Gabarus SCH. There were two articles related to this SCH: “Residents say Cape Breton seawall is ‘one wave away from failure’” (Thomson,

2012a) and “Ottawa denies ownership of deteriorating seawall in tiny Cape Breton village” (Thomson, 2012b). The Gabarus SCH is listed as a non-core harbour and divested in 2001. However, the articles highlight the seawall’s ownership issue as it was not divested with the rest of the SCH in 2001. The lack of clear ownership to replace the seawall caused worry within the community and the federal government’s demands to fund a new seawall.

4.1.2 Multiple Media Articles Covering an Event

Although difficult to keep track of, several articles covered one event. Table 6 illustrates a few examples of articles published covering the same event. The frequent coverage of an issue provides evidence that funding for a particular region or SCH is essential and newsworthy. In all four examples, the articles’ relationship is that SCHs were receiving funds for improvements.

Table 6: Examples of multiple news outlets covering events about SCHs.

Example	Name of Articles	Author	Date	Source
Cape Sable Island	DFO [Fisheries and Oceans Canada]/Keddy announces federal investment of \$8 million at three fishing harbours in Nova Scotia	N/A	20-10-2006	<i>CCNMatthews Newswire</i>
	Wharf funds for Cape Sable	Kathy Johnson	24-10-2006	<i>The Coast Guard</i>
	Canada's new government announces federal investment at Lockeport Harbour in Nova Scotia	N/A	16-07-2007	<i>Marketwire</i>
Halls Harbour	The Government of Canada invests \$47 million in small craft harbours infrastructure in Nova Scotia	N/A	18-07-2016	<i>Marketwired</i>
	Hall's harbour wharf gets federal facelift	N/A	19-07-2016	<i>Chronicle Herald</i>
	Wharf work underway	Kirk Starratt	17-05-2017	<i>Annapolis Valley Register</i>
Harbours get \$1.3 million	Keddy announces federal investment of \$1.3 million at seven fishing harbours in Nova Scotia	N/A	13-07-2006	<i>CCNMatthews Newswire</i>
	Harbours getting \$1.3m in overhauls; Seven communities benefitting	Brian Medel	14-07-2006	<i>The Chronicle Herald</i>
The Government of Canada provides \$42 million	The Government of Canada invests \$42 million in small craft harbours infrastructure in the province of Nova Scotia	N/A	17-08-2018	<i>Canada NewsWire</i>
	Feds invest \$42m in N.S. small craft harbours	Alex Cooke	18-08-2018	<i>Chronicle Herald</i>
	The Government of Canada invests \$42 million in Small Craft Harbours	N/A	22-08-2018	<i>The Reporter</i>
	No particulars yet on small craft harbour funding	Jake Boudrot	29-08-2018	<i>The Reporter</i>

4.2 Sub-Section Two: Emerging Themes from the Media Articles

The following sections examine key themes found from analyzing the 88 media articles. The topics covered explore who is speaking in the articles, what projects are funded, why funding is essential, why SCHs are important, and the condition of SCHs. These themes and results will assist in understanding the role SCHs play and contextualizes areas of praise and concerns.

4.2.1 Who is Speaking?

A critical element of conducting a media analysis is understanding who is speaking, which can determine the media article's point of view (Douglas Gould and Company, 2004). This section aims to illustrate the dominant speakers that can impact conclusions about the content and results delineated from the articles.

Table 7 indicates the number of articles that had at least one identified speaker. For someone to belong to a group, the article must use quotation marks to show who is speaking and denote their affiliation. An individual can belong to more than one group if the article identifies them as so. Out of the 82 media articles, 79 articles have at least one reference to someone from the federal government speaking. The next spokesperson group was harbour authorities, with ten files referencing someone affiliated with a harbour authority. Despite the disproportional number of federal government speakers, the federal government's data provide their opinions on SCHs in Nova Scotia, not represented in Chapter Five.

Table 7: List of all the different speakers and the number of news articles in which they appeared.

Spokesperson	Number of Media Articles Which Reference this Theme
Federal Government	79
Harbour Authority	10
Resident	3
Community Societies	3
Fishers	2
Provincial Representatives	2

Table 7 also shows that other interests voice their opinion about SCHs, although this is a much lower frequency from this sample. Although the SCH is a federal program dealing primarily with fishers and harbour authorities, the provincial government,

community societies, and residents also voice their opinions about SCHs. Therefore, SCH interest has a broad interest base among various stakeholders across the province.

4.2.2 SCH Funding: Why are Funds Important?

Knowing that most media articles are related to funding announcements and that most speakers are from the federal government, what reasons do they provide for funding SCHs in Nova Scotia? Table 8 shows the six major themes identified from 78 media articles that reflect this theme. The most prevalent theme is to improve facilities to ensure users have what they need to support their SCHs and livelihoods, which are safe to carry out their activities. For example, the federal government stated in a media release that providing funding to SCH in Nova Scotia will significantly improve the facility and their community:

The Government of Canada is making investments in 22 Nova Scotia harbours in order to provide coastal communities with safer, more modern facilities in support of local fishing enterprises. (Marketwire, 2008)

In addition, investments are essential not only to improve the SCH, but to ensure the site is operational for many more years:

Investments in harbour facilities across northeastern Nova Scotia will ensure fish harvesters can operate safely and efficiently for years to come and will directly contribute to the Canadian economy. (“Feds invest in small craft harbour projects,” 2016)

The second common theme relates to the economics of the fishing industry. Funding is important because SCHs support the commercial fishery. Significant international trade deals are created based on these natural resources that rely on SCHs and employment generated from this sector to fulfill these agreements. SCH funding also helps

the economy not directly related to the fishery but helps provide local employment opportunities and stimulate the local economy. For example, when an SCH receives funding to improve the wharf, contractors are hired to carry out the repairs; thus, supporting local workers and companies.

Table 8: Key emerging themes as to why funding for SCHs is important.

Why is Funding Important?	Number of Media Articles Which Reference this Theme
	78
Improved Facilities	64
Economic	59
Fishery Economy	56
Stimulate Employment and Local Economy	25
Local Businesses	1
Government Commitment	54
Investing in Community and Livelihood	36
Length of Time	4
Future Research and Repairs	1

The third key finding is related to the federal government’s commitment. As most media articles relate to funding, a key phrase and theme repeated throughout was a government commitment to commercial fisheries or the federal government understanding the value investing has for this industry (e.g., MacKay, 2008; Goodwin, 2013; Marketwired, 2014; Marketwired, 2015). The federal government’s investment in SCHs demonstrates their responsibility to ensure safe harbours for users and maintaining the province’s economic prosperity. The messages indicate the government recognizes the value of SCHs and the critical operational facilities for users and their communities. Therefore, funding is their way of demonstrating this relationship and importance.

The fourth theme identified was the connection funding has with investing in both the community and the livelihood of those in SCH communities. Although closely connected with economic aspects, this social category sheds light on the impact SCH funding has on their communities. SCHs provide a source of identity for these communities

and shape the way of life experienced, and government funding keeps these social connections viable. Specifically, the funding is an investment that contributes to employment opportunities within the community, assists communities to earn a living, and the facilities will ensure the community remains prosperous. With the government investing in coastal communities, they provide a continuation of lifeways that have been in place for generations.

The fifth theme relates to funding importance because of the length of time to obtain the monies. Some SCHs wait many years just to get funds for one project. Therefore, when SCHs receive funding, it becomes worthy of sharing. The sixth theme, identified only once from the media articles, regards the funding's value in conducting essential SCH research. Although not prominent from the data, one can interpret that research projects are necessary to ensure proper repair projects address the issue.

4.2.3 SCH Funding: Projects Supported

The funding announced in the media articles stated various projects aimed at improving the overall SCH, including the wharf's condition and increasing the harbour depth, the money allocated to SCHs to provide safer facilities. Figure 8 displays common words used to discuss construction projects at SCHs. Throughout the media articles, a recurring theme is to invest in repairs, maintenance, construction projects, and dredging undertakings at SCHs. Many articles would delve deeper into what this would mean for the SCH in question, such as timelines and projects. Most of the improvement projects occurred at core harbours. Some media articles allude to repairs at non-core wharves but did not specifically state the projects; instead, they used statements like "repairs before divestiture" to indicate how the funding would be utilized.



Figure 8: Word cloud representing common themes said about funding SCH projects.

Taking Figure 8 one step further, the themes can be divided into three main categories: visible infrastructure, dredging, and research. Table 9 shows the category and a sample of critical words belonging to each classification from Figure 8. To contextualize some of the meanings, each category holds a brief explanation. However, this list is not exhaustive and should be consulted as a starting point for understanding the vast array of SCH projects. Further, analysis is required to grasp each word or category within its context correctly.

Table 9: Detailed breakdown of a few keywords in each category retrieved from Figure 6.

Visible Infrastructure Repairs	Dredging	Research
<ul style="list-style-type: none"> • Wharf work • Electrical • Breakwater • Marginal wharf • Floating wharves • Berthage/vessels/accommodate • Containment cell 	<ul style="list-style-type: none"> • Infill • Removal • Adequate basin depth • Re-dredging • Channel 	<ul style="list-style-type: none"> • Advance planning • Engineering • Environmental impacts • Studies • Design

The first category is visible infrastructure repairs. These are improvements to the SCH that are observable to anyone at the SCH. For example, repairing deteriorating sections of the wharf ensures users’ safety, fixing the breakwater, upgrading the electrical system, and mending the marginal or floating wharves for safety and capacity purposes. The articles also referenced increasing berthage for vessels due to an increase in size.

The second category is dredging. Dredging the harbour is essential maintenance upkeep to ensure the basin is deep enough to ensure vessels do not ground-out on the harbour floor. This process uses machinery to remove infill or sediment from the harbour. This process is essential to ensure safe usage and access to the SCH.

The third aspect is research. This category represents the planning phase for SCH repairs. Engineers usually conduct these studies to determine the best course of action for infrastructure improvements and the impact the SCH may have on the environment.

4.2.4 Why are SCHs Important?

Having established why SCHs are important financially to fund, logically, the next question is to determine whether these reasons extend to the general importance of SCHs. Table 8 indicates the main themes identified from the 88 media articles. The top two themes, economic and community/historical/people, align with the findings from Table 10, which will be discussed further in this analysis. In relation to the economic importance, SCHs are the financial hub for many coastal communities and are essential for the local

economy and province of Nova Scotia. Without these structures, the community’s well-being is at risk of failure because SCHs provide the necessary venue for employment both directly and indirectly. Without safe SCHs, one can assume that the network of activities that occur and rely on operational SCHs would decline (Acott & Urquhart, 2014).

Table 10: Themes indicating the importance SCHs have as indicated from the media articles.

SCH Importance	Number of Media Articles Which Reference this Theme
	74
Economic	69
Community/Historical/People	43
Safety	3
Tourism	3
Aesthetics	2
Environmentally	1
Access	1

Concerning the community/historical/people category, this classification is similar to the economic category, but more emphasis is placed on people, the community, and the shared historical stories or former importance of the SCH. SCHs are essential to maintain the community, many of which are rural or isolated, and important for the people both past and present to earn a living. SCHs also provide a venue for community involvement through harbour authorities that implement projects to maintain the harbour and provide a safe facility for community users. Overall, SCHs are crucial to the social fabric communities because people rely on these facilities for economic, safety, livelihoods, and part of coastal communities’ culture.

4.2.5 SCH Condition

The media articles used in this analysis did not speak significantly to the conditions. However, some articles did provide a brief description of the current infrastructure condition of the SCH. Table 11 highlights the various categories of SCH conditions found from the media analysis. It is important to note that many news articles identified issues

with the SCH, but some repairs were made with the degree ranging from emergency fixes to full-on plans for future repairs and contracts awarded.

The most frequent coded category, “the SCH, is in poor condition, but there are repairs slated” (containing 21 media articles), comes from funding announcement articles. This finding indicates there are issues with the SCH, and the government is outlining how the issues will be addressed. In this instance, the federal government acknowledges the lack of safe infrastructure and commits themselves to funding repairs. Despite the government’s commitment, several examples from Table 11 indicate a greater need for improving SCH infrastructure. Whether looking for funding or hoping for repairs as soon as possible, several SCHs are not safe operational conditions for users and require funds to make upgrades.

Table 11: Key examples of describing SCH conditions indicated from the media articles.

SCH Condition	Number of Media Articles Which Reference this Theme
Poor Condition: But Repairs Slated	21
Condition of Non-Core SCH	4
Poor Condition and Looking for Funds	4
Essential Repairs Made	2
Forums	2
Address Poor Condition	1
Oppose SCH Expansion	1
Gabarus Seawall	2
Poor Condition and Possible Repairs	2
Detailed Account of Current SCH Repairs	1
Good Condition	1
Potential Expansion	1
Poor Condition: But Hoping for Repairs Soon	1
When Repairs will be Made	1

Concerning non-core SCHs, their condition is dismal. Of the four media articles relating to non-core harbours, one refers to Northport Wharf going through the divestiture process and referencing that the government did not maintain the SCH adequately while as

a core harbour. Conquently, this inaction reduced the number of users and is no longer viewed as vital to the fishing industry. The second article dealt with Harbourville, a divested SCH with a community organization looking to make the final repairs to ensure the SCH was safe for users. Still, the federal government would not provide the remaining funds for completing these non-core harbour repairs. The remaining two media articles regarded Gabarus Harbour and the seawall, which was deteriorating, and finding who owned the structure became a finger-pointing game because the seawall was not divested with the rest of the SCH in 2001.

A key factor impacting the condition of SCHs is the weather. Table 12 indicates that several media articles referenced the impacts weather has on the integrity of SCH infrastructure. Damage to the infrastructure is attributed to storms but, in a few instances, part of the materials’ natural deterioration. Despite actions taken to counter the effects of storms through proactive measures and acknowledging the impact of climate change, the federal government must recognize the frequency and severity through rigorous investments to support these facilities. Improving SCH facilities is critical, especially with the effects of climate change affecting coastal infrastructure in Nova Scotia and the livelihoods of individuals who rely on these structures for employment, leisure, and cultural identity.

Table 12: Themes from the media articles related to weather and its impact on SCHs in Nova Scotia.

Weather-Related Themes	Number of Media Articles Which Reference this Theme
	19
Impacts on Infrastructure	15
Proactive Measures	6
Frequency	2
Assessment Reports	1

4.3 Discussion

This media analysis is helpful in the context of this research as it deals with SCHs in Nova Scotia, a topic underrepresented in academic literature. Despite the novel findings, the articles do miss some key areas. For example, the media analysis is light in content regarding non-core harbours and divestiture. There are only a few examples in the analysis. That could be either based on search criteria or a lack of coverage on this issue. Additionally, the media analysis only gives voice to those who can write or interview these articles. There are many other perspectives absent from this selective analysis. This media analysis also did not code headlines, and photos were not included in the downloadable articles. Although these are minor exclusions, the data provided from these sources could indicate who the media article is directed to, suggesting attitudes towards the topic (e.g., Jenkins et al., 2020).

Results from this media analysis shed light on the emerging topics critical to SCHs, primarily economically and for sustaining the livelihoods of many rural communities in Nova Scotia. This section has three parts to guide the discussion: exploring the results, connecting the results to the literature, and recognizing the limiting factors of conducting the media analysis.

4.3.1 Discussion of the Emerging Results

The sample of 88 media articles found the most prominent voice within these texts was the federal government. The 69 funding news articles showed the government was providing funds to SCHs in Nova Scotia. As indicated from the SCH Program mandate, the government acknowledges their role and responsibility to ensure safe SCHs for users and the community. Many improvement projects were undertaken to upgrade infrastructure, the harbour basin, and studies to prepare for the repairs during this timeframe.

Although the federal government seems to recognize that some SCHs are not up to safe operational standards, concerns surrounding non-core harbours infrastructure and financing and SCHs looking for funding and repairs remain prominent issues. Ensuring the SCH is operational will provide economic benefits for the local community and fishing industry and assist the community's livelihood to continue.

4.3.2 Connecting the Results to the Literature

Results from the media analysis do align with previous accounts and research about SCHs. In reference to Surette's (1982) report, SCHs were crucial for their community; however, there was a concern for SCHs about weather impacts on the facility (Brown, 2015). The federal government should provide more financial resources to improve the site to be sustainable for future users. The media analysis confirmed that funding and infrastructure impacted the vulnerability of the SCH. Although the federal government provided significant funding to address SCH concerns, some sites still require a more substantial investment.

MacInnes et al. (2006) indicate in their report that SCHs are still important for the economics and social composition of Nova Scotia. The sites remain essential for connecting to the past, tourism, and community socialization. Most importantly, core harbours are likely the community's only link with the federal government. Indeed, the media articles highlight all these aspects and the vital role SCHs hold for their users to continue their livelihoods within the fishery and essential to the community for providing social and economic venues that enhance livelihoods. Although this report has a focus on harbour authorities, this theme emerged from the media analysis. Harbour authorities are a pivotal entity to ensure the upkeep of the SCH and speak on behalf of the users to the federal government.

Results from the media analysis also align with Cisneros Linares' (2012) research on working waterfronts in Nova Scotia. Their literature review indicates that the community, visitors, and fishing industry all have a relationship with working waterfronts economically, socially, or recreationally. Additionally, climate change will impact coastal infrastructure, including working waterfronts, requiring improved assessment criteria to ensure that users' relationships are sustained (Cisneros Linares, 2012). The media analysis further backs these claims as articles reveal that SCHs are essential economically and hold great significance to the residents, including community identity. Although repairs occur at SCHs, more needs to happen to protect these structures from the effects of climate change.

A deep connection is evident from the media analysis of the role SCHs hold for their community and economy. The media articles indicate the vital importance SCHs have for international trade, employment, and sustaining lifeways. A key idea repeated throughout the media articles is that the funding SCHs receive helps improve the facility and stimulates the local economy through job creation. This message is related to the literature in terms of the offshoots fishing facilities hold for their communities. Without the funding or the SCH, the community would not be thriving. Therefore, the SCH is profoundly intertwined with the community for economic and historical reasons (Khakzad & Griffith, 2016; Acott & Urquhart, 2014; Urquhart & Acott, 2014). Although the literature does not address the importance of funding the facilities, except for Williams' (2014) work on policy restructuring and its impacts on the local fishery, one can extrapolate that well-invested SCHs are a positive asset to the community. Without adequate funding, and if SCHs are the only economic driver, the community is at risk of having poor economic well-being.

