WHEN PETRO-CAPITALISM COMES KNOCKING: COMMUNITY INTERPRETATIONS AND RESPONSES TO THE GROS MORNE FRACKING CONTROVERSY

by

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ABSTRACT

With the depletion of conventional oil and gas sources, the world is turning to what Urry terms “tough oil,” such as oil from the Alberta oil sands and Arctic. Fracking is a prominent example of this. Situated within an environmental justice framework, I analyze community interpretations and responses to proposed fracking development near Gros Morne National Park, Newfoundland, Canada. Based on data generated from interviews, field observations and content analysis of texts, my findings suggest that how residents view rural place is highly significant in influencing supportive or oppositional positions on fracking. Proponents picture place as a resource extraction landscape, whereas opponents understand place as a restorative landscape for leisure/tourism activities. Through debates about fracking, place is contested and re-imagined. In many ways, fracking is a struggle over who has the power to define the meanings and characteristics of rural community in an era of tough oil and significant rural change.

Keywords: fracking, environmental justice, Newfoundland, Canada, community

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Chapter One: Introduction

My research study examines local community perceptions of, and responses to, proposed fracking development in the rural region of Bonne Bay, western Newfoundland and Labrador (NL), Canada. Hydraulic fracturing, commonly known as fracking, is an unconventional resource extraction technique where water, chemicals, and sand are shot into impermeable shale rock to harvest oil and natural gas (de Rijke, 2013). This process is controversial due to concerns around potential water contamination, light and air pollution caused by burning natural gas, and potential impacts on other industries, such as tourism (Vengosh et al., 2013).With the depletion of conventional oil and natural gas sources, the world is, with increasing frequency, turning to what sociologist John Urry terms "tough oil," such as oil from the Alberta oil sands, Arctic, and deep offshore (2013, p. 103). The use of fracking is a prominent example of this. By analyzing community perceptions of and responses to proposed fracking development, my research provides a case study that contributes to the body of literature examining resource development, in particular, the pursuit of tough oil, and community in the North American context. Situated in the literature focusing on impacts of resource development in rural communities, my research examines how communities perceive and act upon (or not) externally proposed energy projects. With a recent boom in the use of fracking, particularly in the United States, paired with rapid technological advancements related to fracking, adequate research on social and cultural impacts of this development has lagged significantly. My work will help address this knowledge gap, as well as contribute to community understandings of tough oil development in Canada, a topic which has

received less scholarly attention in Canada than in the American context. My research study is also one of the first of its kind to focus on community responses to fracking proposals in Atlantic Canada, and Newfoundland and Labrador more specifically.

Starting from the idea that social and environmental risks and benefits are often unevenly distributed throughout energy development projects (known as environmental justice theory), I analyze community interpretations and responses to proposed energy development in Atlantic Canada. In a case study approach, I ground my project in the specific field site of Bonne Bay, western Newfoundland. My qualitative, multi-method research provides a sociological perspective on the North American oil industry, addressing the overarching sociological question of how the ways in which rural communities relate to physical, socio-cultural, and ecological aspects of place constructs supportive or oppositional positions on fracking. I use qualitative semi-structured interviews, field observation and content analysis of texts to answer the following research questions:

1. How are community members in the Gros Morne region interpreting proposed fracking projects on the west coast of Newfoundland?

2. What tensions exist among community members in this region around the issue of fracking, and how are these potential tensions expressed?

3. In what ways, if at all, are people acting in support of, and in resistance to, fracking in Newfoundland?

Community perceptions of perceived risks and benefits that may accompany fracking development in Atlantic Canada have received minimal scholarly attention. Academic research about rural community responses to energy development projects has occurred largely in the United States. Research of this nature in the Canadian context, specifically in eastern provinces such as Newfoundland and Labrador, is lacking. A community focus is important because perceived or actual harms and privileges that accompany energy development are often localized in nature, meaning that local residents are the ones having to navigate these various tensions (Agyeman, 2005). By focusing on how community members negotiate the potential for oil development at the edges of Bonne Bay, Newfoundland and Labrador, I aim to contribute to the growing scholarly attention paid by social scientists to the area of energy development. Specifically, my qualitative analysis of community interpretations and responses to proposed resource development in Atlantic Canada aims to address knowledge gaps in the literature examining resource development and community in the North American context. Within this body of literature, I identify the social implications of energy development (CCA, 2014a), and research on community responses to energy development that is qualitative in nature (Brasier et al., 2011; Jacquet & Stedman, 2012; Willow & Wylie, 2014) as topics that are particularly understudied. My analysis will also contribute to research on how rural communities understand and respond to prospective tough oil development in Canada, which is lacking relative to the amount of research conducted on the topic in the United States. As well, my project is one of the first of its kind to conduct research on community responses to fracking in Atlantic Canada, and

Newfoundland and Labrador in particular, despite ongoing debates in these provinces over fracking (Howe, 2015).

My research has applied significance as my findings can be used to help Newfoundland and Labrador's provincial government address and better understand the complexities of the province's fracking debate. My findings provide insight into community perceptions of the issue, which can help the government make informed policy decisions that are more in tune with the desires of local residents who would be living with fracking development. My research is theoretically significant as well, as it addresses knowledge gaps in literature that examines resource development and community in North America. Some of these gaps, which I explore in more detail in Chapter Three: Literature Review, include how the social dimensions of fracking or proposed unconventional energy development are understudied in Canada and the United States. My research is significant as it amplifies regionally-specific narratives. By learning how people in rural Newfoundland interpret the potential for oil development in their communities, my research will give voice to local perspectives that are absent from existing literature on fracking, which focuses more on provincial and national scale social impacts and responses.

Oil in Newfoundland

The oil and gas industry is well-established in Newfoundland and Labrador. It contributes more to the provincial Gross Domestic Product (GDP) than any other industry (NL Economics, 2014), with revenue from the offshore oil sector accounting for an estimated 30 percent of the province's annual GDP (Noia, n.d.). This is a 70 percent

increase from 1997 provincial GDP levels (Noia, n.d.), when oil began to flow from the Hibernia offshore oil field (Sinclair, 2011). Located over 300 kilometres east and southeast off the coast of St. John's in the Jeanne d'Arc Basin in the North Atlantic Ocean (NL Economics, 2014) are the Hibernia, Terra Nova, and White Rose oil fields (Government of Newfoundland and Labrador, 2014a; Government of Newfoundland and Labrador, 2014b; Government of Newfoundland and Labrador, 2014c). These fields have been in production on the Grand Banks of Newfoundland since 1997, 2002, and 2005, respectively (Government of Newfoundland and Labrador, 2014a; Government of Newfoundland and Labrador, 2014b; Government of Newfoundland and Labrador, 2014c). In the future, the Newfoundland and Labrador government expects oil production to "increase" and "intensify," including conventional drilling to occur on the province's west coast (NL Economics, 2014, p. 26).