The media articles alluded to the importance the SCHs have with historical livelihoods relying on the structure. However, the articles did not specify what would happen if the SCH was to shut down. The closest responses came from an economic standpoint and the viability of the community. Therefore, communities should consult research on this topic to prepare themselves if their SCH funding decreases.

4.3.3 Addressing the Scope of this Research

I would be remiss to disregard the conflicts between Fisheries and Oceans Canada, commercial fishers, and Mi'kmaw moderate livelihood fishers in Southwestern Nova Scotia, which peaked in September and October 2020. None of the 88 media articles spoke to this issue. However, the use of SCHs for conducting a moderate livelihood fishery and the violence at these sites indicates the role SCHs have in sustaining one's livelihood and the staging grounds for asserting rights and privileges. This research is important for future researchers to understand relationships with SCHs cross-culturally. Research by Bennett et al. (2018) could aid in improving Western knowledge systems understand the importance of access to marine resources is to Indigenous communities.

4.4 Conclusion

The purpose of this media analysis was to obtain background information about SCHs in Nova Scotia and local insights into areas of concern or praise at these facilities. These media analysis findings indicate a wide range of perspectives, vested interests, and issues surrounding SCHs in Nova Scotia. However, searches from both databases were limited because of their criteria. Expanding the search to include other forms of media would reveal different themes to understand SCHs in Nova Scotia and validate the findings presented in this chapter. A future media analysis should also adjust the search terms to

retrieve more relevant articles and expand the source of articles to include television, website, and radio articles.

The following chapter will provide primary data to further the understanding of SCHs in Nova Scotia. In speaking with those connected with the facilities, a greater understanding will emerge about the current operations of SCHs. This knowledge will help fill in the gaps about themes raised in media analysis and contextualize perceptions of SCHs all over Nova Scotia.

5.0 Chapter Five: Results and Discussion of Primary Data Findings with Small Craft Harbour (SCH) Users in Nova Scotia, Canada

The following sections present the primary interview data and its correlation to the sustainable livelihoods approach. The first three sections provide a general overview of why participants say the small craft harbour (SCH) enhances or threatens their livelihood. The following section has five sub-sections indicating each sustainable livelihood approach capital asset. The fifth and sixth sections outline the findings relating to policies, institutions, and processes and vulnerability. The seventh section details perceptions of divested SCHs and the connection with users' and communities' livelihoods. The final section encompasses a summary of how participants feel SCHs impact their livelihoods.

Before presenting the results, I want to remind the reader that these are examples from participants on a particular theme. By no means do they imply that they are shared overall perspectives from the participants. The participant's views are fluid and can change over time. Many participants had a wide range of opinions from positive to negative, or neutral to no perspective on a subject matter. This research is only a snapshot in one moment in time. The following results summarize reoccurring themes across a limited sample of SCHs in Nova Scotia and do not mean it applies to all SCHs.

5.1 The SCH Enhances Livelihoods

Findings in Table 13 reflect how SCHs influence their users' livelihoods. I will discuss the four main themes from Table 13 indicated by an asterisk. The dominant theme was how the site enhances the activities which take place at the SCH. The key themes that emerged were how the SCH assists with commercial fishing, recreational use, and other uses not related to commercial or recreational such as search and rescue, unspecified use, a

place of celebration, a place to park trailers night, and a social spot for people to gather when buying the fisher's product.

Table 13: Ways in which the SCH enhances users' livelihoods. Themes indicated with an asterisk (*) will be discussed further.

How the SCH Enhances Livelihoods	Number of Participants
*Enhance: Activity	19
Commercial fishing	19
Recreational	17
Other	12
*Enhance: Place, Social or Personal Conditions	19
History	18
Identity	18
<i>Fishing or Recreational Community Livelihood</i>	12
<i>Perspective of the Wharf or Harbour</i>	11
<i>Gathering Place</i>	10
<i>Sentimental Connection</i>	9
<i>Fundraisers</i>	6
Demographics	2
Harbour infrastructure	11
	2
*Enhance: Economic	16
Important Economically Today	16
<i>Economic Spinoffs</i>	15
<i>Employment</i>	14
<i>Generating Money</i>	4
<i>Market</i>	3
Future Development	1
Enhance: Infrastructure	15
Repairs Made	11
Good Condition	9
Upcoming Projects	6
Facilities	2
Revenues	1
Safety	1
Enhance: Practical	14
Proximity	9
Facilities	7
Shelter	6
Availability	5
Financial	2
Enhance: Safety	11
Enhance: Tourism	8
Enhance: Educational	4

5.1.1 Enhance: Activity

To contextualize the range of use at SCHs, excerpts from participants detail why the site was essential for carrying out specific activities. For Participant 12, they noted why the SCH was necessary for the commercial fishery in their region:

Like with the wharves and the associated structures with them, we can tie our vessels to them, plus our buyers are able to get closer to the water and purchase our catch.

Participant 11 remarked that the SCH was vital for emergencies at sea:

Our fire departments, like emergency vehicles use our wharf, the Coast Guard uses [our] wharf.

Participant 14 remarked that weekends at the SCH were busy with recreational use:

Well, it is used now by a lot of people, and on the weekends especially, because we have a slipway there on the other side of the harbour from the wharf.

These three excerpts tell only a fraction of the stories and use experienced at SCHs. The utilities of SCHs stretch beyond commercial fishing but positively influence community groups and members by providing facilities that enhance one's livelihood in many ways, including safety and pleasure.

5.1.2 Enhance: Place, Social, or Personal Conditions

The community importance of the SCH came through the interview responses.

Some SCHs have a historical connection with their communities. For example, Participant 6 detailed what was going to occur at a non-core harbour:

And we're planning because like I told you it's like a historic site, like it used to be a fishing wharf 250 years ago so we're going to... we're going to put some plaques there explaining and pictures, try and find old pictures and explain to people that go there what used to be there...

Participant 8 reflected on the vibrancy of the SCH and how the site brought the community together:

Well, they used to do boat races here and they used for picnics and you know, community picnics here. But they don't anymore 'cause everything changed. Used... you know it was used more than it is now. Still popular place.

Participant 11 also reflected on the history of the wharf and significant gatherings held there for the community:

...like back in 1918 the [Harbour K] Wharf back in 1918, that's... that's... it's... it's earlier than my mother's time you know, but they used the [Harbour K] Wharf right, back to celebrate the end of the Great War and that's where they had a bonfire right on the wharf to celebrate the end of like I said back in 1918.

Participant 15 explained that the wharf and the community identity were intertwined:

And it's also the wharf becomes synonymous with the area that it's with because people will come, drive to your area, just to look at the boats and the wharf.

Participant 19 noted the value the SCH has for their community to keep people but also encourages people to celebrate the first day of the season:

So, it keeps people able to live here and stay here throughout the winter. And keeps some young people around, which is good... Yeah so, it's kind of a lot... everybody on the first day of the season there's always people from the community come out and watch the boats go out on the first day.

Overall, SCHs in many communities in Nova Scotia hold past and present importance and shaped how both the community and residents view themselves.

5.1.3 Enhance: Economic

The following livelihood enhancement indicated by participants is the economic importance SCHs hold for their communities. From Table 13, the SCHs are important today based on their economic purpose, specifically for the economic spin-offs and employment generated. Participant 5 noted how interconnected the economic spins-offs are with employment in their community:

The harbour, the main harbour is in [Harbour A] and that has seventy vessels and probably right off hand a dozen fish buyers/businesses that use the wharf as well like that would probably lease space from us to do their work and then we have some mobile buyers that come and go. And that usually that usually gives us a total

of a roughly 50/50 above the vessel owners...Plus, we have to fuel trucks that came in. We have six...six companies that deal with, putting fuel on boats, its delivered by trucks...Oh yes at the fish plants and the buying stations they have...each buying station would have at least 5 workers and the mobile fleet that comes and goes...mobile plants I should say, they have at least 2 workers to each truck come and they buy the lobster and hoist them out. Each wharf has their own what we call our Government derricks for offloading, Harbour Authority derricks now, we just call them Government derricks before Harbour Authorities came into play. I would say the fuel truck they usually have two workers on each fuel truck. One for safety and one for fuelling...It's just as a point of entry where you offload and there's a lot of spin-offs from it. Like at each wharf... over the years, hundreds of years wherever there's a wharf, there seems to be more businesses directly to that area because you know like the shops, the supply shops, the grocery stores, and the fuel stations even.

Participant 9 further echoed the previous passages and the indirect effects created by the local SCHs:

...well I'll give you a bit of an example. There's a fella over in the closest community to us, over in [Community I.1]. He had a little appliance business and I went in, he did quite a bit of work and he got a lot of work from people on the islands, he would deliver appliances and sell you know fridges, stoves, that kind of thing. And I said to him one day it was around Christmas time, I said, "how's the business going?" And he looked right at me and he said, "how's fishing going?" And I said, "well, it's going pretty good." And he said, "yeah, so is my business." He said, "you guys do good, I do good." And that's basically how all the little, small businesses in a rural area that are you know fishing...But you know you take that away... you take the wharf away you're going to take away most of the fishing and they're either just say the hell with it and sell-out and the license will move onto bigger harbour where people have... like right now I've got people... we've got a waiting list, I've got people waiting to get a berth at the harbour.

These responses indicate that SCHs influence extends beyond the physical site and resonates with how the community functions. The presence of a SCH offers extensive indirect employment for residents.

Without the wharf and supporting infrastructure, the SCH could not operate to serve the users and community. That is why the infrastructure enhances livelihoods. From respondents, 9/15 said their SCH was in good condition. Of those 15 participants, 11 said repairs were made recently, and six stated there are upcoming projects to address

infrastructure concerns. With that said, infrastructure conditions remained a concern for many participants and viewed this as a threat to their livelihood.

5.2 The SCH Threatens Livelihoods

This section will detail three main threats users view as a threat to their livelihood with their SCH. Table 14 outlines all the threats identified from interview participants. I will discuss the three common threats indicated by the asterisks.

5.2.1 Threat: Infrastructure

Continuing with the infrastructure theme, as indicated in Table 14, out of the 17 participants who noted infrastructure was a threat at their SCH, all 17 said they needed improved infrastructure.

Table 14: What participants identified as a threat to their livelihood concerning using the SCH. Themes indicated with an asterisk () will be discuss further.*

Threat	Number of Participants
*Threat: Infrastructure	17
Improved Infrastructure Needed	17
Size of Vessels	7
Size of Wharf	4
Cost of Repairs	3
Return of Users if Usable	3
Ownership	2
*Threat: Climate Change	11
*Threat: Funding	10
Threat: Safety	8
Threat: Tension	4
Threat: Economic Growth	4
Threat: Not Practical	3
Threat: Loss of Community	3
Threat: Wharf Being Sold	2
Threat: Non-local Users	2
Threat: Way of Life	1

Specifically, these needs vary. For example, Participant 2 expressed concern for their economic well-being because the non-core harbour is in poor shape and not big enough to support upgrading to a larger vessel:

We're limited because we are going to trying to private wharves which are smaller, they were built years ago for smaller fishing boats before boats started getting bigger. So most of us are limited in being able to upgrade to bigger boats. I, myself,

I would purchase a bigger boat if...if possible, but I haven't been able to because I have nowhere to tie a bigger boat. So...so we're limited to what we can have I guess for boats just because of being able to tie up in... in this harbour without having a Small Crafts and Harbour wharf that's usable.

Participant 5, who is affiliated with a core harbour, also expressed the issue of older wharves and not enough space for vessels:

Our biggest problem here with the harbours is the infrastructure of them. Most of our harbours, for a couple I'd say five out of the seven was built back in mid-55 I'll say, 1955 and a lot of the structures are getting pretty bad. And we just find that it not as much government money 'cause it's so costly nowadays to do anything and money don't go that far...where I used to put 3, 4 boats, you can only put 2 now, because of the width. They've gone from back in the 50s, I'll say 11-foot wide and we got some up as high as 30-foot wide. Yes, it made a big change and the infrastructure wasn't there to handle it. And it's a created problem, big problem actually...Yes it is even, even some of the areas that didn't have a big fishery, they had a couple of good years, and some of the boats that were here that were already fairly big, went to them places that used to have real small boats they bought them like second-hand and these fellas went from like a 20-wide to a 30-wide. And the people in the small communities took their 20-wide because they only had an 11-wide. So, it created the way across. And that means more infrastructure.

Participant 10 explained that their non-core harbour currently experiences less usage because Fisheries and Oceans Canada do not maintain the infrastructure. As a consequence, fishers must catch less lobster to access the SCH:

The other major impact has been ongoing is that the greatest loss to them was the loss of the right to subsidizing of dredging of the harbour. So less and less of the harbour every year is available for usage because sand and gravel is the sandbar that the seawall sits on only about a hundred feet behind the harbour itself and... before the seawall was repaired with a meter higher stone structure than was there, repeatedly waves would over top and bring sand and gravel from the cobble beach across the road into the harbour. So, there are some places where...some of the boats could not come in except at high tide and a number of them now at the innermost part of the harbour can no longer come in fully laden. They had to catch fewer lobster to come to their own wharf or offload at another wharf instead.

Participant 18, who fished out of a core harbour, expressed frustration that repairs made by Fisheries and Oceans Canada created new issues:

The last number of years we've done through Small Crafts and Harbours a major refit. There is still some more work to be done. They created a few problems when

they did the new work. But otherwise it's coming ahead quite well... Yeah, well for us they created more problems. We have a beautiful facility now, but due to weather, the wind, we have an awful problem with that after they built the new facility.

SCHs of both categories need improved infrastructure so it does not negatively impede the users' livelihoods.

5.2.2 Threat: Climate Change

In terms of climate change, Participant 7 articulated that the rising sea-levels were impacting the quality of the wharf:

So, it'd be like a second seawall and I don't you'd have any problems. What's gonna happen here eventually and... we're gonna...our water is getting higher every year sort of thing...Like...and its not too far away from breaching though... they have a wooden seawall from the wharf up under along the bank here pretty well. Well I just live up from the wharf here and all I gotta do is look out my patio door every storm that's on I can see what's going on down there. Its... that seawall is starting to get in bad shape, a lot of the braces are gone off it, that's got to be close to 60 years-old too. And you can pretty near walk underneath it now.

For Participant 11, climate change is a reality that must be dealt with:

In the future if there's any more infrastructure to be made, we have to keep the global warming and the extra...the extra high tides and the occasional like I said rainstorms, and tides, and floods, and stuff like that. We're very lucky [Harbour K] we come close but it's something to keep in the future that if there's any new infrastructure we have to keep the global warming and the extra high tides there, you know for down the road, you know.

Participant 19 explained that Small Craft Harbours Program addressed their concern with rising sea levels through infrastructure upgrades:

And storms like...but when the work got done two years ago, the wharf was raised up I think either one or two feet. So, kind of to prepare ourselves for the rising... rising sea level...Yeah well, the...I think the...the sea levels rising, so we accounted for that, well Small Craft Harbours planned for that, to make the wharf taller.

Climate change is a significant factor that will impact the users of SCHs. Addressing rising sea levels and the frequency of storms must include well-engineered solutions for SCHs to protect users' livelihoods and communities.

5.2.3 Threat: Funding

Funding SCHs receive in Nova Scotia also affects livelihoods. Overall, participants noticed a decline in funds and that monies received years ago do not go as far today.

Participant 7 at a core harbour stated it is hard just to get any funds for routine maintenance:

But like I said, the last time we had this one dredged, they dredged it so when they put the piece on the wharf but its hard to get any money for that even...But the harbour itself like anything we can get done we...we try to get stuff done here as much as we can but it's sometimes its a hard...hard job to get anything done to it, get any money for it. But, I guess keep that in line they give you enough to keep you satisfied for a little while.

Participant 9, who also used a core harbour, informed this research that any major projects to be undertaken must have advanced notice because of how long the process takes:

And when you get into the capital jobs, you get into a whole other...a whole other group of people that get involved. So, it's itchy ears. Like we put in for...we have a couple floats at the end of our wharf. And one's there for say handicapped person to access the boat in or out something to that nature. So, they go up and down with the tide where the rest of the wharf is stationary. And we put in for... for new ones because they're old and obsolete and we've been patching them up and the bad storms are bad and it's going to be years you know for us to get hopefully get new floats here. We've been after them. You have to put in, for anything major, you have to put in years in advance to try get anything done.

When I asked Participant 12, who also used a core harbour, what trends they noticed, they replied with quite a concise remark:

Outside of government money starting to get tighter and tighter? Nope. [laughter]

Participant 17, another user of a core harbour, further echoed Participant 12 and their experience with a need for funding changes:

...currently our main issue is funding. It's as simple as that. We need to grow, there's a lot of things happening here. We're busier than ever before in the area. More boats are being built, the economy's thriving, while I mean pandemic year kind of shifted things for a little bit here but yeah. We have what we need. However, we very much... we very much need a shift in funding.

Participants are experiencing a lack of funding to maintain their SCH, even though the industry is flourishing. If this issue persists, there could be dire consequences for users and communities to sustain their livelihoods.

5.3 The SCH has no Impact on Livelihoods

Table 15 shows why SCHs have little impact on their users' or community's livelihoods. Most of these responses deal with participants not being worried about the SCH, therefore, not negatively affecting the livelihoods, yet not referring to any positive impact on livelihoods. This section also provides a spot for the past importance of the SCH. The site is no longer considered essential for various reasons such as changing political, social, and or economic conditions. This section is also a space for SCHs that are demolished or for SCHs that are operational but viewed as not economically significant.

Table 15: Themes emerging as to why SCHs are not vital to their users or community's livelihoods. Themes indicated with an asterisk () will be discussed further.*

Does not Enhance or Threat	Number of Participants
*Was Important Economically	9
*No Concern with the Site	7
Not Important Economically	4
Wharf Demolished	1

For the category “was important economically,” 6/9 respondents were from non-core harbours. The other three came from core harbours and reflected on the past use and value of the SCH. For example, there were more fish processing plants than there are now in these rural communities.

Regarding the theme “no concerns for the site,” this means that some participants did not express much concern for their SCH. When asked if they have any concerns using the site, participants may have stated an issue but followed up with other than that particular issue, the site is okay. For example, Participant 11 said they have only one concern:

Any concerns that we have no, no we have, well, there maybe one concern but we have no control over it. And I'll tell you what that is, and I think it's all across Canada at wharves, it's global warming and the extra high tides and the infrastructure like what engineers have to work with you know they have to work with any new infrastructure has to be higher. As far as that, that's the only thing that... that's something we have no control over, you know... But other than that, no the wharf is working, we're okay.

Despite this response, it is important to add that several participants also provided examples of the strengths and weaknesses of the SCH throughout the interview. The purpose of this section is to show some SCH users do not have grave concerns for their facility.

5.4 Assessing the Presence of the Five Livelihood Capital Assets

This section will apply the theoretical framework to determine if SCHs are central to maintaining livelihoods and how participants create their livelihood strategies with SCHs. The five livelihood capital assets (financial, natural, human, social, and physical) are discussed in turn to highlight key themes identified by participants.

5.4.1 Financial Capital

I asked participants if they had enough resources to use the site or sufficient funds for SCH upkeep to understand financial capital assets. Figure 9 is a word cloud representing general themes participants remarked about when asked if they have enough funds to use the SCH. Participants indicated they have enough savings to continue

By spending money on the harbour right now it would not benefit me as a business owner, it would not increase my profits. The only thing it would do is continue to be a convenience, I guess.

Participant 1 also mentioned that they did not use their SCH much, just to dock their vessels because of its location. Rather, they used other SCHs in the area to unload their catch. Therefore, although the SCH Participant 1 utilized was in poor condition, developing the site will not assist their livelihood. However, the government has not provided funds to this SCH in 15 years, and the participant feared for their safety using this site.

Other participants expressed that they need additional funds from the federal government to maintain the facilities. Participant 4 expressed frustration that the federal government did not provide adequate financial resources for their SCH. As a result, fewer commercial fishers utilized the SCH and became a non-core harbour:

Well, they want it saved, they want it saved you know like the harbour dredged one thing or another. If we can't, we can't. But you know the government wastes money, you know they do a rotten job so we hadn't got enough you know money, revenue coming in there. Well, no wonder we haven't got enough revenue coming in now because they didn't do what they should've.

Harbour authorities charge their fishers fees or dues, and depending on the recreational activities, some SCHs do charge for using their facilities. These monies cover small, daily expenditures incurred by the harbour authority. By no means do the funds cover major expenses such as yearly dredging or wharf projects. Participant 19 stated that their harbour authority could not cover the cost of dredging the harbour from their user fees if the SCH became divested:

Yeah, like the...the work...like the dredging will be...be a huge issue. We would never be able to pay for that ourselves.

Participant 13 described how they utilized their fees in a recent project:

Participant 7 spoke to times when stocks were fewer. However, the last few seasons for lobster have been exceptional:

But prior to that, we had a lot of lean years but the last say...last four or five years have been pretty good years here. The lobsters seemed to pick up better and we got a good price for them.

Participant 8 recalled over their experience with fishing that the lobster stock goes in cycles, and there are always good years and bad ones:

Yes. The lobsters the best they ever were the last few years. Yeah. I'm around it for 50 years I think, close to it anyway, and when I first started they were...it was pretty poor then. But this is the best they ever were since I've fished. They weren't as good as this year. Last year was the best. And then '87, 1987, was the best before that. They like peaked in '87 and then dropped back down for about six, seven, eight years or something.

Participant 17 noted how well the lobster stock was managed, and there is plenty for commercial fishers:

The lobster stocks are healthier than they've ever been. Lobster is currently being extremely well managed...

Participant 19 also referenced how good the last few years have been for lobster and crab fishing:

In that respect I think there is. There's been, I mean in the last few years have had pretty good lobster catches... And as for crab, I think there are...signs are good also, that their quota was raised a little bit over the past few years, so.

From this sample of participants, users who relied on natural resources for their livelihood had sufficient stock available to continue their livelihoods.

5.4.3 Human Capital

Participants expressed that they have enough skills or knowledge to use the SCH, as illustrated in Table 16. SCH users, particularly fishers, have training to use their vessel or education from post-secondary institutions that assist them using the SCH.

Table 16: Themes emerging from asking participants if they have enough social human capital resources.

Human Capital	Number of Participants
Yes	10
No	1

According to Participant 5, there was a movement by the federal government to ensure all fishers had the knowledge to operate their vessels:

I think in the last 5 years, they have done a lot of different programming, safety especially...And any of them with the larger boats have to take courses and learn navigation and stuff a lot more. Some of them even have a papers to take quite big boats. Its kind of enforced on them after you go through a certain tonnage of vessel.

Participant 7 recalled how through the years, education has changed for those working in the industry:

Right now like years ago most of the people that work down in the fish plants and in the boats had no education, really. It was that...it was that particular time where everybody had to go work with...but now I mean everybody, pretty much everybody that works at these places has got at least a high school education or in the trades, a lot of them got trades, stuff like that. They just...a lot of them could go away to work, but they'd rather stay home if they can.

For Participant 12, they commented on how there was always learning, especially when you first start in the industry:

As for knowledge, well we all have learning curve. I had a learning curve when I was young, so it's no different than any other...and like I said any other harbour, things like that.

Participant 15 noted they have the knowledge and skills to use the SCH; however, strangers to the harbour may have difficulties navigating when buoys were not appropriately placed:

We do, but sometimes the marker buoys for it are not positioned in the right area. They have somebody contracted to do that and sometimes they're not in the right area. So, for us coming into the wharf if it's not an issue, but for somebody else that doesn't know our harbour it could be an issue...Because they follow the buoys, and if the buoys are not in the right place, it can be a problem.

Participants identified they had enough human capital assets to use their SCH. Although the participants had the skills necessary to operate their way around a SCH. Strangers who did not regularly use the SCH posed a risk to themselves and others if they did not know enough about the harbour conditions.

5.4.4 Social Capital

Social capital asset themes are presented in Table 17. Harbour authorities provide the main connection between users and the federal government. Without this kind of association, obtaining funds for the SCH is difficult.

Table 17: Themes emerging from asking participants if they have enough social capital resources.

Social Capital	Number of Participants
Harbour Authority	16
Community Organizations	2
Community Participation	1
Togetherness	1

Harbour authorities were a vital link between the SCH users and the federal government. Participant 7 explained the fundamental purpose of harbour authorities was to be a liaison between users and the federal government:

Like that's why they have the harbour authorities now. Like any small maintenance we have to look after, and if there's anything major has to be done we have to contact Small Craft and Harbours and then have to get estimates, send them to Small Craft and Harbours and they got to approve everything before anything can be done, even if we're paying for it.

Participant 9 also stated that having a harbour authority was to the benefit of all users to ensure the facility remained sustainable over time:

And then some years ago, I just can't remember when the Harbour Authority was created but, we were approached by Small Craft Harbours to form a harbour authority and that was...we looked into it a little bit and it seemed the best route. Not every harbour did form a harbour authority and it seems those are the ones that are a bit lacking now from my personal knowledge. Couple harbours regretted it and they've since gone with the wayside because they couldn't support themselves. And I got involved from the very beginning with ours and been director and or secretary/treasurer since it began.

Participant 11 indicated the vital role harbour authorities held for their facility:

And what the Harbour Authority does, we work with the guidance and we operate and maintain the wharf. So, I work with the Harbour Authority and that means collecting fees and the day-to-day maintenance and the operation.

Harbour authorities provide the necessary leadership to ensure users have access to an operational SCH. Without harbour authorities, users would not have the ability to utilize the SCH to its full potential.

5.4.5 Physical Capital

Figure 11 organized the most frequent words used by participants about their physical capital assets. Participants' key physical capital assets were access to a reliable SCH facility and berthage for increasing vessel size. However, several participants noted that their SCHs needed repairs and major projects to provide a safe facility. Other participants recalled that their SCH needs one or two projects completed, but otherwise, there was no concern with the SCH regarding the physical site or equipment.

“well it’s not enough room there for my boat”, well you built a big boat that can't really fit there. Well they say “you can’t stop me from wanting to build a better business for myself”, well I say no but you’re going to have to deal with what's there because the government ain’t just going to fix it for you.

Participant 17 expressed concern for repairing their SCH because the fixes were only temporary and not addressing the real issue:

Basically, we're always trying to band-aid problems so that we can't get to the real big problem. For example, [this project] would give us another floating dock and a marginal wharf where we could unload more fish, we could have more berthage, it would eliminate being a closed harbour, we could take in more people. But to get to that the government isn't giving us the funding for it because we keep finding structural issues with our current system. So, before we can even expand or you know get to the root of the problem we're always one step behind trying to fix you know the wharf we currently have is you know falling apart I guess. So, it's hard to get ahead when you're always repairing two steps behind.

Although the previous excerpts were negative in relation to not having enough physical assets to advance one’s livelihood, there were SCHs in excellent condition or have received upgrades. Participant 9 stated that their SCH had recent improvements:

We had our electrical upgraded and the new... the newer... it can handle more... more power, we have more power outlets, bigger service LED lighting, and instead of the old-style gas powered winch on the wharf we have electric hydraulic now.

Participant 11 said users told them that SCH has everything needed to carry out their livelihoods:

The fishermen come by all the time and say, and I'm going to brag I really am going to brag. I don't know what they have at their wharf, but they say my God this...the wharf in [community of Harbour K] is one of the best ones, everything is here for us, everything we need. You know, so from what I get the feedback from users, I think they're more than content.

Physical capital for participants related to the SCH site and the amenities they provide.

Some SCHs have sufficient facilities and were in good condition. Other SCHs are the opposite, and participants would like these issues resolved by the federal government acknowledging the problems at large and providing the necessary funds.

5.5 Transforming Structures and Processes: Policies and Institutions

Policies and institutions go hand-in-hand with this research. The Canadian federal government determines the key policy areas and jurisdictions for SCHs. However, narrowing in on the SCH program, harbour authorities also create their own rules and regulations appropriate to the specific site to ensure operational efficiency at the site. This section will focus first on the individual level, the harbour authorities, and recap what participants think of policies. I will span out and then highlight the role the government plays in maintaining the SCH from the users' perspective.

5.5.1 Policies and Operations: At the SCH

This section aims to provide an overview of what policies are present at the SCHs, who enforces them, and the effectiveness of the policies. Table 18 highlights key areas of SCH rules, who creates or enforces the policies (federal government or the harbour authority), and whether the policies are effective. Not all have harbour authorities and harbour authorities take different approaches to form their rules depending on their needs and experience. Furthermore, some participants indicated the provincial government's role; in particular, provincial regulations such as labour codes.

Table 18: Policy themes identified by participants.

Policies	Number of Participants
Harbour Authority and Board of Directors Regulations	13
Policies Effective	9
Yes	6
Yes, but with some trouble	4
No	0
Examples of Rules	8
Fees and Agreements	3
Clean-up	2
COVID Related	2
Conservation	1
Close	1
Equipment	1
No Wake Zone	1
Federal Government Regulations	8
Provincial Government Regulations	2
No Harbour Authority	1

As shown in Table 18, rules at SCHs were created by both the federal government and harbour authorities or a board of directors. At some sites, there was a wharf manager who ensured the users comply with regulations. When participants spoke to the effectiveness of the rules at the SCHs, all agreed they were effective. However, some participants indicated that although the policies were effective, some SCH users believed the established rules do not apply to them, as 4/9 participants indicated that most users follow the rules. Still, there were some instances where a few users did not abide by the regulations at the SCH. But these cases were few, according to participants.

The following participants' responses illustrate the different yet similar methodologies of creating policies at their sites. Participant 1 described the way their harbour authority approached rules as relaxed:

There is a harbour authority, we're pretty laid back. Its pretty much do what you want, clean up your own mess, type of style.

In my conversation with Participant 3, we spoke about who determined the rules at their

SCH:

Monica (19:34): Do you make any rules for the harbour, or is that from DFO [Fisheries and Oceans Canada] that you have to...that implements harbour use, I guess?

Participant (19:43): Well...well we do to a degree too, right I mean. There are harbour rules but there are our rules too like you know there's no wake zones up and down the harbour...

Participant 5 explained how they implement their rules and regulations:

I enforce yeah. Plus, we have signage at the harbour on the rules and regulations, and have it posted and we do a yearly...a yearly mail out of rules and regulations...

Participant 7 explained how they created their SCH rules. In making their policies, they reviewed other SCH rules to formulate theirs:

We... we go to different meetings and see what goes on at other harbours and stuff and then whenever...we have like we have meetings and then we discuss stuff and want we to do, this, that, and the other thing, and then check with Small Craft and Harbours to make sure everything you're doing is alright and legal and then just do up the rules. Everybody is informed on them. Most time that don't mean much of anything.

Participant 9 also noted that their rules were generated through research on other SCHs regulations:

Yeah. It's a combination. They give us the guideline and then each, not every set of rules I've got probably 10 sets of rules from 10 different harbour authorities here and when we...when we made up our own, you know we kind of pick the best parts of those as a guideline along with you know guidance from our local Small Craft Harbour guy.

Participant 11 explained that not only do SCHs need to follow federal regulations, but also provincial ones:

...we're under like the regulations from Environment Canada and the Department of Nova Scotia Labour and Environment. We're under their rules, okay...like I said we're regulated by the provincial and the federal governments safety wise and stuff...

Participant 17 stated that enforcement of the rules ultimately comes from the harbour authority:

Yeah, we have a...so basically the funding comes down from Small Craft Harbours but a lot of the decisions and... and the...the execution of rules and things like that happens from our Harbour Authority.

From these excerpts, harbour authorities play a key role in enforcing and protecting users with the guidelines set out by their organization and the federal government. Figure 12 is an example of two rules mentioned earlier. The image at Three Fathom Harbour indicated to users not to dispose of litter and for prospective users to speak with the Harbour Authority if looking for a berth.



Figure 12: Rules posted at Three Fathom Harbour on March 14, 2021.

Both agencies—the harbour authority and federal government—work together to ensure a safe and enjoyable experience. If users do not adhere to the rules, the issue was taken up locally and, if required, will advance to the federal government as Participant 19 explained:

We do determine them, and we get everybody to sign user agreements that's first of year. And it's usually...usually good with response, and there's like the odd person out that doesn't adhere to them and if that gets serious we pass that on to Small Craft Harbours to further the...if something needs to be taken further.

SCHs sampled in this research do have checks and balances to ensure the safety and appropriate use of the facility. In most cases, the established rules are effective and adhere to by users. In the odd situation, a user at a SCH may think the rules do not apply to them. However, harbour authorities do have a procedure to deal with infractions. Although not part of this analysis, it should be stated that further investigation into the size/number of users and harbour status as a core or non-core harbour could shed additional light on the creation of policies.

5.5.2 The Canadian Federal Government: SCH Users' Perspective of the Institutions Program

Given the SCH program is under Fisheries and Oceans Canada's responsibility, understanding how users perceive the government's obligation is vital. Determining areas of strength and weakness can help improve the SCH program and provide a guiding framework to address user and community needs from SCH policy. Table 19 outlines the findings indicated by participants concerning the federal government.

Table 19: Government themes participants identified.

Government	Number of Participants
*Funding	17
Not Enough	6
Government Supplying Funds for Projects	5
Hard to get Funding	4
Enough to get by	3
Funding for Divestiture	3
No funding	3
Raising own Funds or Taking Care of Repair Cost	3
Expensive for Repairs	2
Issues with Government	15
Repairs	10
<i>No Repairs</i>	6
<i>Length of Time for Repairs</i>	2
<i>Poor Repairs</i>	5
<i>Not Getting Ahead of the Problem</i>	3
Divestiture	4
Not Accepting Users Knowledge	4
Broken Promises	2
Broken relationship	1
Users' Opinions	14
Participants Express Disappointment with the Government	10
Participants State the Government is Addressing the Issue	4
Participants Express ways in which Government has made Improvements	1
Repairs Made	9
Explanation of the Mechanics of the Program	9
Federal rules and regulations	6
Community Involvement with Divestiture	6
Not Present	2
Only with Fishers	2
Present, met with Everyone, Public	2
Unsure, Government Took Care of That	1
Positive References	5
Ultimatum	5

Participants referenced an issue with obtaining enough funds from the federal government to sustain the SCH. Although the federal government did supply funds for some SCHs repairs, participants noted that funding was difficult to come by. There were either not enough funds or just getting by with the amount allotted. Participant 2 said they tried to improve their non-core SCH, but nothing came from that discussion with the federal government:

...and I've tried to get money to get that wharf up and going again through the government and...and we have had no success with that.

Participant 5 said that they do plans with SCH Officials about future projects and needs.

However, funds were not always available, and only critical projects usually get completed:

Small Craft and Harbours we do...we do a 10-year plan, never seem to get to it. They say they're short on money, Small Craft and Harbours, always short on money. And we have to pick and choose what's a necessity or a safety thing. Which is right, if it's a safety problem it should be dealt with first, but we never seem to get a head.

Participant 10 stated that divestiture of their SCH was a terrible experience, and without funding from the federal government, the community suffers:

So, there's a non-stop hundred-year effort to protect this harbour using federal funds. That ceased entirely in 2001 with a divestiture of the harbour as a result of what we think were bullying tactics by DFO [Fisheries and Oceans Canada], the Small Craft Harbours group, to force the local fishermen to accept divestiture of the so-called government wharf and they did so by saying if you don't buy it we will sell it to somebody else or we will tear it down. And so that's when divestiture impacted [community of Harbour J]. From that day forward there's been not a single shred of assistance to the fishermen here from the federal government.

Despite other participants indicating a lack of funding, Participant 9 put in perspective that their SCH only receives minimum funding because of the number of commercial users:

And we don't have a very big wharf, so. And we get a minimum amount of funding for our wharf because of it. Compared to the big wharves 200 boats or more at the wharf compared to 20 you know which is understandable.

Participant 11 further indicated that their SCH received lots of support from the federal government spanning structural repairs to summer student employment:

Small Craft Harbours, they contribute...they make a lot of contributions financially to the wharf and of course they're always guiding us everything we do...In the summer most times, like I said most times, the Canada Summer jobs from the federal government they usually...we usually get a student for eight weeks...Of course with the contributions that we get from Small Craft Harbours, they own the infrastructure so if there's anything really big, well they can step in.

Overall, there is a range of perspectives of how well the federal government funds SCHs. Most participants indicated that funding needs to increase. In a similar light, many participants at divested harbours would like more federal funding to improve the SCH conditions.

5.6 Vulnerability Context

This section addresses the vulnerability aspect of the sustainable livelihoods approach, covering trends, seasonalities, and shocks and how these forces help or hinder livelihoods.

5.6.1 Critical Trends

When posed with the question of what trends or changes participants saw at the SCH, responses were positive and negative. Table 20 represents all themes articulated by participants. The three most frequent themes, weather, users, and stocks, will be discussed further.