After joining Confederation in 1949, Newfoundland and Labrador was "perennially Canada's poorest province" and relied heavily on the seasonal cod fishery (Sinclair, 2011, p. 36). After the discovery of offshore oil reserves in the 1970s, provincial politicians supported the social and economic "blessings" associated with oil development, such as material affluence and greater independence (Sinclair, 2011), touting that "if we trust in oil, Newfoundland can grow up" (Dodd, 2012, p. 19). Common sentiment among people in the province at the time was if Newfoundland could become a prominent player in the global petroleum industry, it would "open the way for cultural rebirth and self-determination" (Dodd, 2012, p. 5). Decades later, although the province has economically benefitted from the offshore oil industry, benefits are not

equally distribution across the province's communities, but concentrated in the capital city (with unequitable distribution occurring here as well) (Sinclair, 2011).

Fracking Proposed at Sally's Cove

Several fracking projects are proposed in Newfoundland and Labrador, Canada's easternmost province. In 2012, Toronto-based oil and gas corporations, Black Spruce Exploration (BSE) – a subsidiary of Foothills Capital Corp. – and Shoal Point Energy (SPE), proposed onshore to offshore fracking projects in three locations on the Green Point Shale, a shale rock formation that runs along the western Newfoundland coastline. The proposed projects are at Sally's Cove (a community enclave in Gros Morne National Park), Lark Harbour, and Shoal Point on the Port au Port Peninsula. The Sally's Cove site (see Figures 1 and 2) is the case study forming the basis of my thesis. In November 2013, Newfoundland and Labrador's former Natural Resources Minister, Derrick Dalley, implemented a provincial moratorium on fracking exploration and development until further research is conducted regarding the socioeconomic and environmental implications of fracking (Government of Newfoundland and Labrador, 2013a). Despite the moratorium, fracking debates continue to flare up in Newfoundland and Labrador's political discourse.

To better understand these debates, I conducted a qualitative multi-method study that consists of 14 qualitative semi-structured interviews with local residents of Bonne Bay communities, field observation of three physical sites related to oil development in western Newfoundland, and a qualitative content analysis of various hard copy and web-

based textual documents. Interviews and field observations were conducted over the course of two field research trips to Bonne Bay, which took place from August to October 2014. I lived in Bonne Bay for research purposes for a total of four weeks. Qualitative content analysis of various textual websites and documents that actively communicate opinions and facts about fracking in the context of western Newfoundland. Some of these texts include: websites of the two oil and gas companies proposing fracking; local news media outlet, *The Western Star*, and an industry Project Magazine. A content analysis of these texts, and others, was completed after physically leaving Bonne Bay.

Figure 1. Approximate Location of Well Proposed at Sally's Cove. Source: (LGL, 2013, p. 12).

Figure 2. Proposed fracking development site, Sally's Cove, Newfoundland and Labrador. Long Range Mountains in background. Photo by author, August 2014.

Fracking in Canada

Fracking was first used in Canada in Alberta's Pembina oil and gas field in the early 1950s, and has been commonly used in Alberta and British Columbia since the 1970s (Precht & Dempster, 2014). According to the Petroleum Services Association of Canada, over 175, 000 fracking operations have occurred in western Canada (Precht & Dempster, 2014). Fracking was performed in western Newfoundland's Flat Bay in 2004, and no fracking has been carried out in the province since then (Precht & Dempster, 2014).

The National Energy Board (NEB), established in 1959, is a key federal agency responsible for regulating "oil and gas exploration and production activities" within

Canada's energy sector (NEB, 2013, p. 1). According to the 2013 *Filing Requirements for Onshore Drilling Operations Involving Hydraulic Fracturing*, the NEB must follow regulations outlined in the *Canada Oil and Gas Operations Act (COGOA)*, legislation designed to "promote safety, protection of the environment and the conservation of oil and gas resources" (NEB, 2013, p. 1). The Filing Requirements outlined in the NEB's report are to be used for all cases (proposed work or activity) involving fracking, with fracking defined as "a well-stimulation process in which fluids, proppant ['propping' agents such as sand that open rock fractures] and additives are pumped under high pressure into a hydrocarbon-bearing formation" (NEB, 2013, p. 2); however, these Filing Requirements are only applicable to applicants interested in hydraulically fracturing in the Northwest Territories and Nunavut (NEB, 2013). The NEB's regulations and requirements – including the condition of completing an environmental assessment – do not apply to the majority of Canadian provinces and territories.

Different agencies are responsible for regulating different jurisdictions. The Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) is responsible for regulating matters associated with Newfoundland and Labrador's offshore (Government of Newfoundland and Labrador, 2014d; C-NLOPB, 2015) and facilitating "the rights issuance process on behalf of governments" (Government of Newfoundland and Labrador, 2014d). The C-NLOPB issues "licenses for exploration, significant discoveries and production" (Government of Newfoundland and Labrador, 2014d) and "does not 'promote' exploration" (C-NLOPB, 2015). Regulation of onshore oil and gas industry activities is a provincial responsibility. Regulatory oversight of proposed

fracking projects is required by NL's Department of Natural Resources and the Canadian-Newfoundland and Labrador Offshore Petroleum Board because this project involves onshore to offshore drilling (i.e. drilling is conducted on land but extends out under the sea floor).

Provinces have responded to fracking in various ways. Moratoria are currently imposed in Quebec, Nova Scotia, New Brunswick, and Newfoundland and Labrador (CBC, 2014a; CBC, 2014b; CBC, 2014c; Globe and Mail, 2014; Government of Newfoundland and Labrador, 2013a). Conversely, provinces such as Alberta and British Columbia have hosted fracking projects for decades (COC, 2013).

Thesis Outline

My study of community interpretations and responses to proposed fracking at Sally's Cove consists of eight chapters. In Chapter Two: Research Context, I provide an important contextual overview of the history of oil development in western Newfoundland. I also include a brief account of the establishment of Gros Morne National Park, and detail the local controversy caused at the time by the park's creation. In Chapter Three: Literature Review, I offer an overview of past and emerging literature on community responses to energy development, as well as highlighting notable gaps in the research which my research aims to address. In this chapter, I conceptualize abstract terms such as place, community, and rurality, and discuss them in relation to my research. I dedicate the remainder of this chapter to discussing environmental justice theory, as it is the theoretical lens through which I analyze my data. I close this chapter with a synthesis of the theoretical concepts of community, rurality, place, and environmental justice. I use

Chapter Four: Methods to detail information about my research location, sampling strategies, and samples. In this chapter I also explain the methods used to address my research questions, including qualitative semi-structured interviews, field observation, and a qualitative content analysis of various offline (hardcopy) and web-based texts that help characterize and contextualize the fracking debate in Newfoundland. In chapters five, six, and seven, I present my findings. In Chapter Five: Processes Contributing to Supportive Positions on Fracking I outline how fracking proponents understand fracking in relation to social and ecological aspects of place. I examine how project supporters approach risk and community vulnerability before turning to an analysis of how fracking proponents view and value expert and local forms of knowledge. In Chapter Six: Processes Contributing to Oppositional Positions on Fracking I analyze how opponents understanding fracking in relation to social and ecological understandings of place. I examine how fracking opponents approach risk and community vulnerability. I end by investigating how those against fracking view and value expert and local forms of knowledge in the context of the local fracking debate. In Chapter Seven: Communication and Mobilization Strategies I discuss how community members on both sides of the debate engage with different, and similar, communication strategies before turning to how project supporters and adversaries use traditional media avenues and social media. I then analyze various mobilization techniques employed by fracking proponents and opponents. I use Chapter Eight: Discussion and Conclusion as an opportunity to synthesize the findings outlined in my thesis, providing a critical discussion of community interpretations and responses to (actions and inactions) proposed fracking

development at Sally's Cove, western Newfoundland. I discuss the implications and limitations of my research, as well as recommending avenues for future research.