Table 20: List of trends identified by participants. Asterixis () will be discussed further.*

Critical Trends	Number of Participants
*Number of Users	11
*Weather	11
*Stocks	10
Closed Harbours	9
License	9
Age of Users	8
Change in Technology	8
Recreational Use	4
Buyers	2
Concern for the Environment	1
Conflict	1
Decline in Community Amenities	1
Divestiture of Other Assets	1
Money	1
Operational Harbours	1
Price of Boats	1
Women in the Fishery	1

Weather

When asked about weather and climate change, 11 participants noted the meteorological change or impact storms had on SCHs. Participant 5 discussed the impact of weather on the wharves and the role of climate change:

Participant (31:47): ...Weather impacts the eastern side more and does more damage to the wharves and stuff.

Monica (32:13): Is there I guess in terms of climate change is their concern with the Harbour Authority?

Participant (32:20): Yes, there is a concern because our wharfs are only built at certain heights and when we get the right storms and stuff, we are to the top of them.

Monica (32:33): Wow.

Participant (32:34): Yeah the water is splashing over top and it makes bad because the wharf wasn't designed for that and most of the electrical work going down for the street lights and stuff is on the top but it's getting to the point its submerging under that.

Participant 6 expressed that when divestiture of their SCH occurred, a key consideration was how climate change would impact the operation and future repairs:

...because like I said the risk of two or three years down the road and you don't know with climate change and everything it could go faster than that like the waves are going you know the sea-level is going up, the storms are getting bigger and everything, so it's a huge risk of running a wharf if you...if you have to pay for the repairs.

Participant 11 noticed that during their time at the SCH, the water has risen and could impact the wharf in the future:

...but I find the last few years there's times when the water has risen, didn't flood the wharf but it's super high.

Participant 13 indicated that their SCH would also need improvements in the future to deal with severe weather:

Yeah we've...yeah we've had the only thing I can see in the future is the armor rock is going to have to be made higher 'cause the storms are getting more violent and the sea is coming over the existing armor rock.

Not all participants were experiencing severe climate change effects yet. Participant 15 noted they did not see much change due to weather:

Not really, no I haven't really noticed a big...if your boat doesn't move a whole lot after the season until the time you pull it out there's a lot of growth on it... But that... from the water warming up so much.

Overall, the weather did impact SCHs but not to the same effect across the province. Moving forward, considering the role of climate change should be considered to provide reliable and safe SCH facilities.

Number of Users

Interview data indicated that the number of users was changing, both increasing and decreasing. In terms of decreasing, participants noted several factors why users were not returning to their previous SCH. Participant 1 explained that for their SCH, users move their license to another SCH for greater economic benefits:

Actually it's been... back 20 years ago when I started there used to be I would say 10 users and it's just depleted as people don't want to frig with it, or they sold out and no license have come back this way...But my father and his...and my grandfather they all grew up in [community of Harbour B] and it was a very busy spot, there was lots of fish plants and lots of fish boats and it's just gone downhill from the '70s...the fishery went downhill and everybody's moved on to something else or...the only thing that stayed good is the lobster fishery and the licenses seem to be moving away from here to another part of the province or...to where the corporations are, that's where they seem to be going.

Participant 4 also provided a long-term perspective of a decline in commercial SCH users:

...1968 anyway there was...27 boats fishing over here. Now last year there was one left, that was me.

Participant 5 said they used to have more vessels docked at their SCH. Although today there were fewer users, the vessels were larger and took up more space:

...like I can remember when I first did the harbour supervising job, before we amalgamated, [Harbour A] alone had over a hundred twenty vessels, and they only got half now. But they're a lot bigger, taking up the same space.

Participant 6 stated that to their knowledge, their SCH used to have more commercial fishers. When the participant began working with the local harbour authority, only a handful of fishers utilized this facility. Eventually, with fewer users and poor infrastructure, the site became divested:

Okay, so when I started working there in 2007, it was already less populated than before. Like there was maybe seven or eight fishermen left there. It used to be more busy than that, but it came down to about seven or eight fishermen.

In terms of seeing an increase in the number of SCH users, Participant 2 said from their time using the SCH, one additional user came to the site:

Over...yes in 11 years there has been one extra boat come in here that wasn't there before.

Participant 13 stated the number of recreational increased for the Summer of 2020:

And this year...this year [2020], I never seen the likes of the pleasure boats but anyway it's been... we have to turn people away because we just don't have the room.

Participant 17 said they see more people interested in recreational use:

Definitely more people buying speed boats for leisure purposes more than ever.

Results indicate users are leaving SCHs for alternative locations. However, for other locations, additional commercial fishers or recreational users do utilize the SCH.

What is important to remember, as suggested from Table 20, several factors are emerging that can alter the commercial use of the SCH. First, younger people are entering the fishery and working on commercial vessels. Second, a significant restriction to enter the fishing industry is how expensive the licenses and boats cost, which range in the hundreds of thousands of dollars. Third, closed harbours may impact future commercial users'

decisions to use a particular SCH. Closed harbours mean the SCH cannot fit any more vessels at their facility. With these two problems, finding a SCH nearby with available berthage is challenging, which could alter how individuals make their livelihood strategy. Although participants indicated a decline in the number of people who used the SCH, a possible explanation is that vessels had increased in size, thus taking up more room. Therefore, fewer vessels had berthage space at a SCH.

Stocks

For many participants, fishing was the main activity at the SCHs. Without enough species to land, the site would likely become divested and likely to have some effect on users and or communities. A key trend participants noticed while using their SCH was that most species harvested have plentiful numbers. Some participants noted there was a trend of good years and bad ones for different species. During the 2020 season, participants indicated that lobster was exceptional, and the crab stock seemed healthy too.

5.6.2 Seasonality

In terms of seasonality impacting the livelihoods of users and communities, participants identified a few themes which do not have a negative consequence. Table 21 outlines the general themes participants noted. The seasonality primarily relates to when fishing vessels were at the SCH. However, this was likely attributed to when species were fished. Fisheries and Oceans Canada sets out certain fishing seasons that vary between the three study regions. When fishing was not occurring, fishers usually removed their boats from the wharf, and in some cases, pleasure boaters used these sites for their recreational activities. For some sites, the summer months (June to September, when the busiest season is over) offered recreational users a place to dock their boats.

Table 21: Seasonality themes of SCHs identified by participants.

Seasonality	Number of Participants
Use of Site	8
Employment	1
No Impact on Employment	1
No impact on Price	1

Participant 5 indicated when the busiest fishing season concludes, many fishers do not continue fishing during the summer, and recreational users can occupy these spots:

Recreational is mostly yachting, just a small speed boats in the summer months only. We're a closed harbour, all our harbours are closed throughout the lobster fishery which is 6 months from the last Monday in November until June 1st. What we call closed harbours, we can't fit no more in at all. When it comes June 1st, our lobster season is over and probably only, I would say 25% carry on the next 6 months fishing and the rest pretty well pull their boats out of the water and do repairs and paint...painting all that. Getting ready for the next season.

Participant 8 also said when lobster fishing was complete, recreational boaters used the SCH:

And we've...pleasure boats on the floating dock we have them tied up over there on...after lobstering over from the middle of fall. There's six there now.

For employment, one participant noted that the seasonality of the fishery did not affect employment. The other participant who said seasonality impacts employment referenced job creation during the busy season helped employ community members.

5.6.3 Shocks

Participants identified several shocks they encounter at their SCH, as illustrated in Table 22. The three most common themes are weather, conflict present is little, and the COVID-19 pandemic. These top three themes will be discussed in turn.

Table 22: Different areas of shock identified by participants.

Shocks	Number of Participants
Weather	17
Conflict	13
With Small Percentage of Users	7
No Conflict	6
With Other SCHs	2
With Government	2
No Conflict with Other SCHs	1
Users were Territorial	1
With Businesses	1
With Community	1
With the Indigenous Fishery	1
COVID-19	11
Trash	4
Potential Closure	3
Fishery Collapse	2

Weather

Weather was a primary concern for many participants. The weather impacts both the infrastructure and the species caught. Participant 17 remarked that storms cause persistent damage to the SCH, which hampers the economic activity at the site. Repairing these issues takes away funding for capital projects to improve the facility:

Yeah, storms are major problems. So, as I mentioned because the port needs to grow but every year it seems like we're focusing our energy on repairing something that maybe we wouldn't have foreseen or a structural issue and it seems like every storm...every storm hurts something and we have to you know allocate some funding to it. And what happens around here a lot the storm in fills our harbour with sediment and dredging of the harbour so that we have...we have sufficient room underneath our keels to the bottom of the ocean floor is another concern with storms.

Participant 19 also stated how the infrastructure at their SCH experienced severe damage due to storms:

And I mean weather beats up our...we have a lot of floating wharves...In there so the weather really gives them a good go in the winter. And we have to replace those every as often as every couple years. There's at least one or two of those that need replacing. We have a total of probably six I guess, six or at least six. So, they need replacing...

Although the fishery is not central to this research, I cannot dismiss references to climate change, and weather also alters the presence and quantity of species, which could impact the use of the SCH. Participant 8 said climate change is altering the fishery:

Well, everything is changing. There's more wind and so on now than there was. The water is warmer—water warmer this year than ever was I think—getting warmer that means the fish are changing. There's fish in places that you never saw them before. Moving to colder water.

Participant 9 further alluded to the changing climate and its relationship with the species stock and the demand placed on the availability of year-round lobster:

No, when I was younger we used to get huge...a huge ice issue at the wharf you know a lot of like the temperature were way, way colder than they get now. We don't even get winter now, compared to when I started fishing...And then I went on my own, like I say probably close to 30 years ago, and even then I had years that I would be frozen at the wharf for a month or more at a time...You know for the last probably eight winters I've fished straight through all winter...It's a huge difference you know we're getting...the water level overall is raising too everywhere, and the tides get higher than normal and lower than normal. It's a bit of a change overall. And it's changing you know the fishing habits and the stock. 'Cause I mean the stock used to get quite a break during the winter months. Not just the stock, but the market you know like for lobster for example. I mean when we couldn't fish through the winter months for lobster there were no lobster on the market to speak of. Now there's lobster right straight through. But the market has grown so much even with the Asia market and the demand.

The weather certainly causes havoc for the infrastructure at SCHs. There appears to be a disconnect between maintain funding and sustaining SCH infrastructure. An additional and emerging threat for SCH infrastructure is climate change. Climate change is bringing a shift in weather and shifting the number and type of species.

Conflict

When I asked participants if conflict was present at the SCH, most participants said there was little to no conflict. Most users got along with each other at the site and stated there was no conflict between users, and usually, they helped each other out. There were tensions reported between SCHs; however, there were few examples or incidents

described. What was key to unwrap are the tensions and reasons for disputes between users. Participant 5 stated that most users at their wharf got along, and issues were few:

Like I'd have to say percentage wise 98%. They know how it works. If you don't, its just no good for nobody...Yes, I would have to say for the most part they do. The fishermen communities are kind of like one big family. And they help each other a lot. You know there's always one bad apple in the bunch. I don't care what you're doing they seem to go in the opposite direction of the rest. But we get around it.

Participant 7 noted one conflict at their SCH:

No, it's usually pretty...pretty mild around. The odd time you might get somebody... a couple of fellas flare up at another over some kind of issue, like they're setting too close to them or setting on top of them or whatever but other...its nothing... nothing that amounts to much of anything.

Participant 12 gave a reason for why disputes occur at their SCH:

There's always and really within this harbour, it's no worse than any other...any other community where you have a bunch of diverse people with diverse mentalities and personalities, like you know.

Although there were few conflicts, the ones which present themselves were relatively small and dealt with accordingly, and these issues do not impede participants' livelihoods.

COVID-19 Pandemic

Since this research took place during the COVID-19 pandemic, conversations with participants did involve some aspect of discussing this global issue. The interview guide did not include this aspect, but how life at the SCH did or did not change as conversations developed. In relation to the SCH, the pandemic impacted the product price, the number of people visiting the SCH, increased security measures, decreased funding, and postponed meetings about projects or divestiture. Participant 5 explained the price took a drastic reduction because of the pandemic:

Price is a big factor and well, when this COVID come, we was used to getting a fairly big price and it knocked it down about a third.

Figure 13 shows a poster to promote and limit the spread of COVID-19. A further example came from Participant 8, who noted the additional safety procedures created. As a result, access to the SCH became restricted for visitors:

Yeah, well, at lobster time people couldn't come down. There were signs up, they could only come down so far.



Figure 13: COVID-19 posters at the Pereaux (Delhaven)/Kingsport SCH in August 2020. The posters indicate restricted access and encouraging SCH users to practice public health measures while at the site.

Participant 11 said at their SCH supplementary security personnel were hired to enforce safety regulations:

...this year we had to hire an extra person from the COVID...COVID regulations to make sure not that people wouldn't go by the rules, but we just had that extra bit, that extra person there.

Participant 13 stated that they expect delays in moving forward with site projects due to the pandemic:

We need some work done on the east side so maybe after COVID that will be done.

Along this vein, Participant 14 explained that communications with the government have stalled because they cannot meet in person:

...since COVID...COVID pandemic started, we have just sort of stopped all communication because we used to communicate via person-to-person meetings...

Overall, the pandemic certainly caused issues in many aspects of livelihood associated with the SCH but did not seriously impact livelihood strategies.

5.7 Is There a Connection with Divested SCHs and Livelihoods?

Interviewees have various perceptions towards SCH divestiture and its impact on the users and the community. Figure 14 represents five different interpretations of SCH divestiture, all from participants associated with a non-core harbour. The figure indicates that divestiture must be analyzed on a case-by-case basis. There are many perspectives of divestiture, and this research only captures a small fraction of these opinions. Figure 14 demonstrates infrastructure is a critical element of sustaining one's livelihood. Without proper facilities, the user is putting their life at risk to maintain their livelihood.

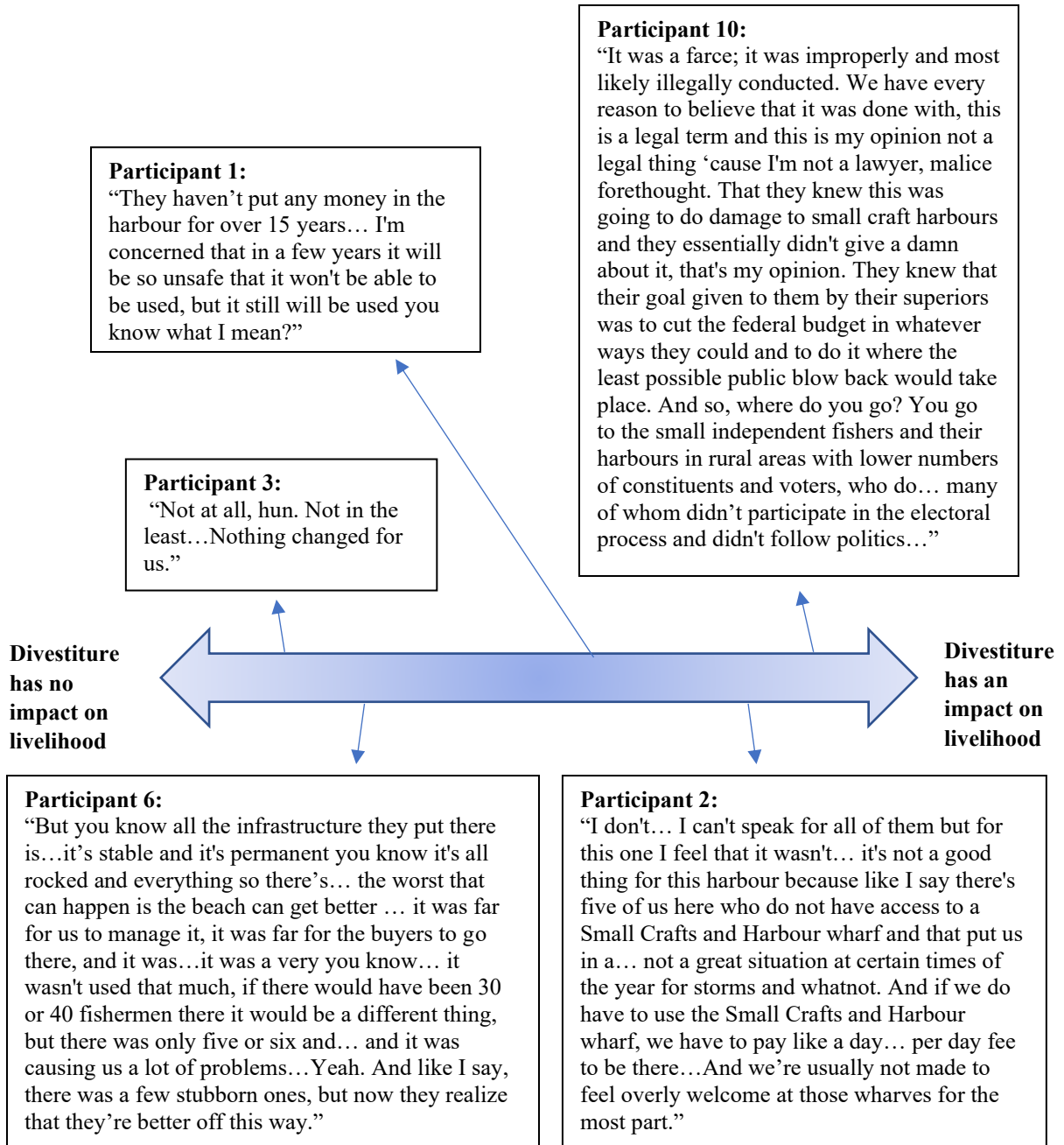


Figure 14: An infinite scale indicating where some participants who associate with a non-core harbour thought of SCH divestiture.

Responses for divestiture impact vary across participants, according to Figure 14.

In a hypothetical scenario, I asked participants at non-core harbours the question, “if a SCH came to you and asked for your advice whether or not they should stay as a core harbour or become a non-core harbour, what would you say to them?” Or I asked the question, “do you see any benefits or challenges with divestiture?” Asking these questions helped to

indicate whether divestiture was recommended or possible limitations associated with this process. Table 23 represents non-core harbour participants' responses to this question.

Table 23: Divestiture perspectives from non-core harbour participants to other SCHs.

Non-Core Participant Number	Divestiture Perspective
1	“...what I can see is a large corporation, like Nova Scotia Power or somebody like that, that would benefit from something like that and has the deep pockets that they could spend money in the harbour. That's who's going to end up with that wharf, somebody like that... Well, as long as they let me use it, I don't care... I would say that if it's done the right way, divested would be the way to go. But it would have to be done with somebody that can fix it up, or somebody that has the know-how and the deep pockets to take care of it. And us little fisherman, don't have that.”
2	“No...I haven't seen any benefits to it. It's just...we don't get it.... we haven't been able to get any money from Small Crafts and Harbours to... to do any work for us and everything's just falling to pieces and nobody takes care of it.”
3	“...because it didn't hurt anything you know. We didn't lose anything by it, so yeah. I probably yeah ...I probably would. But it all depended on what...what activities were at their wharf you know. If they were bigger into fishing or that sort of thing right.”
4	“Well, I would like to see back to core harbour if we could, but you know that's... we'd have to have a lot of money invested here you know to do that, but I don't know.”
6	“...I would recommend going our way if... if there is a divestiture like we didn't decide that the government did. So, we had to try stuff like I say take the money and they give us... they give us the property as is, or we could... we could close it down and secure it and give it to us after, so I would do that route... And I mean for other areas where there's divestiture it could that... it could be different because the next wharf that they have to go to could be a lot farther than our situation here.”
10	“Absolutely not. It was not just a pig and a poke. Like I say it was a complete loss for the communities, it was a loss for the economy because as these harbours begin to fail because of aging-out of the fishing... fishers and the non-inheritance of licenses, and silting in of the harbours, the lack of maintenance of any kind to the harbour that would be required to maintain in an optimal productive condition, it's a loss in every way for both the fishing community and the communities themselves where in many cases it's the only form of commercial activity which has been the case in [community of Harbour J] until recently..”
12	“I don't like it...Because, well actually I shouldn't say I don't like it... somebody would get it and run it their own little feastdom or their own little piece of property and if you want to use it, you gotta pay through the nose, you're gonna do this, do that, jump through hoops...I don't agree with piling hardship on top of hardship on top of hardship on my fellow fishermen or my fellow local residents.” [Benefit]: “No. Outside of the government cutting loose, some slack, but well they should start at the top in Ottawa but that's besides the point. [Laughter]”
14	“Well, it depends on the interest of the community and the commitment that the community's able to put in or wants to put in. If they want the wharf, they pretty well have to go with a divestiture plan because if they don't want the wharf then it's gonna be... not gonna be a wharf, it's gonna disappear.”
16	“So, the... so the community is suffering now from the fact that some of the fishing activity that used to take place here, and that those who make a living here depend on, has to be taken somewhere else. [Pause] So really, I encourage you not to focus on things. This is really about a way of life, the perpetuation of the ability to make ones' living from the sea that is at stake...in rural communities. And that concern is not unique to [community of Harbour J]. Again, the resources that are complementary to making that... that activity (fishing) possible are federally owned.”

As Table 23 indicates, participants at non-core SCHs hold many attitudes towards the divestiture process. If a community wants to take over their SCH, substantial funds and people-power are required for successful operations. But these requirements are not always available in small, rural communities. Therefore, as Participant 15 described, it is up to the community to determine its capacities to operate a SCH. Figure 15 approximately graphically represents where these perspectives fall based on their attitudes expressed in Table 23.

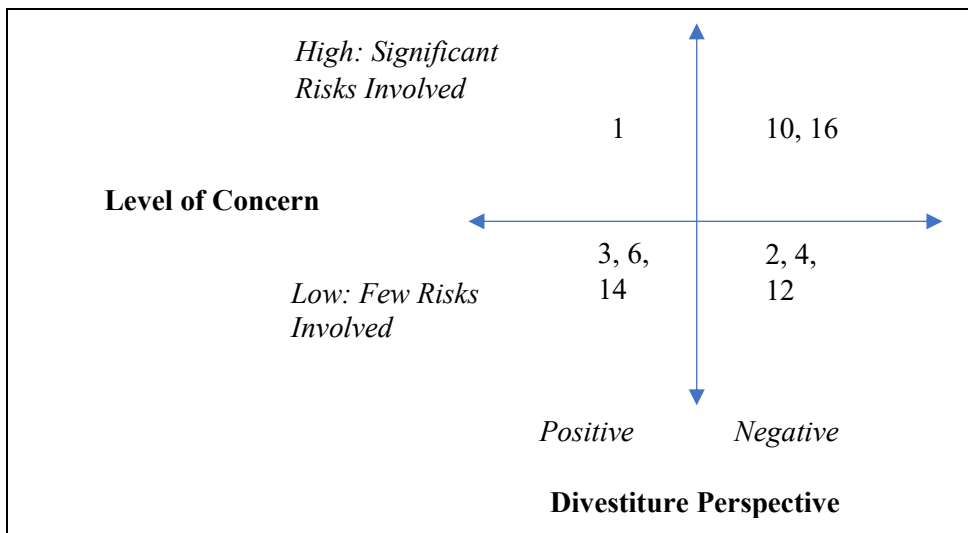


Figure 15: Divestiture-concern scale further explaining where concerns lie with non-core harbour users (represented by their participant number) and their perspectives on divestiture.

Figure 15 indicates that there seems to be almost a split opinion on the divestiture perspective. The graphic suggests that potential new owners of the SCH must be wary of operating such facility as 6/9 participants expressed concern or a negative connotation with divestiture.

5.8 Summary of how Participants Feel SCHs Impact their Livelihoods

In the previous three sections of data analysis, it is clear that there are converging and diverging themes and not all SCHs share these themes. Additionally, there is a chance of misrepresenting participants' perspectives when only extracting a small portion of what

they said. The purpose of Table 24 is to provide what each participant said about their SCH impacting their livelihood or community. Precisely, why the SCH is or is not essential for their livelihood or that of their community.

Table 24: To show participant's perspective on their SCH, the table provides the participant's identification number, what SCH type they use, and a statement about how the SCH influences their livelihood.

Participant Number	SCH Type	Perspective/Why or why not the SCH Important?
1	Non-core	Monica (11:38): "So, having the harbour doesn't... does it enhance your livelihood or threatened your livelihood or those in the community?" Participant (11:49): "No."
2	Non-core	"I would say mostly just for us fishermen. We...its quite important to us because we... we don't really have any other place to go to tie our boats."
3	Non-core	"Does enhance, yes. If they need the side of a dock, they got it. If there's a...boat there, we'll move it or they can come beside it, or if the Search and Rescue guys that are on the boats that do their courses, they need to use the wharf for an afternoon, we'll move our boats and they can use it, right..."
4	Non-core	"Well, this was a fishing community for years and you know it depended... we had stores... a store, and a canteen that was a thing in the summertime, a lot of tourists used to come buy lobster from us one thing or another. But that's all gone by the wayside now. But you know we don't want to see our community die 100%, we'd like to have something going on into it."
5	Core	"Benefits it's kind of like I said it's just... it's just a hub for the entry point of you know financing, bringing in your yearly income and I'd have to say the spin-off is so good here. If the boats do real good the fishermen seem to spend a lot, and you get carpenters, you get construction and everything does well."
6	Non-core	"I would say leave it divested...it wasn't used properly and if... and it was causing us a lot of problems because we had...we were getting calls that there was pieces of the wharf that was falling apart, there were kids going there playing and diving off the wharf, so there was a lot of risk involved and a lot of... so we're glad that... I think we're glad, I am anyway, but I would say the Board is also glad of the way everything proceeded."
7	Core	"Other than the fact the fishing and the jobs it supplies, nothing that I can think of anyway. And there's a boat builder just down the road here...The fishermen go down there all the time, especially in the springtime getting ready. They buy their stuff through the boat shop, for whatever they need. They got five or six people employed down there all year."
8	Core	"...Why it's important? Well, its close, it's a nice place, like... and then there's beaches, everybody... a lot of people around in the summertime, like use it a lot. It's one of the best beaches around... Yeah and a lot of people use it. But it would be an awful disappointment if the wharf was gone...well it's just part of the community, you know. We'd be lost without it."
9	Core	"Oh, I would say it definitely enhances it because it gives a person a safe haven, you know for their boats...Well, I say it's a huge help to the people of the community in the sense people don't have to have a wharf of their own, and they don't have to maintain a wharf of their own...So, as far as you know that and community members can... they come down to the wharf, they get fresh catch from the fishermen and you know they... I think everybody appreciates the wharf."
10	Non-core	"Boy, it's hard to tell because it's when you talk about how many people use the harbour you have each of the fishing boats has an owner and a captain. But each of those then has all the people that work with him whether they are fishing and crab or lobster. So, the number of people estimated to work out of the harbour is somewhere in the vicinity of probably 40. But the number of boats is only probably

		around a dozen...But the harbour is used by people with zodiac boats and with fishing boats to put in for mackerel fishing. There are also kayakers. A number of people come down here and utilize the harbour as the launching point because there's a ramp access to be able to put in boats and to launch kayaks and canoes. So, it's a much more active harbour than would ever been estimated by DFO [Fisheries and Oceans Canada] at the time of deproclamation because all they cared about was meters at waterline and can we divest this harbour."
11	Core	"Like the role? Well, like I said well economic role, the commercial fishers there's... there's a big... there's a big thing like I said I already repeated myself, the economic part of it... It would be quite devastating I would say to the area if that wharf were to close or if it wasn't there some day, you know. Yeah, it wouldn't... it wouldn't be very good."
12	Core and Non-core	"Our harbour is basically the closest point of refuge from [nearby island] or like a number of fishing banks, like good fishing grounds...So, having a good, viable harbour as well as... and the structure with wharves and things helps the community... I was just gonna say just run off benefits like that for having the harbour like not only the fishermen and their crew, it's well the supply chain or whatever you want to call it so that the buyers their helpers, the people that produce the food things like that, or like sell food, 'cause they won't be able to be here if there was no money here and the fishermen are the ones producing the main money and with the spin-off jobs from the fishery, you know what I mean?"
13	Core	"And if that wharf was closed those nine fishermen would have to go somewhere else that would add up to a lot more expense to fish..."
14	Non-core	"It is. According... especially according to the locals who live around it. It been there for years and years and years, and they would hate to see it go. And it... if you don't own property in the area it's a... it's a good spot to go just to take your kids and use the beach or they dive off the wharf and all that sort of thing."
15	Core	"Oh, yes. It certainly does. Especially for those that are involved in the fishing industry."
16	Non-core	"...it's a... an underlying theme to the existence here. It is part of the definition of... of this community...It's our access to the marine world upon which a lot of people depend...life here is dependent on how that resource is being used."
17	Core	"So, when the lobster fishermen here in I mean I can say [Harbour M] but I mean southwestern Nova Scotia, if the lobster fishermen are doing well generally it makes a... almost a very impressive economic spin-off that everybody feels it. It's quite you know a healthy economy when things are going well. Now, I mean we couldn't do this without our wharves."
18	Core	"It's where I sell my product, it's where I tie my boat, it's where I run my business out of, everything...And a community gathering place [Laughter]... We all make an income from that harbour."
19	Core	"I suppose mostly the number of people that it employs... 'Cause each boat, and there's 22 boats, each of them have at least... at least two if not four, sometimes three or four employees on each boat...Some of them come and most of the guys that fish out of that harbour are connected to the community... Yeah, it's not just economic it's super... a pretty social spot too. And everybody is so happy to see each other after the winter! [Laughter]"

The remarks from Table 24 indicate primarily reasons why the SCH is important to the participant, users, or community. These responses align with the findings from section one and that the SCH is a source of direct employment and the heart of the local economy. The SCH is an essential place for community socialization through buying seafood and

hosting various recreational activities. The SCH is a source of community identity, such as seeing fishers off on the first day of the season and advocating for the SCH to remain operational under Fisheries and Oceans Canada helm.

5.9 Discussion

For all the participants, SCHs provide them with a facility to execute their livelihood, whether it is fishing, recreational use, or other activities. However, the extent to which the SCH is vital to perform these activities varies between participants. Although this data captured a wide range of views, it is difficult to correlate any significant findings across all SCHs in Nova Scotia. Each SCH is unique because of many factors such as the history, users, and operators. Therefore, the analysis presented should be understood as a general overview and a baseline for future avenues of inquiry for SCH research. Nonetheless, for the majority of the participants, the SCH holds an integral part of livelihoods that extends beyond the user and into the community. The SCH provides economic growth, community involvement, and vital identity factors.

5.9.1 Emerging Themes

Many themes presented in the analysis overlap and are repeated throughout the result sections. This finding indicates the inter-connectedness of issues on livelihoods. For example, the weather is understood to be an emerging trend but also a shock for users. Weather events and climate change are impacting the SCH infrastructure, and many need improved facilities to combat rising sea levels and storm severity. However, as many participants indicated, there is insufficient funding, and primarily safety concerns are addressed first before major projects. Issues participants face with the government are connected with a lack of adequate funding. To stop this cyclical trend, the issues must be

addressed in its entirety by listening to SCH users and their tacit knowledge and tackling the core problem. Notably, this means reducing the number of temporary fixes.

For non-core SCHs, there is a need for funding post-divestiture. However, that is not part of the SCH mandate to provide such resources. Greater transparency of what a non-core harbour is, how one is determined, and the outcomes of this classification must be readily available to all SCHs. For 7/19 participants, I had to define what a core and non-core harbour is and the difference between those categories.

When I asked Participant 16 what changes they would suggest to Fisheries and Oceans Canada about the divestiture process, the individual replied that understanding what makes up the two categories were needed:

Actually, my...my...the beginning of my suggestions would not...wouldn't actually start there. It'd start with the identification of core and non-core harbours.

A lack of knowledge surrounds what constitutes a core or non-core harbour for SCH users, harbour authorities, and community members. With a proper understanding of the divestiture program, harbour authorities, users, or community members can make the best decision for their SCH and minimize harmful impacts to their livelihoods.

In examining the sustainable livelihoods approach's findings, most participants have the capital assets required to continue using the SCH. However, improved physical resources, specifically the facilities, need attention. In many cases, the significant improvement projects are the responsibility of the federal government. However, non-core harbours are left to fend for themselves and find alternative ways to address their poor infrastructure. Some individuals go to other SCHs, while others risk their safety to tie to poor wharves.

The transforming structures and processes are the harbour authority at the local level and the federal governments at the national level. The federal government must approve any changes, and usually, only those with access to a harbour authority can attempt to advocate for their needs. In terms of vulnerability, most participants are concerned with weather events and climate change impacting the SCH. Therefore, to address these concerns, funds must be available from the federal government to ensure SCH users can continue pursuing their livelihoods.

5.9.2 Connecting Data Findings with the Literature

These research findings reflect conclusions by Currie et al. (2012) and Lam and Gislason (2003). Concerning Currie et al.'s (2012) findings, SCHs in Nova Scotia are not necessarily advertised as tourist attractions. However, many people do visit the wharf for a first-hand experience and to ask questions. Developing this area of tourism may be beneficial for the SCH harbour to earn extra revenues. Other results from the Currie et al. (2012) study that also mirrors the results in this chapter are the connection the SCH holds with the community regarding the importance of direct and indirect employment and the facility as a focal point for socialization.

As for the findings from Lam and Gislason (2003), their results are comparable to the findings presented in this chapter. The SCHs are essential for the community's economic well-being and other employment opportunities because of a viable SCH. SCHs are the site of many community events and a critical social spot for residents. Considering these two studies, Currie et al. (2012) and Lam and Gislason (2003), this study's findings support and validate the previous research on SCH economic importance and community identity.

The results from the interviews also complement research by Surette (1982) and Cisneros Linares (2012). For example, Surette's (1982) documentation about the importance of SCHs and not enough funding for infrastructure upkeep remains valid until 2021, and the weather continues to be a concern for the integrity of the structures. Cisneros Linares' (2012) research also backs up the claims that SCHs are more than just infrastructure for the commercial fishery as working waterfronts but also provide significant social values and many indirect economic impacts for the community. Incorporating the results from Greenan et al. (2018) and Greenan et al. (2019) can further assist in developing improved criteria for SCH in terms of infrastructure and climate change. Weather and climate change impact several SCHs, and this issue must be addressed sooner rather than later.

Findings from the semi-structured interviews also align with the results published by the Standing Committee on Fisheries and Oceans (2019). Specifically, there is an agreement between several key points including a lack of funding, utilizing user's knowledge for SCH projects, the approach to address SCH infrastructure and the evolving fisheries which require improved facilities, recognizing the multi-faceted uses of SCHs, and environmental concerns. The Standing Committee on Fisheries and Oceans (2019) indicates poor condition and funding issues of non-core SCH facilities visited. Although the sample of non-core SCHs in this research is too small to generalize across Nova Scotia, one linkage relates to the many comments from participants who indicate a desire to obtain federal government funds to improve their facilities.

This research also supports studies conducted on the social and intangible aspects of the fishery. Referring back to Brookfield et al.'s (2005) definition of a fishery-dependent community, "...a population in a specific territorial location which relies upon the fishing

industry for its continued economic, social and cultural success” (p. 57), the results from participants indicate SCHs form a bond with the users and community as many SCHs provide a positive indirect economic effect. From the conversations with participants, businesses take advantage of the SCH to cater to those in the fishery. Without the SCH presence, these businesses would likely be non-existent or at a reduced capacity. Without the presence of the SCH in these communities, many participants expressed concern for the area's livelihood. This conclusion aligns well with the Urquhart and Acott (2014) study regarding the fishery becoming part of the lifestyle and community identity. Participants link their occupation with how the community views itself. As a result, the community becomes known as a fishing community and attracts visitors.

Acott and Urquhart's (2014) and Williams' (2014) research also support the findings from this study. SCHs allow individuals to exercise their livelihood strategy and, in turn, stimulates other businesses to do well. These indirect effects help those individuals achieve their livelihood strategies.

Khakzad and Griffith's (2016) study aligns with the findings presented in this chapter, as many participants spoke about the long history of fishing in their communities. Fishing and using SCH facilities became the way of life in many of these locations and added a sense of identity. For residents to see these facilities disappear or deteriorate means losing a part of their community and collective history.

5.9.3 Are Livelihoods Sustainable?

Findings from this research suggest that SCH users and communities have developed ways to maintain their livelihoods. Participants indicated that SCHs held elements of enhancement, threatening, and no impact on livelihoods. In other words, many participants spoke about positive and negative components of their SCH, which impacted

their livelihoods. SCHs enhanced livelihoods by providing direct and indirect economic benefits, a place for community socialization, and a source of recreational activities. Participants revealed several areas of concern where the SCH impacts their livelihood negatively. Mainly the SCH infrastructure, climate change, and funding. However, the users or harbour authorities cannot address these areas of concern; rather, the federal government holds responsibility for the infrastructure and funding of core harbours. While climate change remains an emerging issue, affecting not only SCHs but society.