Chapter Two: Research Context

In this chapter I elaborate on the process of fracking, and locate the proposed Sally's Cove fracking development within a two hundred year history of oil exploration, production, and development in western Newfoundland. I trace this history to contextualize my project and outline part of the social and political background from which the proposed Sally's Cove development emerges. I begin approximately two centuries ago, when oil was discovered along the shoreline in Parson's Pond on the Great Northern Peninsula. I then discuss how a province-controlled oil industry represented to many Newfoundlanders an opportunity for economic and social prosperity and a loosening of the province's reliance on the rest of Canada. Understanding that Newfoundlanders and Labradorians have historically had a precarious social relationship with oil development in the province provides insight into reasons for the controversial nature of fracking proposals in western Newfoundland. It demonstrates how the fracking controversy is not novel. I then highlight some of the geological complexity of the Green Point Shale in western Newfoundland, where fracking is proposed. I introduce the concept of "tight oil" and demonstrate how oil in the Green Point Shale is an example of this. I end by exploring the controversial nature of Newfoundland and Labrador joining Confederation in 1949 as well as the establishment of Gros Morne National Park in 1973 and what these controversies mean for my project.

Fracking has existed for about 60 years (Rahm et al., 2015). However, recent technological advancements, specifically the merging of hydraulic fracturing and horizontal drilling, have made it "possible and profitable" to extract oil and gas once

considered uneconomical or inaccessible (Willow & Wylie, 2014, p. 223). Conventional oil and gas extraction techniques require vertical drilling. Existing hydrocarbons are pressurized from the weight of the permeable rock, and require less energy to extract (Peduzzi & Harding, 2013). Unconventional oil and gas extraction, of which hydraulic fracturing is but one type, involves horizontal and directional drilling, and the hydrocarbons are extracted from rock that is of "extremely low permeability" (Finkel & Hays, 2013, p. 890; Peduzzi & Harding, 2013). Wells are cased with a steel rod and secured with cement (Verheul, 2013). A mixture of water, sand, and chemicals are forced down the wells at high pressures and in high volumes, fracturing the rock (Verheul, 2013). The sand works to prop the fractures open while the hydrocarbons, water (referred to as flowback once it resurfaces), and naturally occurring radioactive materials (NORMs) are drawn to the surface (Verheul, 2013). Each well requires up to 20 million litres (approximately 600 truckloads) of water, making unconventional resource extraction more energy- and water-intensive than conventional methods (IEA, 2012).

History of Oil on the West Coast

Interest in the pursuit of oil on Newfoundland's west coast begins approximately two centuries ago (Hicks & Owens, 2014; Kearney, 1979). Although oil exploration and development has occurred in approximately five areas on Newfoundland's west coast (Parson's Pond, St. Paul's Inlet, Shoal Point on Port au Port Peninsula, the Bay St. George Basin, and Deer Lake Basin), I will discuss a brief history of oil on the west coast focusing specifically on developments in the area north of what is now Gros Morne (Hicks, 2015). In 1812, Mr. Parsons (first name unknown) reportedly discovered oil from

naturally occurring seeps along the shoreline in Parson's Pond on the Great Northern Peninsula (Hicks, 2015). It is rumoured to have been used at the time as a cure for rheumatism (Hicks & Owens, 2014; Hicks, 2014). The first well drilled at Parson's Pond was in 1867 by John Silver, a sawmill operator from Halifax (Hicks & Owens, 2014). The well, drilled on the south side of the pond at a depth of 213 metres, was eventually abandoned by John Silver; reasons for which are merely speculative, but are rumoured to be because he was discouraged by "minor oil shows and fear of French interference" (Hicks & Owens, 2014, p. 12).

The Newfoundland Oil Company was formed in 1894 after an initial meeting led by Mr. George A. Pippy at the Seaman home on Duckworth Street, St. John's, in March of that year (Hicks, 2015). After procuring a drilling rig and other resources from Ontario, the Newfoundland Oil Company and a man from Kingston, Ontario named George Spotswood were the first to "shoot" or frack a well at Parson's Pond in 1896 (Hicks, 2015). "Shooting" a well – which was an early name for fracking – means that a metal cylinder at the surface of the well was filled with dynamite or nitroglycerin and dropped vertically down a hole that was dug. Once the cylinder reached the bottom of the hole, a weight – called a "go-devil" – was dropped down the well, hitting the metal cylinder and detonating it (Hicks, 2015). This was followed by silence, and then an explosion. If there was oil and gas, "in most cases it would be a gusher," meaning that the oil or gas would flow freely to the surface (Hicks, 2015). A "gusher" is another term for "easy oil," whereby oil or gas flows to the surface using low energy inputs (Urry, 2013). From 1890-1965, approximately 27 wells were drilled in total at Parson's Pond by St.

John's merchants, British and American capitalists, and various Newfoundland companies (Hicks, 2015). While oil was being produced, it provided employment for local residents in Cow Head and St. Paul's areas (Kearney, 1979). Despite my searching, I could not locate documents that gave details about the type of employment (only that the wells did create employment), but it is likely that people were hired as drillers on the rig, or as refinery workers.

It is estimated that approximately four wells have been drilled at St. Paul's Inlet between 1896 and 1953, with the first well drilled there by the Canadian-Newfoundland Oil Company (see Figure 3) (Hicks & Owens, 2014). One of the last wells to be drilled here was by American Financier, John Fox (Hicks & Owens, 2014).

Figure 3. Oil well drilled at St. Paul's Inlet, with sweet crude present. Photo by author, August 2014.