Participants do have enough capital assets to sustain their livelihoods. To enter the fishery, one must have enough financial capital to purchase a license, vessel, and hire a crew, to name a few costly assets. In terms of human capital assets, learning about the fishery and the SCH are vital skills to maintain livelihoods. The social capital assets are obvious at core harbours and non-core harbours, which have a harbour authority. Harbour authorities are a critical connection between users and the federal government and voice the concerns of the users. However, non-core SCHs who do not have a harbour authority or leadership lack this capital asset. In terms of natural capital assets, participants made it clear there are enough natural resources to continue using the SCH and sustain a fishing livelihood. The last capital asset, physical, could hamper livelihoods. Without a reliable SCH, users are putting their lives at risk to utilize the facility. The lack of physical capital assets also ties with the financial capital as harbour authorities do not have enough funds to make the repairs themselves and rely on the federal government for investment. The situation appears worse for non-core harbours since they are deemed not essential by the federal government and do not receive any investment after divestiture.

Although this framework does not provide a future projection, the results obtained can be used to address current concerns and create policies that will address critical trends,

seasonalities, and shocks in the future. The sustainable livelihoods approach does provide insight into how users and communities create livelihood strategies at SCHs in Nova Scotia. Although local in scale and results unique to the communities, the findings can assist other SCHs across Canada as a baseline to begin their study into sustainable livelihoods and SCHs.

5.10 Conclusion

This research has a great breadth of perspectives of SCH users across Nova Scotia, but the study lacks depth and only touches on important topics for SCHs users. Further inquiry into specific SCHs, Fisheries and Oceans Canada regions, and or SCH types can complement this study's findings. This exploratory study reveals many similar and different themes for SCHs in Nova Scotia, depending on various contexts and histories. The results presented here identify two key areas for further discussion: policy recommendations and future research required.

5.10.1 Policy Recommendations

The following list is three suggestions to improve the SCH Program to reflect better the conditions faced by users and communities during this research. These suggestions may or may not apply to all SCHs in Nova Scotia but will provide a starting point to improve the SCH Program and the facilities. Whatever the federal government decides to address, there should be open consultation with SCH users and the community.

Core and Non-Core Harbour Status

There is a need for greater transparency for what constitutes a core and non-core harbour. The definition should be written in plain language, describing what each type means and the consequences of the category. For example, is there a chance of the SCH evolving and going between categories as the conditions of the users and community

change? Additionally, the SCH Program must clearly outline the costs and benefits of third-party ownership. For non-core harbours, supports should be established to help access funding and other services to help third parties operate SCHs. From the results, participants at non-core harbours or those with experience regarding divestiture point out the ultimatums faced when forced to decide whether to take control over the SCH or see it sold. These structures are part of the community and livelihoods. Being forced into that predicament is not fair, especially if one's livelihood depends on the facility.

Another possible avenue to explore is the possibility of making some non-core harbours core harbours. With appropriate upgrades, these "new" core harbours will provide additional berthage for growing vessels and accommodate users waiting for a spot at closed harbours. These upgrades will help revive the SCH and possibly the community and help the economy as more product is brought ashore. Therefore, more buyers and associated businesses will need to be created or expanded.

Community Involvement

Establishing a standard minimum level of community involvement is required for major projects or changes in SCH status. This research indicates the SCHs are vital not only to users but to the surrounding areas. Therefore, any decisions made about the SCH could negatively or positively impact the whole community that relies on the SCH for direct and indirect economic spin-offs. Therefore, consultations between the federal government and the communities must be inclusive of all interests.

Formulation of SCH Working Groups

SCH working groups would include federal representatives, SCH users, harbour authorities, community members, and businesses. The groups would be categorized based on the Fisheries and Oceans Canada regions and meet to discuss current trends, obstacles

faced, and what is working well. Clear and transparent communications will aid in hearing what all vested interests know about the SCHs and how to address problems. The working groups will allow for users' tacit knowledge to surface and an opportunity for federal government representatives to voice their perspectives.

5.10.2 Future Research

This exploratory study revealed several questions that future research must address. Future research into this area must consider the community dynamics and relationship between the users and the federal government. In terms of divestiture, research needs to complete a holistic analysis of the history and use of non-core harbours, how the divestiture process occurred, the current situation, and what users or the community believe is the future of the SCH slated for divestiture. This research highlights many effects of divestiture; however, this research does not address why that is the case. Research into non-core harbours and how users' and communities livelihood strategies changed would expose the potential implications of divestiture. Another avenue to explore is research regarding a specific SCH that could reveal other lines of evidence that can indicate whether the facility fully supports or denies users' livelihoods.

5.10.3 Final Thoughts

Overall, this research on SCHs in Nova Scotia shows various opinions about how the SCH program is managed, the value of the facility, and the impact SCHs have on livelihoods. To further this understanding between SCHs in Nova Scotia, the following chapter will explore common themes with the media analysis presented in Chapter Four. Combining the findings from these two research methods can help identify areas of hope and concern which can address the value of SCHs in Nova Scotia.

6.0 Chapter Six: Overall Conclusion and Recommendations

6.1 Introduction

This research aimed to answer the question “why or why not SCHs in Nova Scotia impact the livelihoods of its users and communities and determining if any obstacles stand in the way of achieving a sustainable livelihood for either the users and communities?” through a media analysis and semi-structured telephone interviews. For the most part, SCHs do impact the lives of their users and communities. Chapters Four and Five presented two different lines of evidence about SCHs in Nova Scotia to make this claim. Both datasets provided diverse perspectives on this topic and did agree with each other. The media analysis from Chapter Four provided a broad overview of SCH media coverage from 1997-2019, which assisted in setting the historical and current context of SCHs in Nova Scotia. Chapter Five built off this evidence to determine whether the themes identified from Chapter Four align with users and communities. The semi-structured interviews employed in Chapter Five asked users of SCHs whether the facility enhances, threatens, or has no impact on their livelihood or that of their community. The sustainable livelihoods approach added an additional lens to delineate the interview data regarding available assets, policies and processes, and critical trends impacting users’ livelihoods.

6.2 Discussion

The discussion portion is divided into four sections. First is an examination of how the findings from this research align with other studies on SCHs and the livelihoods relying on the fisheries at both the local and global levels. The second section explores more in-depth the correlation of results between the media analysis and semi-structured interviews. The third section follows up the results of section two and presents suggestions for the

SCH Program. The fourth section is the conclusion which ties up the chapter and states research limitations and areas of future investigation.

6.2.1 Discussion with the Literature

Results from this research add to the field of social science research on SCHs in Canada (e.g., Surette, 1982; Lam & Gislason, 2003; Toews, 2005; Cisneros Linares, 2012; Currie et al., 2012; Brown, 2015; Standing Committee of Fisheries and Oceans, 2019). Additionally, findings from this research agree with results from other studies on SCHs and the livelihood connected with the fisheries. SCHs are essential for their communities in economic value, lifeways, as a place to gather, for leisure, and a tourist draw (Surette, 1982; Lam & Gislason, 2003; Currie et al., 2012). Some facilities still do not receive enough funds to sustain themselves and remain in poor conditions (Surette, 1982), and the weather is a significant contributor to SCH degradation (Surette, 1982). Additionally, the divestiture process must change to reflect third-party owners' reality (Toews, 2005).

When comparing the research results to findings related to fishing as an identity literature, both were consistent. Several media articles and participants identified with being part of a fishing community (Brookfield et al., 2005; Acott & Urquhart, 2014; Urquhart & Acott, 2014; Khakzad & Griffith, 2016), there was an effort to support the fisheries (Brookfield et al., 2005), wharves are a tourist draw (Urquhart & Acott, 2014), fishing supplied other occupations within the community (Acott & Urquhart, 2014; Williams, 2014), direct employment (Williams, 2014), and when there were fewer users, the wharves were used for other purposes (Williams, 2014).

6.2.2 Discussion with the Research Findings

This portion of the discussion is focused on comparing themes from the media analysis and the semi-structured telephone interviews. The media analysis and semi-

structured interviews provided valuable insight into how SCHs users viewed their facility. The discussion will speak to four general themes which emerged from the two data sets: the importance of SCHs, funding for SCHs, condition of SCH infrastructure, and SCH divestiture.

Importance of SCHs

This research found that core and non-core SCHs did enhance the livelihoods of their users and communities. Findings from the media analysis and semi-structured interviews indicated that many of the SCHs in Nova Scotia played a critical role in providing direct employment for residents and indirectly through the formation of businesses to support the fishery, such as vessel repair shops. SCHs also contributed to the tourism sector, community identity, and provided safety elements like a refuge for boats and search and rescue.

There were a few instances in which the SCH did threaten or did not impact livelihoods. In threatening livelihoods, the users had adapted to their conditions by finding other SCHs to use in conjunction or not upgrading to larger boats. But in general, climate change and funding were a significant threat to livelihoods relying on SCHs. In other situations, the SCH was critical several years ago, but the facility is no longer used in the same capacity with a decline in users. However, the users and community have adapted to the change in SCH use.

Funding for SCHs

For SCHs to remain operational and serve their users and communities, the facilities require adequate funding. The media analysis and semi-structured interviews spoke on funding, primarily the need for monies to cover major repairs instead of making minor fixes that will sustain a short time. However, the media analysis did inform this

research that the federal government was providing funds to SCHs in Nova Scotia for repairs and dredging. Several participants recalled that the funding received was only enough to get by and does not address major concerns like structural integrity.

Condition of SCH Infrastructure

In the same vein as funding, the SCH infrastructure concerned several interview participants and could enhance, threaten, or not impact livelihoods. The media analysis and participants indicated their SCH was unsafe or needs significant repairs and dredging to bring it back to optimal efficiency. As the media analysis revealed, the federal government undertakes projects to ensure the continuation of SCH use through repair, dredging, and research funding. However, participants indicated that repairs were enough to get by and did not address the large structural issues.

SCH Divestiture

Although not a significant objective of this research, the themes related to divestiture did arise in the media analysis and were a key part of the semi-structured interviews. The SCH Program must make changes to its divestiture approach. The impact divestiture had on the users and communities differs. In the semi-structured interviews, some participants noted that divestiture affected the community as former users moved to other facilities, and the site was no longer safe. However, other participants stated that divestiture did not affect the users because they accessed other SCHs nearby, or only a few users rely on the facility. These opinions were expected since each experience was unique, and the uses at the SCH varied.

6.3 Recommendations

The recommendations stated here are formed in conjunction with the findings from Chapters Four and Five. If implemented, the SCH program may see improvements in

operational efficiency and user satisfaction. The recommendations are intended to support users, communities, and to ensure the longevity of the SCH facility. However, what is most important to remember is that any action imposed must be in consultation with the users and communities. These individuals utilize SCHs daily and understand the needs and the best practices required to address an issue.

6.3.1 Recommendation One

Fisheries and Oceans Canada should take an active leadership approach and responsibility within the SCH Program. As the primary caretakers for SCHs, the federal government should act on reports and promises to maintain SCHs in safe working standards. This study aligns with other federal reports on SCH, which outline further recommendations (e.g., Fisheries and Oceans Canada, 2011; Standing Committee on Fisheries and Oceans, 2019). With mounting amounts of evidence and recommendations, the federal government needs to act on concerns raised. SCHs are the economic centres of activity for rural, coastal communities. Without proper care and support, not only is the local economy and livelihoods at risk but Canada as a whole.

6.3.2 Recommendation Two

Fisheries and Oceans Canada should take the opportunity to listen to users and communities about their hopes and concerns about SCHs. Listening to the local population means hearing what they experience daily. Local knowledge is critical to incorporate since the users and residents are the experts. Improved consultation means greater transparency with communities which can enhance the relationship between the two sides. In both the media analysis and semi-structured interviews, SCH users and communities expressed discontent that the federal government does not listen to the voices who use the facilities

every day. There are many valid knowledge holders, and the federal government must recognize this and include diverse perspectives into SCH decision-making.

6.3.3 Recommendation Three

Fisheries and Oceans Canada should improve the SCH Divestiture Program. From the media analysis results, non-core harbours still need funding or assistance from the federal government. SCHs about to be divested, such as Northport Wharf experienced, years of neglect and lack of funding which resulted in the SCH being up for divestiture. In addition to this concern, the semi-structured interviews revealed a mixed approach to how divestiture occurs. The process ranges from community consultation to discussions with just the SCH users. This process is not transparent when the SCH is an asset valued by the whole community. Therefore, greater communication with the SCH users and community, establishing publicly available criteria for what constitutes SCH divestiture (e.g., not of value to the community and user livelihoods), and financial and resource support available to the non-core harbour post-divestiture. Lastly, consistent language must be used as to what non-core harbour means. Several participants in the semi-structured interviews needed clarification on the meaning of non-core and divestiture.

6.3.4 Recommendation Four

Fisheries and Oceans Canada should update their online information. During the research phase of this project, there were discrepancies between different pages of the SCH webpages. The map listing SCHs as core and non-core were different from their searchable table. Fisheries and Oceans Canada did provide an updated spreadsheet of core and non-core harbours in Nova Scotia when posed with this issue. This list was the guide for formulating potential contacts. However, as the research process developed, one error indicated that a SCH was non-core when it was a core harbour. The SCH database must be

updated regularly. In addition, the website should clearly state the status criteria for core and non-core harbours and have contact information readily available for harbour authorities and caretakers of non-core harbours.

6.4 Conclusion

The findings from this thesis answered the question, “why or why not SCHs in Nova Scotia impact the livelihoods of its users and communities and determining if any obstacles stand in the way of achieving a sustainable livelihood for either the users and communities?” Using a literature review, a media analysis, and semi-structured interviews, this research demonstrated the different uses and importance SCHs hold for their users and communities in Nova Scotia, Canada. Although exploratory in nature, the findings and recommendations can contribute to improved SCH policy to ensure beneficial outcomes for individuals and communities who rely on these facilities for their livelihoods. The conclusions of this research align with previous literature about Canadian SCHs (e.g., Surette, 1982; Lam & Gislason, 2003; Toews, 2005; Cisneros Linares, 2012; Currie et al., 2012; Brown, 2015) and the role of fisheries have on the livelihood of their users and communities (e.g., Brookfield et al., 2005; Acott & Urquhart, 2014; Urquhart & Acott, 2014; Williams, 2014; Khakzad & Griffith, 2016), as well as reports detailing how the SCH Program should operate (e.g., Fisheries and Oceans Canada, 2011; Standing Committee on Fisheries and Oceans, 2019). Therefore, the results presented in this research do validate past reports and recommendations. However, before proceeding with these recommendations, it is crucial to remember that all SCH communities are unique. One solution is not going to solve the issues faced by users and communities. That is why transparent community consultations are essential to implement.

6.4.1 Research Limitations

The exploratory make-up of this research leads to three main limitations. First, participants were engaged through a purposive sampling method. If more contact information was available, this research could reach other, diverse SCH users. Second, other participants who have a business or other connection with the SCH should be engaged with this research. These additional perspectives would provide more significant insights into how the SCH enhanced or threatened livelihoods. Third, due to the COVID-19 pandemic, there was a chance to exclude participants who did not want to participate because of a lack of access to technology or a desire to meet in person for the interview.

6.4.2 Implications of the Research

This research provides additional evidence for the federal government to maintain and improve the SCH Program at a high level. These facilities are the epicentre of many coastal communities' livelihoods. SCHs allow individuals and communities to be sustained and prosper. This research also demonstrates how much individual SCH vary across Nova Scotia, and although under the same program, the facilities impact livelihoods in different and similar ways. This research indicates these differences and advocates for an inclusive approach to SCH policy development and decisions impacting these sites.

6.4.3 Future Research

Research regarding livelihoods and natural resources, specifically fisheries, is still an emerging field (e.g., Charles, 2021; Warren & Steenbergen, 2021). An examination into how communities can respond, and tackle change is also required. Research like Brown (2015) and this study can show the strengths and weaknesses of communities' capabilities into how future policy should be developed. Using Brown (2015) and this study provides a

solid baseline for community involvement in the commercial fishery policy. The fishery is not limited to just the SCH but rather the community.

This study only scratched the surface of what SCHs mean for users and communities in Nova Scotia. Additional studies must verify whether the results presented in this thesis apply to other SCHs, not only in Nova Scotia, but across Canada. Although there are several federal government reports about SCHs in Canada, more academic research is required to ensure the report recommendations are followed through and document the impact on coastal communities. Finally, with the threat of sea-level rise, specifically in Nova Scotia, research on how SCHs will overcome this threat could aid other similar facilities not only in Canada but internationally.

References

- Acott, T., & Urquhart, J. (2014). Sense of place and socio-cultural values in fishing communities along the English Channel. In J. Urquhart, T. G. Acott, D. Symes, & M. Zhao (Eds.), *Social issues in sustainable fisheries management* (pp. 257–277). Springer Netherlands. https://doi.org/10.1007/978-94-007-7911-2_14
- Adams, E. (2010). The joys and challenges of semi-structured interviewing. *Community Practitioner*, 83(7), 18–21.
<http://ezproxy.library.dal.ca/login?url=https://search.proquest.com/docview/577411458?accountid=10406>
- Allison, E. H., & Ellis, F. (2001). The livelihoods approach and management of small-scale fisheries. *Marine Policy*, 25(5), 377–388. [https://doi.org/10.1016/S0308-597X\(01\)00023-9](https://doi.org/10.1016/S0308-597X(01)00023-9)
- Allison, E. H., & Horemans, B. (2006). Putting the principles of the Sustainable Livelihoods Approach into fisheries development policy and practice. *Marine Policy*, 30(6), 757–766. <https://doi.org/10.1016/j.marpol.2006.02.001>
- Bennett, N. J., Kaplan-Hallam, M., Augustine, G., Ban, N., Belhabib, D., Brueckner-Irwin, I., Charles, A., Couture, J., Eger, S., Fanning, L., Foley, P., Goodfellow, A. M., Greba, L., Gregr, E., Hall, D., Harper, S., Maloney, B., McIsaac, J., Ou, W., ... Bailey, M. (2018). Coastal and Indigenous community access to marine resources and the ocean: A policy imperative for Canada. *Marine Policy*, 87, 186–193. <https://doi.org/10.1016/j.marpol.2017.10.023>
- Bernard, H. R. (2011). *Research methods in anthropology: Qualitative and quantitative approaches* (5th ed.). Lanham, MD: AltaMira Press.
- Bhatia, S., Athreya, V., Grenyer, R., & Macdonald, D. W. (2013). Understanding the role of representations of human-leopard conflict in Mumbai through media-content analysis. *Conservation Biology*, 27(3), 588–594. <https://doi.org/10.1111/cobi.12037>
- Brookfield, K., Gray, T., & Hatchard, J. (2005). The concept of fisheries-dependent communities: A comparative analysis of four UK case studies: Shetland, Peterhead, North Shields and Lowestoft. *Fisheries Research*, 72(1), 55–69. <https://doi.org/10.1016/j.fishres.2004.10.010>

- Brown, S. (2015). *“We have the best life there ever was”*: Linking sense of place and adaptive capacity in Nova Scotia’s coastal communities [Unpublished master’s thesis]. University of Waterloo.
- Carroll, S. M., & Rosa, K. C. (2016). Role and image of nursing in children’s literature: A qualitative media analysis. *Journal of Pediatric Nursing*, 31(2), 141-151. <https://doi.org/10.1016/j.pedn.2015.09.009>
- Cisneros Linares, P. B. (2012). *Improving resources to assess climate change coastal vulnerability: a pre-assessment criteria of the socio-economic values of working waterfront infrastructures in Nova Scotia* [Unpublished Masters thesis]. Dalhousie University.
- Charles, A. (2012). People, oceans and scale: Governance, livelihoods and climate change adaptation in marine social-ecological systems. *Current Opinion in Environmental Sustainability*, 4(3), 351-357. <https://doi.org/10.1016/j.cosust.2012.05.011>
- Charles, A. (ed.) (2021). *Communities, conservation and livelihoods*. IUCN and Community Conservation Research Network. <https://doi.org/10.2305/IUCN.CH.2021.01.en>
- Claassen, L., Smid, T., Woudenberg, F., & Timmermans, D. R. M. (2012). Media coverage on electromagnetic fields and health: Content analysis of Dutch newspaper articles and websites. *Health, Risk & Society*, 14(7-8), 681-696. <https://doi.org/10.1080/13698575.2012.716820>
- Currie, R. R., Wesley, F., & Sheehan, L. (2012). Inter-enterprise destination competitiveness. *Tourism Planning and Development*, 9(2), 165-182. <https://doi.org/10.1080/21568316.2011.630751>
- David, J. L., Thomas, S. L., Randle, M., Bowe, S. J., & Daube, M. (2017). A comparative content analysis of media reporting of sports betting in Australia: Lessons for public health media advocacy approaches. *BMC Public Health*, 17, 1-13. <https://doi.org/10.1186/s12889-017-4866-7>
- Davis, A., & Ruddle, K. (2012). Massaging the misery: Recent approaches to fisheries governance and the betrayal of small-scale fisheries. *Human Organization*, 71(3), 244-254. <https://doi.org/10.17730/humo.71.3.205788362x751128>

- Davis, E., Walker, T. R., Adams, M., & Willis, R. (2018). Characterization of polycyclic aromatic hydrocarbons (PAHs) in small craft harbour (SCH) sediments in Nova Scotia, Canada. *Marine Pollution Bulletin*, 137(August), 285–294.
<https://doi.org/10.1016/j.marpolbul.2018.10.043>
- Davis, E., Walker, T. R., Adams, M., Willis, R., Norris, G. A., Henry, R. C. (2019). Source apportionment of polycyclic aromatic hydrocarbons (PAHs) in small craft harbor (SCH) surficial sediments in Nova Scotia, Canada. *Science of the Total Environment*, 691(15), 528-537. <https://doi.org/10.1016/j.scitotenv.2019.07.114>
- Department for International Development. (1999a, April). *Sustainable livelihoods guidance sheets: Section one*. <https://www.enonline.net/attachments/871/dfid-sustainable-livelihoods-guidance-sheet-section1.pdf>
- Department for International Development. (1999b, April). *Sustainable livelihoods guidance sheets: Section two*. <https://www.enonline.net/attachments/872/section2.pdf>
- Diefenbach, T. (2009). Are case studies more than sophisticated storytelling?: Methodological problems of qualitative empirical research mainly based on semi-structured interviews. *Quality and Quantity*, 43(6), 875–894.
<https://doi.org/10.1007/s11135-008-9164-0>
- Douglas Gould and Company. (2004). Writing a media analysis. Washington, DC.
http://www.pointk.org/resources/files/gould_media.pdf
- Esri. (2019). *ArcGIS Pro* (Version 2.3.3). Esri. <https://www.esri.com/en-ca/store>
- Fang, M., Lee, C., Jiang, J., Ko, F., & Baker, J. (2012). Diffusive exchange of PAHs across the air-water interface of the Kaohsiung Harbor lagoon, Taiwan. *Journal of Environmental Management*, 110(15), 179-187.
<https://doi.org/10.1016/j.jenvman.2012.06.001>
- “Feds invest in small craft harbour projects”. (2016, October 19). *The Reporter*, 39(43),12. Retrieved February 21, 2021, from https://nouveau-eureka-cc.ezproxy.library.dal.ca/Link/dal01A2T_1/news%c2%b720161019%c2%b7WO%c2%b70031

- Ferrol-Schulte, D., Wolff, M., Ferse, S., & Glaser, M. (2013). Sustainable Livelihoods Approach in tropical coastal and marine social-ecological systems: A review. *Marine Policy*, 42, 253–258. <https://doi.org/10.1016/j.marpol.2013.03.007>
- Fisheries and Oceans Canada. (2011, October 12). *Audit of small craft harbours divestiture class grant program*. Government of Canada. <https://www.fisheriesand oceans.gc.ca/ae-ve/audits-verifications/10-11/6B216-eng.htm>
- Fisheries and Oceans Canada. (2018a, November 16). *The Government of Canada invests in small craft harbours infrastructure in the province of Quebec*. Government of Canada. <https://www.canada.ca/en/fisheries-oceans/news/2018/11/the-government-of-canada-invests-in-small-craft-harbours-infrastructure-in-the-province-of-quebec.html>
- Fisheries and Oceans Canada. (2018b, August 17). *The Government of Canada invests \$42 million in small craft harbours infrastructure in the province of Nova Scotia*. Government of Canada. <https://www.canada.ca/en/fisheries-oceans/news/2018/08/the-government-of-canada-invests-42-million-in-small-craft-harbours-infrastructure-in-the-province-of-nova-scotia.html>
- Fisheries and Oceans Canada. (2018c, February 12). *Small Craft Harbours - Maritimes and Gulf Regions*. Government of Canada. <http://www.dfo-mpo.gc.ca/sch-ppb/sector/maritimes-golfe-eng.html>
- Fisheries and Oceans Canada. (2019, August 1). *Small craft harbours program*. Government of Canada. <http://www.dfo-mpo.gc.ca/sch-ppb/aboutsch-approposppb/index-eng.html>
- Fisheries and Oceans Canada. (2020, January 10). *Map of small craft harbours*. Government of Canada. <https://www.dfo-mpo.gc.ca/sch-ppb/maps-cartes-eng.html>
- Ford, E., Kazempour, Y., Cooper, M. J. F., Katikireddi, S. V., & Boyd, A. (2020). Media content analysis of general practitioners' reactions to care.data expressed in the media: What lessons can be learned for future NHS data-sharing initiatives? *BMJ Open*, 10, 1-9. <https://doi.org/10.1136/bmjopen-2020-038006>

- Glogowska, M., Young, P., & Lockyer, L. (2011). Propriety, process and purpose: Considerations of the use of the telephone interview method in an educational research study. *Higher Education*, 62(1), 17–26. <https://doi.org/10.1007/s10734-010-9362-2>
- Goodwin, S. (2013, September 4). \$10M in funds for small craft harbour. *The Advocate*, 120(36), 1. https://nouveau-eureka-cc.ezproxy.library.dal.ca/Link/dal01A2T_1/news%c2%b720130904%c2%b7KB%c2%b70001
- Government of Canada. (2011, March 2). *Regulations amending the fishing and recreational harbours regulations*. <http://www.gazette.gc.ca/rp-pr/p2/2011/2011-03-02/html/sor-dors40-eng.html>
- Government of Canada. (2014, July 30). *Federal government invests in Nova Scotia small craft harbours*. <https://www.canada.ca/en/news/archive/2014/07/federal-government-invests-nova-scotia-small-craft-harbours.html>
- Greenan, B., Cogswell, A., Greyson, P., Kilpatrick, D. J., Cloutier, M., Bird, E., Losier, R., Marceau, E., & Fan, W. (2018). *Small Craft Harbours Coastal Infrastructure Vulnerability Index Pilot Project*. Canadian Technical Report of Fisheries and Aquatic Sciences 3245. Fisheries and Oceans Canada. <https://waves-vagues.dfo-mpo.gc.ca/Library/40648862.pdf>
- Greenan, B. J. W., Shackell, N. L., Ferguson, K., Greyson, P., Cogswell, A., Brickman, D., Wang, Z., Cook, A., Brennan, C. E., & Saba, V. S. (2019). Climate change vulnerability of American lobster fishing communities in Atlantic Canada. *Frontiers in Marine Science*, 6, Article 579, 1–18. <https://doi.org/10.3389/fmars.2019.00579>
- Ha, J. H., & Riffe, D. (2015). Crisis-related research in communication and business journals: An interdisciplinary review from 1992 to 2011. *Public Relations Review*, 41(4), 569–578. <https://doi.org/10.1016/j.pubrev.2015.06.019>
- Hinshelwood, E. (2003). Making friends with the sustainable livelihoods framework. *Community Development Journal*, 38(3), 243–254. <https://doi.org/10.1093/cdj/38.3.243>

- Hogg, M. A. (2018). Social identity theory. In P. Burke (Ed.), *Contemporary social psychological theories* (2nd ed., pp. 112-138). Stanford University Press. <https://doi.org/10.1515/9781503605626-007>
- Jenkins, C., Ha, D. T., Lan, V. T., Van Minh, H., Lohfeld, L., Murphy, P., & Ha, L. T. H. (2020). Breast Cancer messaging in Vietnam: An online media content analysis. *BMC Public Health*, 20(966), 1–10. <https://doi.org/10.1186/s12889-020-09092-8>
- Kallio, H., Pietilä, A. M., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. *Journal of Advanced Nursing*, 72(12), 2954–2965. <https://doi.org/10.1111/jan.13031>
- Keddy, Sara. (2006, July 27). DFO says no money for last Harbourville wharf work. *Kings County Register*, 139(3). <https://nouveau-eureka-cc.ezproxy.library.dal.ca/Search/ResultMobile/2>
- Khakzad, S., & Griffith, D. (2016). The role of fishing material culture in communities' sense of place as an added-value in management of coastal areas. *Journal of Marine and Island Cultures*, 5(2), 95–117. <https://doi.org/10.1016/j.imic.2016.09.002>
- Klancnik, F. A., Ritchie, W. D., & Vine, D. B. (1992). Draft chapter 1: Planning and environmental considerations. In D. Torseth (Ed.), *Ports '92: Proceedings of the conference* (Vol. 2). (pp. 939-1000). American Society of Civil Engineers.
- Klancnik, F. A. (1994). Overview of A. S. C. E. manual 50: Planning and design guidelines for small craft harbors. In F. A. Klancnik (ed.), *Marinas, parks and recreation developments: Proceedings of the international conference, Milwaukee, Wisconsin June 26-30, 1994* (pp. 196-200). American Society of Civil Engineers.
- Krippendorff, K. (1989). Content analysis. In E. Barnouw, G. Gerbner, W. Schramm, T. L. Worth, & L. Gross (Eds.), *International encyclopedia of communication* (Vol. 1, pp. 403-407). New York, NY: Oxford University Press. http://repository.upenn.edu/asc_papers/226
- Kulczycki, John. (1997, April). Small town goes big time [Margaretsville]. *Heavy Construction News*, 41(4). <http://ezproxy.library.dal.ca/login?url=https://www-proquestcom.ezproxy.library.dal.ca/trade-journals/small-town-goes-big-timemargaretsville/docview/228281904/se-2?accountid=10406>

- Lam, E., & Gislason, G. (2003). The SCH harbours of BC: A major economic & community asset. GSGislason & Associates Ltd., Vancouver, BC.
<https://gibsons.civicweb.net/document/5575>
- Li, J., & Zheng, H. (2020). Coverage of HPV-related information on Chinese social media: A content analysis of articles in Zhihu. *Human Vaccines & Immunotherapeutics*, 16(10), 2548–2554. <https://doi.org/10.1080/21645515.2020.1729028>
- MacInnes, D., de Sousa, E., Munro, I., & Coastal Communities Network. (2006). “One plank at a time”: Volunteer harbour management in Nova Scotia. Imagine Canada.
<https://studylib.net/doc/18523555/%E2%80%9Cone-plank-at-a-time%E2%80%9D-volunteer-harbour-management-in-nov...>
- MacKay, P. (2008, June 5). Bridging local economies to the rest of the world. *The Evening News*, 5. https://nouveau-eureka-cc.ezproxy.library.dal.ca/Link/dal01A2T_1/news%c2%b720080605%c2%b7EN%c2%b70015
- Macnamara, J. (2005). Media content analysis: Its uses; benefits and best practice methodology. *Asia Pacific Public Relations Journal*, 6(1), 1–34.
<https://opus.lib.uts.edu.au/bitstream/10453/10102/1/2007002122.pdf>
- Macnamara, J. (2018). Content Analysis. In P. Napoli (Ed.), *Mediated communication* (pp. 191–212). <https://doi.org/10.1515/9783110481129-012>
- Marketwire. (2008, August 6). *Minister Mackay Announces Federal Investments in Nova Scotia Harbour Infrastructure*.
<http://ezproxy.library.dal.ca/login?url=https://www.proquest.com/tradejournals/minister-mackay-announces-federal-investments/docview/447733168/se2?accountid=10406>
- Marketwired. (2014, June 24). Minister Shea and MP Kerr Announce Funding for a Major Harbour Improvement Project at Saulnierville Harbour.
<http://ezproxy.library.dal.ca/login?url=https://www.proquest.com/tradejournals/minister-shea-mp-kerr-announce-funding-major/docview/1539532477/se2?accountid=10406>

- Marketwired. (2015, March 28). Minister Shea and MP Keddy Announce Funding at Eight Small Craft Harbours in Shelburne County.
<http://ezproxy.library.dal.ca/login?url=https://www.proquest.com/tradejournals/minister-shea-mp-keddy-announce-funding-ateight/docview/1667161902/se-2?accountid=10406>
- QRS International. (2018). *NVivo Pro* (Version 12.8). QRS International.
<https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home>
- Rakodi, C. (2002). A livelihoods approach—Conceptual issues and definitions. In C. Rakodi, & T. Lloyd-Jones (Eds.), *Urban livelihoods: A people-centred approach to reducing poverty* (pp. 3-22). Earthscan Publications Limited.
<http://ndl.ethernet.edu.et/bitstream/123456789/45095/1/183.pdf>
- Ranacher, L., Ludvig, A., & Schwarzbauer, P. (2019). Depicting the peril and not the potential of forests for a biobased economy? A qualitative content analysis on online news media coverage in German language articles. *Forest Policy and Economics*, 106, 1-9. <https://doi.org/10.1016/j.forpol.2019.101970>
- Randomness and Integrity Services Ltd. (n.d.). *True random number generator*.
<https://www.random.org/>
- Rockhopper. (2020). *Rockhopper Transcription* (Version 1.0.0). Rockhopper.
<https://transcription.rockhopper.co/>
- Serrat, O. (2017). *Knowledge Solutions: Tools, methods, and approaches to drive organizational performance*. Springer, Singapore. doi: 10.1007/978-981-10-0983-9
- Standing Committee on Fisheries and Oceans. (2019, February). *Ensuring the sustainability of the small craft harbours program*. House of Commons.
<https://www.ourcommons.ca/Content/Committee/421/FOPO/Reports/RP10277750/foporp19/foporp19-e.pdf>
- Stedman, R. C. (2003). Is It Really Just a Social Construction?: The Contribution of the Physical Environment to Sense of Place. *Society & Natural Resources*, 16(8), 671-685. <https://doi.org/10.1080/08941920309189>

- Surette, R. (1982). Fish, wharves and politics (Canada). *Canadian Geographic*, 102(5), 40-44, 46-49. Royal Canadian Geographical Society.
- Thomson, Aly. (2012a, January 23). Residents say Cape Breton seawall is ‘one wave away from failure’. *The Canadian Press*.
<http://ezproxy.library.dal.ca/login?url=https://www.proquest.com/wirefeeds/residents-say-cape-breton-seawall-is-one-wave/docview/917864301/se2?accountid=10406>
- Thomson, Aly. (2012b, December 10). Ottawa denies ownership of deteriorating seawall in tiny Cape Breton village. *The Canadian Press*.
<http://ezproxy.library.dal.ca/login?url=https://www.proquest.com/wirefeeds/ottawa-denies-ownership-deteriorating-seawall/docview/1237530119/se2?accountid=10406>
- Toews, C. (2005, November). *Coastal area management in Nova Scotia: Building awareness at the municipal level*. Rural Communities Impacting Policy.
https://ecologyaction.ca/files/images-documents/file/RCIP_Coastal_Report.pdf
- Urquhart, J., & Acott, T. (2013). Constructing ‘The Stade’: Fishers’ and non-fishers’ identity and place attachment in Hastings, south-east England. *Marine Policy*, 37, 45-54. <https://doi.org/10.1016/j.marpol.2012.04.004>
- Urquhart, J., & Acott, T. (2014). A sense of place in cultural ecosystem services: The case of Cornish fishing communities. *Society and Natural Resources*, 27(1), 3–19.
<https://doi.org/10.1080/08941920.2013.820811>
- van den Hoonaard, D. K. (2015). *Qualitative research in action: A Canadian primer*. Don Mills, ON: Oxford University Press.
- Walker, T. R., MacLean, B., Appleton, R., McMillan, S., & Miles, M. (2013). Cost-effective sediment dredge disposal options for small craft harbors in Canada. *Remediation*, 23(4), 123–140. <https://doi.org/10.1002/rem.21371>
- Walker, T. R., Bernier, M., Blotnicky, B., Golden, P. G., Hoffman, E., Janes, J., Kader, A., Kovacs-Da Costa, R., Pettipas, S., & Vermeulen, S. (2015). Harbour divestiture in Canada: Implications of changing governance. *Marine Policy*, 62, 1–8.
<https://doi.org/10.1016/j.marpol.2015.08.018>

- Warren, C., & Steenbergen, D. J. (2021). Fisheries decline, local livelihoods and conflicted governance: An Indonesian case. *Ocean and Coastal Management*, 202(3), 1-13. <https://doi.org/10.1016/j.ocecoaman.2020.105498>
- Williams, R. (2014). The socio-cultural impact of industry restructuring: Fishing identities in northeast Scotland. In J. Urquhart, T. G. Acott, D. Symes, & M. Zhao (Eds.), *Social issues in sustainable fisheries management* (pp. 301–317). https://doi.org/10.1007/978-94-007-7911-2_16
- Zhang, H., Walker, T. R., Davis, E., & Ma, G. (2019a). Spatiotemporal characterization of metals in small craft harbour sediments in Nova Scotia, Canada. *Marine Pollution Bulletin*, 140(January), 493–502. <https://doi.org/10.1016/j.marpolbul.2019.02.004>
- Zhang, H., Walker, T. R., Davis, E., & Ma, G. (2019b). Ecological risk assessment of metals in small craft harbour sediments in Nova Scotia, Canada. *Marine Pollution Bulletin*, 146(June), 466–475. <https://doi.org/10.1016/j.marpolbul.2019.06.068>

Appendices

Appendix One: Standing Committee on Fisheries and Oceans 14 Recommendations (Standing Committee on Fisheries and Oceans, 2019, pp. 1-3).