Between 1867 and 1991 it is estimated that at minimum 64 wells were drilled on the entire west coast, “none of which were located using seismic testing. Wells were spotted adjacent to surface seeps or along topographic humps and bumps” (Hicks & Owens, 2014, p. 1). Wells located without the use of seismic activity are considered historic wells (Hicks & Owens, 2014). After 1991, wells in Newfoundland began to be located using seismic activity as the primary tool; these wells are called recent wells (Hicks & Owens, 2014). Wells located using seismic testing marks the end of the historic exploration/drilling phase, and the beginning of the recent exploration/drilling phase (Hicks & Owens, 2014). It is estimated that at Parson’s Pond approximately “5,000 or more barrels of oil were produced and used to support drilling operations, sold to local fishermen along the coast or shipped to the Gasworks plant in St. John’s where the oil was mixed with coal oil and used to light street lamps along Duckworth and Water streets” (Hicks & Owens, 2014, p. 15). When encompassing all oil development on the west coast, it is estimated that 5,000-10,000 barrels have been produced in total, although no records exist for verification of this (Hicks & Owens, 2014, p. 1). Since 1994, 40 wells have been drilled in western Newfoundland, but only the Garden Hill Port au Port #1 well “was successful in achieving limited hydrocarbon production” (Hicks & Owens, 2014, p. 1). All of this is to say that there is a somewhat rich history of oil discoveries along Newfoundland’s western coastline, providing context in which the Sally’s Cove fracking development can be situated. The presence of an oil-related history also “demonstrates the petroleum potential in the area and the presence of an active petroleum system” (Hicks & Owens, 2014, p. 2).

However, historically, some Newfoundlanders have expressed concern about oil development in the province. Writing in the mid-1980s just before Hibernia begins offshore production, sociologist Douglas House (1985) states that many Newfoundlanders at the time desired locally-controlled development of the province's oil industry. Brian Peckford, the Newfoundland and Labrador Premier at the time, embraced "the promise of oil" (Dodd, 2012, p. 5), convincing the population that the industry would be the panacea that releases the province from the grips of dependency from mainland Canada, as "dependen[ce] is the obverse of powerful" (House, 1985, p. 4). Peckford and other politicians at the time saw provincially-controlled oil development as an avenue to "assert a new autonomy for Newfoundland as an equal, rather than dependent member of the Canadian confederation" (House, 1985, p. 72): it was heralded as "the miracle cure" and "the start of a new era" (Dodd, 2012, p. 19). With the 1982 *Ocean Ranger* disaster, where a North Atlantic storm sank, killing its crew of 84 men, the public's trust in the "promise of oil" was shattered (Dodd, 2012). As Susan Dodd, whose brother Jim was aboard that rig puts it: "We had this piece of technology out there, a veritable fortress, the unsinkable rig, but then it sank and all these people died. In a cultural sense, so did our dream" (Dodd, 2012, p. 19). As the pursuit of oil development in Newfoundland and Labrador was conflated with ideas of liberating people of the province from dependency on the rest of Canada, the lives lost with the sinking of the *Ocean Ranger* betrayed notions that oil development in Newfoundland and Labrador would lead to "cultural rebirth and self-determination" for the province's people (Dodd, 2012, p. 5). The promise of oil had to be rebuilt over time, and confidence and trust in the government and industry by the province's people restored. This history of oil

development in Newfoundland and Labrador is the story of a precarious relationship between Newfoundlanders and oil development in the province. Historical development of the province's oil industry, therefore, whether intentionally or not, was viewed by politicians and industry supporters in Newfoundland and Labrador as an economic issue with major cultural underpinnings. Producing oil was not solely about economic and material gain, but was deeply intertwined with asserting the culture and autonomy of the province's people (Dodd, 2012).

Green Point Shale

The fracking project on which my thesis is based is proposed to be located on land in Sally's Cove, drilling into a rock formation called the Green Point Shale. The Green Point cliffs are comprised of "fine layers of dark grey shale" (Burzynski, 1999, p. 44), and are considered to be an "organic-rich, deep-water deposit" (SPE, 2013) that are geologically complex (Hinchey et. al, 2014). The geology is significant as Green Point is considered "an international standard (or *stratotype)* for defining the boundary between Cambrian and Ordovician" Periods, as agreed upon by the International Union of Geological Sciences (Burzynski, 1999, p. 44; emphasis original). According to a recent government report, the presence of oil is "documented in the Gros Morne area, in particular at Cow Head, Broom Point, Martin Point, Green Point and Lobster Cove Head" (Hicks & Owens, 2014, p. 5). The Green Point play is located in the north part of the Anticosti Basin; a play is a "specific reservoir of hydrocarbons [conventional or unconventional] with a consistent, defined set of geological characteristics" (Hinchey et. al, 2014, p. 35). At Green Point "the beds …have been tilted (actually overturned) to an

angle of about 115° from the original horizontal sea floor" (Burzynski, 1999, p. 44), and the Green Point Formation "contains locally up to 10.4% total organic carbon" (Hinchey et. al, 2014, p. 21) (see Figure 4).

Figure 4. Green Point Shale at Green Point. Photo by author, August 2014.

Figure 5. Hydrocarbon staining at Green Point. Photo by author, August 2014.

The Green Point play has shown "hydrocarbon staining along fracture surfaces," (see Figure 5) which is evidence that oil exists along the Green Point Shale (Hicks & Owens, 2014). Considered an oil-in-shale play, the Green Point Shale has been compared to the Eagle Ford Shale in South Texas, but is expected to produce higher quantities of oil that is "light, sweet, high quality crude" (SPE, 2013). Shale is considered a "tight" rock, meaning that the rocks are relatively impermeable and require unconventional techniques and technology, such as multi-directional hydraulic fracturing, to extract the oil and gas (SPE, 2013). Oil-in-shale – or "tight oil" – differs from an oil shale play in that stimulation of flow is required to extract the already-liquid oil, not mining or subterranean heating (SPE, 2013). This "tight oil" was once deemed uneconomical to extract and produce, but is now regarded as "one of the fastest growing development focuses in the global petroleum industry" (SPE, 2013). The rise in industry's pursuit of "tight oil" (or "tough oil") is due to the depletion of cheap, easily retrievable pools of oil

(Urry, 2013) paired with soaring oil prices, technological advances in unconventional resource extraction techniques such as fracking, and improvements in horizontal drilling that now make extracting oil from harder to reach places (like deeper down or in less permeable rock) "possible and profitable" (Willow & Wylie, 2014, p. 223). One of Newfoundland and Labrador's Department of Natural Resources' reports produced by the government's internal review of fracking, *The Green Point Shale of Western Newfoundland*, highlights the complex nature of western Newfoundland's geology, noting that "scientific understanding of the Green Point shale is incomplete" due to a lack of data that is suitable to modern standards (Hinchey et. al, 2014, p. 1). This geological uncertainty leads to an increase for potential risks of seismic activity or groundwater contamination from migration of fluids when considering the Green Point Formation as a location for hydraulic fracturing to occur (Hinchey et. al, 2014).

Establishment of Gros Morne National Park

Gros Morne National Park – encompassing areas from Trout River to just north of Cow Head – is internationally recognized for its natural beauty and geological diversity (Berger, 2014). In 1987, 14 years after its establishment as a national park, it was designated a protected World Heritage Site by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) (Burzynski, 1999; UN, 2013). The proposal for a license to hydraulically fracture at Sally's Cove resulted in a ripple of conversations across the province. The initial announcement of the proposal piqued the interest of many people, sparking conversations but not necessarily consensus. According to some local residents I spoke with in western Newfoundland's Bonne Bay region, fracking

temporarily became a hot topic in local communities, and in the summer of 2013, was frequently debated and discussed. The contentiousness of this particular proposed fracking project has to do with its projected location next to a national park. Also relevant for understanding the debate is the contentious social environment in which the park was established in 1973 (Kearney, 1979). Just over two decades after Newfoundland and Labrador joined Confederation, the province had undergone rapid changes, including the construction of roads to remote areas and the creation of high schools, trade schools, and Memorial University in St. John's (Kearney, 1979). However, the province joining Confederation was contentious because many Newfoundlanders and Labradorians were concerned that their autonomy would be undermined, their collective cultural identity threatened, and their role as economic and political dependents reinforced. The founding of Gros Morne National Park in the early 1970s created opportunities for tourism and local employment, but many people living in the area at the time struggled with the creation of the park (Kearney, 1979), as "the planning process followed the time-honoured tradition of government decision-making without satisfactory local consultation" (Berger, 2014, p. 199). The mixed feelings held by some local residents were the result of "boundary lines" being created (Kearney, 1979, 5th para in ch.), and the imposition of regulations that restricted people's participation in traditional activities, such as hunting specific wildlife species, and harvesting wood (Berger, 2014; Kearney, 1979). Many local residents were forced to relocate because federal and provincial national park policy "did not allow humans to inhabit parks" and Gros Morne was established on the idea that the park would "[embody] only nature apart from people" (Overton, 1996, p. 188). Sally's Cove residents at the time were split between those who

had willingly relocated to Rocky Harbour (with government compensation) and those who refused to relocate (Berger, 2014). Sally's Cove resident Edith Roberts stated publicly in 1977, "like a little fellow said in his prayers, God bless Mommy and Daddy and God damn the Park" (Berger, 2014, p. 199). In 1983, after much social and political turmoil, Sally's Cove was excluded from the park and labeled an "outlying community," with a former resident stating that "the little community had been torn apart" (Berger, 2014, p. 199). However, not all residents reacted adversely to the park's introduction. As then Rocky Harbour resident, Jim Shears, puts it:

> The park is the same as we was talking about Confederation. There was a lot of people against Confederation. Now we're into Confederation we've learned that it's the best thing for us; that's the same as the park. A lot of people wasn't in favour of the park but now it's operating, the people is in favour of it…they give a lot of employment and eventually they'll have some nice roads through the park; and it brings a lot of tourists leaving some money in the place; and we're not going to be drove out of the woods. We can get permits to go and cut firewood and timber for our boats and so on; now they're going to open up a season to catch rabbits; …There's a lot of people right here in Rocky Harbour and Norris Point and all around the park right from Cow Head, there's people working here. So I can't see that the park is an injury. When we get used to it it's not a burden and we don't forget it. With Confederation, with the park and all that stuff you got to get used to the laws. (Kearney, 1979, 6th para in ch.)

Berger (2014) likens the Park and its various "outlying" communities to Swiss cheese, with enclave communities governed by provincial and municipal law, and not considered part of the Parks Canada or federal jurisdiction (p. 202).

Newfoundland Political Context

Prominent provincial leaders have publicly responded to issues of fracking in Newfoundland and Labrador. In September 2013 – just two months prior to then provincial Natural Resources Minister Derrick Dalley's announcement of a fracking moratorium – the Progressive Conservative Premier at the time, Kathy Dunderdale stated that there was no need for new regulations on hydraulic fracturing in the province, as "a strict environmental assessment process that allows for scientific study and public input" already exists (CP, 2013, p. 1). Less than one month after the announcement of a fracking moratorium, Premier Dunderdale, at a press release with the Greater Corner Brook Board of Trade, expressed that the top three priorities of the provincial government were the health of residents, education of residents, and maintaining a strong economy, despite how "sometimes, th[ose] goals seem to conflict" (Dunderdale, 2013, p. 1). She also noted that an internal governmental review will be conducted not only to "provide clear answers about the safety and sustainability of such practices in our province, but [to] give greater clarity to developers before they get deep into developing proposals," thus, in Dunderdale's perspective, addressing both health and business/development concerns (Dunderdale, 2013). Her successors, Newfoundland Premiers Paul Davis and Dwight Ball, have been publicly quiet on the issue of fracking in the province.

One of the most active politicians in the province on the issue of fracking, unsurprisingly, was Derrick Dalley, Newfoundland and Labrador's Natural Resources Minister until November 2015, who claims that "oil and gas exploration and development has played a significant role in the economic growth of this province, transforming the economy and prospects for Newfoundland and Labrador" (Government of Newfoundland and Labrador, 2013a, p. 1). Dalley delivered the public announcement that Newfoundland and Labrador will not be accepting proposals for slick-water horizontal drilling using hydraulic fracturing until an internal review of various potential impacts of fracking is completed (Government of Newfoundland and Labrador, 2013a, p. 1).

Situated within the current political environment I introduce above, my research project emerges from a historical-political context in which prospects for offshore and onshore oil development in Newfoundland were promised by politicians to bring not only economic independence and material affluence, but also cultural benefits such as self-determination. However, after events such as the *Ocean Ranger* disaster in 1982, many people were left feeling betrayed by the government and their failure in delivering their promise of oil and its perceived associated benefits of security and prosperity (Dodd, 2012). For decades after the disaster, effort was made by the provincial governments to rebuild the public's trust in oil by employing narratives that spoke to the people of Newfoundland and Labrador's desire for independence from the rest of Canada, such as "if we trust in oil, Newfoundland can grow up" (Dodd, 2012, p. 19). This demonstrates a historically precarious relationship between Newfoundlanders and oil development in the province. The Sally's Cove fracking controversy on which my thesis is based is born out

of this historical-political context characterized by uncertainty among many Newfoundlanders about whether oil is the answer for the province's move towards economic and cultural autonomy. However, more recently, residents of the province have generally been quite accepting of provincial oil development, making controversies such as proposed fracking at Sally's Cove exceptions to this norm.

Conclusion

In this chapter I briefly outline the process of fracking. Then, I delineate a two hundred year historical account of the pursuit and production of oil in western Newfoundland, and the significance this history holds for the fracking debate in the province today. I focus specifically on past oil-related endeavours in Cow Head, St. Paul's Inlet, and Parson's Pond, all of which are small towns along Newfoundland's western coastline. In tracing this history I found that the pursuit of Newfoundland-controlled oil development was an issue that encapsulated people's desire for economic affluence, social respect and status, and the shedding of feelings of cultural inferiority in the eyes of non-Newfoundlander Canadians. Better understanding the two hundred year history of oil development in Newfoundland and the socio-political nature that characterized those decades provides insight into today's fracking controversy. Learning about the west coast's oil-related history teaches us that the debate over the possibility of fracking on the boundary of Gros Morne National Park is really an extension of an already rocky relationship between Newfoundlanders and oil development.