Recommendation 1

That Fisheries and Oceans Canada review and improve consultation and communication with harbour authorities and users of small craft harbours to:

- a) determine the best use of federal government resources for each harbour; and
- b) to plan and complete harbour improvement projects

Recommendation 2

That Fisheries and Oceans Canada conduct a minimum of two meetings per year between harbour authorities, the Small Craft Harbours program's regional offices and other interested parties with respect to operational concerns.

Recommendation 3

That Fisheries and Oceans Canada work with harbour authorities to develop long-term business and/or capital plans for core fishing harbours.

Recommendation 4

That Fisheries and Oceans Canada work on building the capacity of the harbour authorities' volunteer workforce and boards of directors, and devise a consistent training policy which clearly outlines what harbour authorities are responsible for and ensure that they are adequately prepared to implement and enforce.

Recommendation 5

That Fisheries and Oceans Canada develop a consistent, common policy as it relates to maintenance for which harbour authorities are responsible.

- a) determine the best use of federal government resources for each harbour; and
- b) to plan and complete harbour improvement projects.

Recommendation 6

That Fisheries and Oceans Canada and other relevant federal departments and agencies work cooperatively, and in a timely manner, with small craft harbour authorities to establish clear protocols and lines of jurisdictional authority, to address challenges harbour authorities face in dealing with delinquent tenants and unsafe or abandoned vessels.

Recommendation 7

That Fisheries and Oceans Canada, without delay, bring data on harbour performance and harbour facility conditions up to date to address issues raised by the Department's 2013

evaluation report, and in 2018 testimony from the Department's Small Craft Harbours program management personnel.

Recommendation 8

That Fisheries and Oceans Canada review its safety assessments for small craft harbours and prioritize capital and repair projects based on health and safety risks to users of the small craft harbour.

Recommendation 9

That Fisheries and Oceans Canada create a separate A-base funding envelope for maintenance dredging work, to assist the Department with better long-term planning on dredging projects.

Recommendation 10

That the appropriate federal government departments review the federal government's methods of procuring contracts for maintenance, improvements and dredging of small craft harbours with the objective of achieving the most efficient use of funds.

Recommendation 11

That Fisheries and Oceans Canada consider initiating a pilot project with a willing and able harbour authority to establish a co-operative model for managing and funding a capital improvement of their small craft harbour, and incentivize the project with fast tracked funding from the Department.

Recommendation 12

That, given the impact of climate change and the severity of storms, accelerating the degradation of facilities, as well as growing demand, the Government of Canada double the amount of A-base budget available for the Small Craft Harbours program.

Recommendation 13

That Fisheries and Oceans Canada recognize the economic impact that recreational harbours can have on local communities and consider the benefits of tourism generated from recreational harbours when developing funding models.

Recommendation 14

That Fisheries and Oceans Canada work with Indigenous groups to develop a funding model that addresses the needs of Indigenous and coastal communities and fisheries development.

Appendix Two: Dalhousie Ethics Acceptance Letter and Amendment Approvals



Social Sciences & Humanities Research Ethics Board Letter of Approval

February 28, 2020
Monica Ragan
Management\School for Resource and Environmental Studies

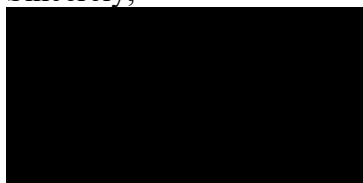
Dear Monica,

REB #: 2020-5033
Project Title: Understanding the Differing Relationships Fishers, Governments, and Operators have with Small Craft Harbours in Nova Scotia, Canada

Effective Date: February 28, 2020
Expiry Date: February 28, 2021

The Social Sciences & Humanities Research Ethics Board has reviewed your application for research involving humans and found the proposed research to be in accordance with the Tri-Council Policy Statement on *Ethical Conduct for Research Involving Humans*. This approval will be in effect for 12 months as indicated above. This approval is subject to the conditions listed below which constitute your on-going responsibilities with respect to the ethical conduct of this research.

Sincerely,



Dr. Karen Foster, Chair

**Social Sciences & Humanities Research Ethics Board
Amendment Approval**

May 14, 2020

Monica Ragan
Management\School for Resource and Environmental Studies

Dear Monica,

REB #: 2020-5033

Project Title: Understanding the Differing Relationships Fishers, Governments, and Operators have with Small Craft Harbours in Nova Scotia, Canada

The Social Sciences & Humanities Research Ethics Board has reviewed your amendment request and has approved this amendment request effective today, May 14, 2020.

Effective March 16, 2020: Notwithstanding this approval, any research conducted during the COVID-19 public health emergency must comply with federal and provincial public health advice as well as directives issued by Dalhousie University (or other facilities where the research will occur) regarding preventing the spread of COVID-19.

Sincerely,



Dr. Karen Foster, Chair

**Social Sciences & Humanities Research Ethics Board
Amendment Approval**

June 29, 2020

Monica Ragan
Management\School for Resource and Environmental Studies

Dear Monica,

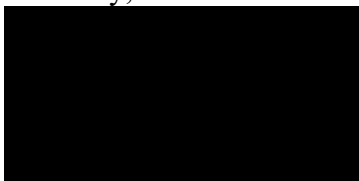
REB #: 2020-5033

Project Title: Understanding the Differing Relationships Fishers, Governments, and Operators have with Small Craft Harbours in Nova Scotia, Canada

The Social Sciences & Humanities Research Ethics Board has reviewed your amendment request and has approved this amendment request effective today, June 29, 2020.

Effective March 16, 2020: Notwithstanding this approval, any research conducted during the COVID-19 public health emergency must comply with federal and provincial public health advice as well as directives issued by Dalhousie University (or other facilities where the research will occur) regarding preventing the spread of COVID-19.

Sincerely,



Dr. Karen Foster, Chair

Appendix Three: Talking Scripts

Phone

Hello, my name is Monica Ragan. I am a student at Dalhousie University researching the social connections users have with small craft harbours in Nova Scotia. As part of my study, I need to interview individuals with knowledge of small craft harbours. I (Monica Ragan) will be writing a thesis from this work as part of the requirements for my Master's degree.

I found your contact information online. The purpose of this research is to understand user's connection with core and non-core harbours in Nova Scotia, users' livelihoods, and general thoughts on using the harbour.

I am asking potential participants to share their knowledge about small craft harbours. The interview will take about 1 hour, and I am hoping to speak with 3-4 individuals from this harbour. If you join this project, you will be offering your knowledge to this sector which currently has little information.

Anyone who has a connection with a small craft harbour in Nova Scotia, is fluent in English (can read and write), **has an email, and is okay with the interview being audio-recorded** can participate.

Are you interested in taking part in this study?

- If **yes**, provide consent form. Discuss mutually agreed upon time and location (if doing an in-person) for the interview.
- If **no**, thank them for their time. Ask to pass along my information if there another potential candidate they think would be a good fit for this research.

Email

Hello, my name is Monica Ragan. I am a Master of Environmental Studies student at Dalhousie University researching the social connections users have with small craft harbours in Nova Scotia. As part of my study, I am interviewing individuals with knowledge of small craft harbours. If you join this project, you will be offering your knowledge to this sector which currently has little information.

I found your contact information online. I am interested in doing a case study about your harbour. I was wondering if there was anybody who fishes, works, or volunteers at this harbour would be interested in participating in this research? The questions would be about their perspective of divested or non-divested harbours, their livelihood, and thoughts on using the harbour. The interview should take about an hour. Please feel free to pass this message along to your colleagues as I am hoping to speak with 3-4 individuals from this harbour. The interviews will be done by telephone.

Anyone who has a connection with a small craft harbour in Nova Scotia, is fluent in English (can read and write), has an email, and is okay with the interview being audio-

recorded can participate.

I attached a letter outlining the specifics of my research to this email for your information.

Please let me know if you intend to participate or not. Thank you for your time and consideration,

Monica

Appendix Four: Consent Form



Consent Form

Project Title

Understanding the differing relationships fishers, governments, and operators have with small craft harbours in Nova Scotia, Canada.

Lead Researcher

Monica Ragan, Master's student at Dalhousie University, [REDACTED]

Other Researchers (Committee Members)

Dr. Tony Walker, project supervisor, assistant professor at Dalhousie University

Dr. Melanie Zurba, committee member, assistant professor at Dalhousie University

Funding

Nova Scotia Graduate Scholarship

Legacy Scholarship from the School for Resource and Environmental Studies, at Dalhousie University

Introduction

We invite you to take part in a research study being conducted by Monica Ragan, a graduate student at Dalhousie University as part of her Master's of Environmental Studies degree program. Choosing whether or not to take part in this research is entirely your choice. There will be no impact on your livelihood if you decide not to participate in the research. The information below tells you about what is involved in the research, what you will be asked to do and about any benefit, risk, inconvenience or discomfort that you might experience.

You should discuss any questions you have about this study with Monica Ragan. Please ask as many questions as you like. If you have questions after the interview, please contact the lead researcher at the contact number stated at the end of this form.

Purpose and Outline of the Research Study

The purpose of this research is to understand the social connections users have with small craft harbours and what happens to this relationship when the harbour is divested.

The research question asks, how do SCHs impact the livelihoods of their users and communities?

To answer this question the following objectives are required:

1. To identify connections users hold with SCHs using the sustainable livelihoods approach;

2. To explore areas of concern and praise for core and non-core harbours;
3. To describe from a SCH user perspective about the future of SCHs in Nova Scotia; and,
4. To identify themes of overlap and divergence between core and non-core harbours.

Who Can Take Part in the Research Study?

Anyone who has a connection with a small craft harbour in Nova Scotia, is fluent in English (can read and write), has an email, and is okay with the interview being audio-recorded can participate. If the interview is via the telephone, access to a mobile or landline phone is required.

What You Will Be Asked to Do

Participants will be asked a series of questions through the medium of a semi-structured interview. The interview should take 1 hour of your time. If the interview is in-person, the location of the interview will take place at a time and location convenient for the interviewee. If the interview is via telephone, we will have a mutually agreed upon date and time for the interview and the participant must have a phone.

Possible Benefits, Risks and Discomforts

Possible benefits: participating in the study might not benefit you, but we might learn things that will benefit others. Contribution to this research will provide additional information in this field which is lacking.

Possible risks: the risks associated with this study are minimal, and there are no known risks for participating in this research beyond regretting answers to the researcher or feel uneasy answering some questions. As well, participants are also asked to volunteer their time to answer questions for the researcher.

In relation to privacy, the researcher wants you to know:

- To minimize loss of privacy, the researcher will delete audio-recording of the interviews once she receives the participants “okay” that the transcript is usable. Transcripts will be on a password-protected laptop with the files encrypted. Consent forms will be kept in a locked cabinet in Dr. Walker’s office and shredded in August 2021. Interview transcripts will be de-identified, and the transfer of transcripts will be done through File Exchange provided through Dalhousie University. A keycode linking participants to their research ID number will be kept on a separate password-protected laptop and the file encrypted.
- Although your name is not attached to what you say, there could be the risk of social or professional stigmatization.
- The researcher is legally obligated to report abuse of children and vulnerable adults to the authorities.
- Other individuals may become aware of your participation in this research, especially in a private home with individuals coming and going from the home.
- For telephone interviews, the researcher will make sure nobody can hear the researcher on the call with her participant.

- The interview data might be shared with Dr. Walker and Dr. Zurba to help the researcher understand the results and analysis of the data.

Compensation / Reimbursement

There is no compensation for participation. If interested, participants can receive an electronic copy of the research or a summary of findings. *Please contact the researcher if interested in a copy of the summary of findings.*

How your information will be protected:

Privacy: interviews will be held where participants feel comfortable. Third parties will not become aware of who has been recruited and I will send emails with a subject line that does not disclose the study participation. Privacy cannot be guaranteed when interviews are taking place in homes where other individuals can become aware of your participation. The researcher has a duty to disclose abuse of children or vulnerable adults, regardless of locale.

Anonymity is not possible in this study. The researcher will know your name, contact information, as well as the answers you provide to the interview questions.

Confidentiality: Participants will be identified through an ID acting as their name. Participant's interviews will be kept on a password secured laptop with encrypted files. I will use a keycode to link participants with their IDs. The keycode will be kept on a separate laptop from the transcripts. In some instances, the interview data might be shared with Dr. Walker and Dr. Zurba to help the researcher understand the results and analysis of the data.

Data retention: Information that you provide to us will be kept private. Only the researcher and supervisor will have access to this information. I will describe and share our findings in a thesis, presentations, public media, journal articles, conferences, and any other outlet. All your identifying information will be securely stored. All electronic records will be kept secure in an encrypted file on the researcher's password-protected computer. I will use a keycode to link participants with their IDs. The keycode will be kept on a separate password-protected laptop from the transcripts. Consent forms and interview transcripts will be kept in a locked cabinet in Dr. Walker's office. In August 2021, all documents will be shredded.

If You Decide to Stop Participating

You are free to leave the interview at any time. If you decide to stop participating at any point in the interview, you can also decide whether you want any of the information that you have contributed up to that point to be removed or if you will allow us to use that information. Once the interview is complete, I will send you the transcript of our conversation. You will have two weeks from receiving the transcript to make changes and/or withdraw your data from the study.

How to Obtain Results

You can obtain the thesis by going to <https://dalspace.library.dal.ca/handle/10222/10559> around October 2021. For a summary of findings please contact Monica ([REDACTED]).

Miscellaneous

- To assist in transcribing the interviews, Google Cloud's Automatic Speech Recognition system will be used to assist in transcribing the interviews. The data will not be kept on Google servers or leave Canada.
- To help with coding the data, I will use *NVivo* software provided through Dalhousie University.
- Harbours will not be identified by their name, rather by an ID (e.g., Site 1, Site 2,). I will distinguish between core and non-core harbours. The actual location and name of the harbour will not be used. I will identify the harbour as either core/non-core and what DFO region it belongs to.

Questions

I am happy to talk with you about any questions or concerns you may have about your participation in this research study. Please contact Monica Ragan, [REDACTED] at any time with questions, comments, concerns about the research study, or to obtain a copy of the results.

If you have any ethical concerns about your participation in this research, you may also contact Research Ethics, Dalhousie University at (902) 494-1462, or email: ethics@dal.ca.

Appendix Five: Interview Questions

Divested Small Craft Harbours (Non-core Harbours)

Participant Number: _____

Site Number: _____

Date: _____

1. Tell me a little bit about yourself and your connection with the small craft harbour?
 - a. What do you use the harbour for?
 - b. How long have you used the harbour?
 - c. Is there a tradition of fishing/recreation in your family? Community?
2. Who uses this harbour? Is it sustainable either environmental and/or economically?
 - a. Recreational users?
 - b. Commercial users?
3. What is the history of the harbour?
4. Why is the harbour important?
5. What role does the harbour play in the community?
 - a. Economically? Historically? Culturally? Other?
6. Does the harbour enhance or threaten livelihoods of those living in this community?
7. Do you have enough resources to use this harbour?
 - a. Human (health, knowledge/skills, education)
 - b. Social (network/connections, rules, collective representation, ways to participate)
 - c. Natural (resources)
 - d. Physical (equipment, infrastructure)
 - e. Financial (savings, wages, pensions)
8. Do you have concerns using this harbour?
 - a. Shocks (conflict, storms, pests, floods)
 - b. Seasonalities (price, employment)
 - c. Trends (demographics, environmental, economic, governance, technological)
9. Who determines/enforces policies for the harbour and is this effective? Why or why not?
10. Tell me about the divestiture process.
 - a. Was there public consultation?
 - b. How long did it take?
 - c. What was your reaction?
 - d. Were users affected?
 - e. How did the community/users react?
11. What is your opinion of harbour divestiture?
 - a. What are the benefits?
 - b. What are the challenges?
 - c. Would you recommend divestiture to another harbour? Why or why not?
12. If you could make a decision right now, would you want to see the harbour become a core harbour or remain as a non-core harbour?
13. What is the future of the harbour? What are the concerns or hopes?
14. Would you like to further explain or add a comment?

Non-divested Small Craft Harbours (Core Harbours)

Participant Number: _____

Site Number: _____

Date: _____

1. Tell me a little bit about yourself and your connection with the small craft harbour?
 - a. What do you use the harbour for?
 - b. How long have you used this harbour?
 - c. Is there a tradition of fishing/recreation in your family? Community?
2. Who uses this harbour? Is it sustainable either environmental and/or economically?
 - a. Recreational users?
 - b. Commercial users?
3. What is the history of the harbour?
4. Why is the harbour important?
5. What role does the harbour play in the community?
 - a. Economically?
 - b. Historically?
 - c. Culturally?
 - d. Other?
6. Does the harbour enhance or threat livelihoods of those in this community?
7. Do you enough resources to use this harbour?
 - a. Human (health, knowledge/skills, education)
 - b. Social (network/connections, rules, collective representation, ways to participate)
 - c. Natural (resources)
 - d. Physical (equipment, infrastructure)
 - e. Financial (savings, wages, pensions)
8. Do you have concerns using this harbour?
 - a. Shocks (conflict, storms, pests, floods)
 - b. Seasonalities (price, employment)
 - c. Trends (demographics, environmental, economic, governance, technological)
9. Who determines/enforces policies and is this effective? Why or why not?
10. What is your opinion of harbour divestiture?
 - a. What are the benefits?
 - b. What are the challenges?
11. Do you think this harbour will be divested?
 - a. Why or why not?
12. What is the future of the harbour? What are the threats or hopes?
13. Would you like to further explain or add a comment?