In the next chapter I discuss in depth the literature review relevant to community perceptions of and responses to resource extraction, and my theoretical framework that I

use to analyze and interpret my data. Based on the findings and gaps in the literature, I develop a framework for my project.

Chapter Three: Literature Review

In this chapter I offer an overview of research that examines resource development and community in the North American context. I begin by outlining sociologist John Urry's concepts of "easy" and "tough" oil, defining fracking as an example of "tough" oil (2013). I explore emerging scholarship (largely American) on community responses to resource extraction, noting the heavy academic focus on fracking's environmental impacts. I outline notable gaps in the literature on community interpretations and responses to fracking development in North America (i.e. social impacts of fracking understudied and qualitative methodological approach lacking). Also, much of the recent literature uses a neoliberal theoretical approach to understanding unconventional energy development in North America. I turn next to consider how the concepts of community and community development are defined and contested in the literature. I then explore different understandings of rurality. I discuss the concept of place as an influential aspect in community development. I proceed to make a case for the importance of place, place-making, and attachment to place in understanding how Bonne Bay community members conceive and respond to proposed fracking development at Sally's Cove. I delineate a landscape studies perspective before turning to a theoretical discussion of environmental justice (including the concept's origins in the United States and its unique adoption in Canada), an approach which forms the theoretical basis of my project. I end with a brief discussion of symbolic power, science, and privilege in policy decision making processes regarding proposed energy developments.

Oil: Easy and Tough

Over the last century, oil has figured prominently in the creation of high-carbon Western culture, economies, and politics, including being used in the transportation of goods and people; to manufacture goods; for domestic and office heating purposes; and in food production and distribution systems (Urry, 2013). Mobile flows of capital, commodities, people, etc. are enabled by the flow of cheap, easy oil, and the dissemination of Western ways of life around the globe translates into an increasing number of people embracing high-carbon lifestyles (Urry, 2013). Nonetheless, some argue we have reached the "peak" of accessibility to cheap, easy oil (Urry, 2013). The peak oil thesis posits that the extraction of oil reserves is a process that involves a beginning, middle, and end (Urry, 2013). Debates over the amount of remaining available oil (thus debates about the theory of peak oil) are central to the geopolitics of oil (Bridge & Le Billon, 2013). In their classification of how people relate to the peak oil theory, Bridge & Le Billon (2013) create a typology of petro-optimists and pessimists. Optimists posit that conventional oil reserves are "at an all-time high," a vast number of unconventional resources await discovery, and that natural gas is the fossil fuel of the future (Bridge & Le Billon, 2013, p. 101). Conversely, petro-pessimists remind us that oil is a finite resource, highlighting "the significant drop-off in the rate at which giant oil fields are discovered," while also pointing out the adverse environmental impacts of unconventional extraction (Bridge & Le Billon, 2013, p. 102). This debate reveals the contentious nature of the peak oil thesis. According to Urry (2013) (who I would classify as a "petro-pessimist" in Bridge and Le Billon's typology), peak oil occurs when "approximately half the potential oil has been extracted" (p. 98). At this point, the oil becomes more expensive to extract, and the technological challenges to extraction

generally become greater as well, due to the oil being deeper in the earth or ocean, in less permeable rock formations, for example. Whether oil is "easy" or "tough" depends on its calculated Net Energy, which is "the amount of energy available after all of the energy required to extract, transport, refine, and consume is accounted for" (Davidson & Gismondi, 2011, p. 148). This is measured in terms of a ratio that portrays the Energy Return on Investment (EROI) (Davidson & Gismondi, 2011), which is also expressed as Energy Returned on Energy Invested (EROEI) (Urry, 2013). The average EROI, or ratio of efficiency, for conventional oil extraction is approximately 10:1, signifying that for every 10 units of usable oil that are produced, 1 unit of energy input is required (Davidson & Gismondi, 2011). As easy, cheap, plentiful oil becomes scarce, higher energy inputs are required to extract similar quantities of oil (Urry, 2013). Once extraction ratios of efficiency (EROI) become low enough as to not result in a "comfortable energy profit" (Davidson & Gismondi, 2011, p. 148), the oil produced is considered "tough oil" (Urry, 2013, p. 103). Fracking is an example of Urry's "tough oil" (2013), as it is more water- and energy-intensive than conventional processes of extraction (IEA, 2012). As oil and gas industries embrace non-conventional forms of resource extraction, energy inputs in the form of "labour, material, and mechanical requirements" are needed in greater quantities to yield disproportionately lower energy outputs (Davidson & Gismondi, 2011, p. 12).The problem of the scarcity of easy oil is that no significant energy alternative currently exists (Bridge & Le Billon, 2013). Other problems of building high-carbon, oil-dependent societies have to do with how oil supplies are not only non-renewable, but finite (Urry, 2013), and that "petroleum fuel, the basis of industrialization, cannot sustain industrial growth and lifestyles indefinitely"

(Sinclair, 2011, p. 112). As well, the burning of fossil fuels contributes to global climate change, as the process generates greenhouse gas (GHG) emissions (Urry, 2013). The recent pursuit of fracking on Newfoundland's west coast (and elsewhere in Canada including Quebec and New Brunswick) (Howe, 2015) exemplifies how the Canadian economy is transitioning from easy to "tough" oil as fracking was once deemed too expensive and inaccessible to pursue (Urry, 2013; Willow et al., 2014). Despite debates around peak oil, there is increasing agreement that the size and number of conventional resources is on the decline (Bridge & Le Billon, 2013), hence the surge in fracking development in North America. With the recent decline in oil prices, dwindling support for fracking development may reflect what's occurring in the economic market; however, my project is situated in the time before the collapse of prices, when "tough oil" projects such as deep offshore and Arctic exploration were still economically feasible and thus actively pursued.

The North American energy landscape in the early 2000s was characterized by a "rapid expansion in the use of fracking," with the United States, in particular, witnessing a shale oil and gas boom (Finewood & Stroup, 2012, p 76). The development and use of high-volume slick water horizontal hydraulic fracturing (which combines horizontal drilling and hydraulic fracturing) (Willow & Wylie, 2014) has advanced more rapidly than the research that studies the various implications of using this technology to extract hydrocarbons (CCA, 2014a). This results in various knowledge gaps, some of which I will outline in this chapter.

Environmental Impacts of Fracking

Scholarly research on fracking has largely been based in the United States, with academic fields such as geology, geography, ecology, climatology, chemistry, and hydrology focusing on the environmental impacts of fracking. Air quality impacts in rural Utah and Wyoming are investigated by Edwards et al., including Memorial University Chemist Cora Young, (2014). The authors find that fracking compromises air quality in these places, noting that similar impacts could be experienced in mountainous areas of Canada, such as western Newfoundland, where the physical environments parallel those in their research sites (Edwards et al., 2014). Ground and surface water contamination concerns are highlighted in research by Entrekin et al. (2011), in their American study on ecological stress caused by nearby fracking wells. Other studies out of the United States provide evidence of stray gas contamination (mainly methane) of water supplies in the Marcellus and Utica shales in Pennsylvania and upstate New York (Holzman, 2011; Jackson et al., 2013; Osborn et al., 2011). A study by Howarth et al. (2010) on the greenhouse gas footprint of methane emissions in the fracking process found that the fracking industry in the United States has "at least 20% greater" a footprint than for conventional oil and gas extraction methods (p. 1). Research on environmental fracking impacts in Canada is sparse. The recent release of the Canadian Council of Academies' (CCA) report, *Environmental Impacts on Shale Gas Extraction in Canada* (2014a), emphasizes environmental risks of fracking, such as potential contamination of water, increased greenhouse gas emissions, and regional effects of large-scale land use. The report outlines how methane emissions could lead to a spike in GHG emissions, but this depends on rate of methane leakage and climate policies (CCA, 2014b).

Also emphasized is the importance of recognizing regional differences in geology, geography, and ecosystems across Canada: "Although the chemical composition of the oil and gas in each of the plays across Canada may be similar, the environmental conditions at the surface and the sequence and conditions of the subsurface strata are very different" (CCA, 2014a, p. 19). Environmental risks of shale energy development will be regionally varied. This points to the importance of case studies, such as proposed fracking at Sally's Cove, in understanding community responses to fracking in Canada.

Social Impacts Understudied

Social impacts, including literature on community responses to and perceptions of fracking, have received limited attention. The Canadian Council of Academies' report (2014a) states that social dimensions of fracking in Canada such as the impacts of rapid industrialization of rural areas on communities, are drastically understudied, recognizing that in areas that host fracking projects, community well-being may be at risk. The literature on community impacts of and responses to development is more developed. Work by Stedman et al. (2004) exploring the resource development impacts on rural, "resource-dependent" (p. 213) communities in Canada shows that community well-being, as measured by unemployment rates, average income, level of formal educational attainment, and other indicators, varies significantly depending on the type of industry that the community relies on (i.e. fishing, mining, energy, forestry, agriculture). Their findings suggest that communities that rely on fishing are associated with the poorest outcomes, such as comparatively high rates of unemployment and poverty, with low rates of in-migration, income, and educational attainment (Stedman et al., 2004). Conversely,

energy dependence, which the authors consider the "newest" industry in comparison to fishing, forestry, agriculture, and mining, is linked with positive outcomes along every indicator of community well-being (Stedman et al., 2004). The authors found that "27.7 percent of jobs in rural [Census subdivisions]…are based in resource industries" and that despite the different industries present in each community, the level of reliance was similar (Stedman et al., 2004, p. 231).

Further, social research on fracking in Canada is scarce; in North America there is significantly more documentation of fracking impacts in the United States. Research on the impacts of fracking on rural communities in Newfoundland and Labrador is sorely lacking. Other social considerations that are highlighted in the CCA report demonstrate that public support for projects, and trust in the industry, must be preceded by "transparent and credible monitoring of the environmental impacts," and not rely on "industry claims of technological prowess" (CCA, 2014a, p. xvi). Fracking is worthy of social scientific attention as it is a form of "energy production that unsettles social, economic, and ecological landscapes" (Willow & Wylie, 2014, p. 222), with studies on the social acceptance of fracking also scarce (Popkin et. al, 2013). It is important to give social impacts of energy development in Canada greater attention through research because with the increase in "tough oil" pursuits globally, the issue of how rural communities navigate the challenges of proposed development will as well become increasingly pertinent. Moreover, technological innovations in the field of unconventional resource extraction have occurred more quickly than scholarly research on the social-cultural implications of using these energy development techniques, resulting in various

knowledge gaps (Willow & Wylie, 2014). Considering fracking solely as a technological or industrial type of development risks dismissing its social and cultural impacts.

Qualitative Approach Lacking

The small amount of literature that is emerging on community consequences of and responses to unconventional resource development is based out of the United Stated, and is largely quantitative, using, for example, survey methods as opposed to ethnographic ones (Willow & Wylie, 2014). Research by Jacquet and Stedman (2012) uses a mail survey to gauge community perceptions of social, environmental, and economic change due to industrial-scale wind farm and fracking developments in northern Pennsylvania. Their findings suggest that local residents are more concerned about the potential impacts of fracking, and that factors such as place attachment and length of time as local resident were not highly influential (Jacquet & Stedman, 2012). Using primarily a survey methods approach, research by Brasier et al. (2011) on local community interpretations of current and future fracking development in the Marcellus Shale found that factors influencing community perception of development included population size, proximity to urban centres and transportation systems, among others. A notable exception to the quantitative-heavy literature is the recent Journal of Political Ecology's Special Section on Hydraulic Fracturing (Willow & Wylie, 2014), which contributes a uniquely qualitative perspective from which to view unconventional energy development. Qualitative inquiry allows for a nuanced, contextualized approach to understanding the human impacts of hydraulic fracturing through the use of rich personal narratives (Willow & Wylie, 2014). Interpreting fracking using a qualitative focus

"illuminates the human experience of resource extraction" and "empowers research project participants to share their stories and ideas" (Willow et al., 2014, p. 57). As fossil fuel dependency (Willow, 2014) and the problem of energy have been regarded as "not a technological problem" but "a social problem" (Nader, 1981, p. 104), understanding human experiences of fracking from a qualitative lens is appropriate. Energy is a social issue as cultures and social relationships are shaped around various energy sources, demonstrating the co-constructivist nature of energy development; energy is not an external entity that exists beyond or outside of sociality and culture (or economics, politics, etc.) (Strauss et al., 2013).

Neoliberalism

Emerging qualitative social science studies on community responses to unconventional resource extraction techniques like fracking are critical of neoliberalism as an ideology that is influential in proliferating fracking development in North America (Finewood & Stroup, 2012; Willow & Wylie, 2014; Willow, 2014; Willow, 2015), defining unconventional energy extraction as a "neoliberal process of environmental and social dispossession" (Willow & Wylie, 2014, p. 230). Neoliberalism, an ideology supporting economic and political restructuring, emerged in response to the 1970s crisis of capital accumulation (Harvey, 1989) and is characterized broadly as deregulation of the economic free markets, and increasing privatization of once public services (Harvey, 1989). Based on analysis of industry documents, ongoing participant-observation and open-ended interviews with anti-fracking activists, government officials, and non-profit organization leaders, a study in Ohio found that unconventional energy development such

as fracking was altering Ohioans' perceptions of the natural world (Willow et al., 2014). Themes that arose around how locals (re-)imagine their environment due to fracking development include: disempowerment, vulnerability, displacement, prosperity, legacy (stewardship), and way of life. In their Pennsylvanian-based study, Finewood and Stroup (2012) posit that fracking poses potentially high social and environmental risks to local, primarily rural, communities, and that water resources are particularly threatened. The authors suggest, further, that neoliberal arguments in support of fracking development (re)define human-nature relationships in ways that normalize community impacts (Finewood & Stroup, 2012). Continuing with her work on community responses to shale energy development in Ohio, anthropologist Anna J. Willow demonstrates that fracking supporters, including representatives of the oil and gas industry, engage with neoliberal patterns of thought that conflate social well-being with economic growth. This varies, she found, from fracking adversaries, who attribute well-being with non-economic factors such as "community continuity" and environmental sustainability (2015, p. 3).

Community in the Literature

Community is a contested term, and has been defined in many different ways (George et al., 2009). The operationalization of community, and ideas of whom and what constitute it, have been valorized and challenged, questioned and opposed, and continue to be debated to today (George et al., 2009). Community is a social artifact that is often conceived of as a small, homogenous, and harmonious world within a world, far removed from external forces (Agrawal & Gibson, 1999). Regarding community as an "organic whole" that is small in size, integrated, and unfailingly equitable is what Agrawal and

Gibson refer to as "the mythic community" (1999, p. 640). The "mythic community" vision disregards differences within communities, and ignores "the possibility of 'layered alliances' spanning multiple levels of politics" (Agrawal & Gibson, 1999, p. 640). Based on research in the rural community of Calvert on Newfoundland's Southern Shore, Pocius (2000) found that one's sense of community is based not simply on residing in a place, but in feeling a sense of belonging and connection to the place and people in it. Pocius suggests that "residents do not manage their resources; rather, they manage their space," and that this is common practice in Newfoundland communities (2000, p. 17). According to Pocius (2000), having rights to community resources, such as access to waters for fishing, is part of what it means to participate meaningfully in community life. Equal access to or distribution of community resources (or resource benefits) is tied with equitable community participation and thus one's sense of belonging (Pocius, 2000).

Community development can be defined as "a process for empowerment and transformation" (George et al., 2009, p. 168), and generally focuses on change, community autonomy and "community control of the development process and outcome" (George et al., 2009, p. 168). In their book on rural development, George et al. (2009) outline a four part model of community development, where community development is understood as a movement, method, program, or process. Based on research in rural Newfoundland communities, Overton (2007) dismantles the romantic notion of community as the hearth of development and resistance, arguing that community is "a resource that can be used by government" in times of social instability and economic uncertainty (p. 62). After the cod stock collapse in the early 1990s, government officials

in Newfoundland pursued tourism as an alternative economic base (Overton, 2007). The state responded to the crisis with cuts and economic restructuring that shifted the burden of responsibility for social and economic survival away from federal and provincial governments onto local communities. Neoliberal patterns of governance encouraged withdrawal of state support for rural communities in Newfoundland (Overton, 2007). This shifting of responsibility requires community resources be dedicated to local economic and social survival, while also transferring exposure to risks and potential burdens of development onto local residents. In essence, the Newfoundland government can be seen as individualizing exposure to risk, with risk defined as "the likelihood that an individual will experience the effect of danger" (Sjöberg et al., 2004, p. 10). In their work on public perception to climate change-related risk, Helgeson et al. (2012) identified five broad elements that help influence perceptions, including: cognitive; subconscious; affective; socio-cultural; and, individual factors.

Community is defined as contentious, meaning that its definition is not assumed (George et al., 2009). Community is social interaction – exercises of "mutual minding" (Mead, 1934) – that exists within a social field (Wilkinson, 1991). A social field is superior to a social system because while "a social system struggles to maintain its boundaries and to reinforce its existing order of internal relationships, a field is an unbounded whole with a constantly changing structure" (Wilkinson, 1991, p. 32). Thinking about community as being made up of multiple, overlapping spheres of interest (social fields) (Bourdieu, 1977) helps to capture and represent the complex and often messy reality of social interaction in ways that the conceptual rigidity of a social system

cannot. The community field, "along with other fields, has actors, associations (both organized and unorganized), and activities directed towards certain interests," and is just one of the many social fields of interaction that can exist simultaneously among groups of people (Wilkinson, 1991, pp. 32). The interactional theory of community is useful because it maps out community interests that are integrated while also capturing the divergent interests and "layered alliances" of multiple actors (Agrawal & Gibson, 1999, p. 640).

Drawing from the interactional approach to community, which itself is situated in a rural sociology framework, community can be understood as place-based, but connected to global flows of capital and oil. This perspective "focuses on the way[s] various social dynamics, local history and culture, and regional setting collectively form the social context (i.e. community)" (Boyd & Paveglio, 2015, p. 4). This approach is akin to classic risk literature which argues that "risk perceptions are partially shaped by the interactions and interrelationships people have with one another" (Boyd & Paveglio, 2015, p. 4). Community is place-based as it "*emerges* from communication and interaction among people who care about each other and the place they live" and who are "rooted in a particular locale that [they] imbue with meaning" (Boyd & Paveglio, 2015, p. 4; emphasis original). Community is defined in part by "local peoples' historic and ongoing relationships with the landscape (e.g. resource extraction, amenity migration) and its biophysical properties" (Boyd & Paveglio, 2015, p. 4). This definition aligns with literature on attachment to place, which describes place attachment as the "positive affective bonds that people associate with a specific place and are based upon the

interactions they have in that location" (Boyd & Paveglio, 2015, p. 4). People and place are intertwined.

Place

Human interactions have been described as becoming increasingly mobile and globalizing; flows of capital, commodities, information, and images zip around the world at stupefying speeds (Urry, 2013). It is said that "social life now moves through nodes in one or another network, through points of power or convergence or translation but not anchored at any place necessarily" (Gieryn, 2000, p. 463). Despite innovative and important work by mobilities scholars, and "in spite of (and perhaps because of) the jet, the 'net, and the fast-food outlet, place persists as a constituent element of social life," and remains relevant in an increasingly globalizing world (Gieryn, 2000, p. 463). In my project, I use the concepts of place, rurality, and community to investigate how Bonne Bay residents in western Newfoundland perceive and respond to prospective fracking development.

Place, defined as "the significant centres of our immediate experiences of the world," is where "human and natural order" merge (Relph, 2007, p. 120). A physical environment becomes a place through an intersubjective process involving "the focusing of experiences and intentions onto particular settings" (Relph, 2007, p. 120). People transform physical environments into places by imparting them with subjective meaning (Relph, 2007). Places are continuously "interpreted, narrated, perceived, felt, understood, and imagined," as people occupying various social positions experience places in unique ways (Gieryn, 2000, p. 465). Places are also continuously contested: places do not have

singular identities but are instead comprised of multiple identities and meanings, and full of internal conflicts (Massey, 1994). A study of community responses to fracking development in Ohio suggests local residents sharing a common space can hold dissimilar views about unconventional energy development, signifying the contentiousness of place (Willow et al., 2014). As well, rural sociology research by Boyd and Paveglio (2015) indicates that community and one's sense of place are important factors in shaping supportive or oppositional positions on energy development. Another example of the disputed nature of place is Michel de Certeau's notion of "tactics" – the use of time to reclaim one's power, albeit temporarily, in a context where power permeates a space (Tonkiss, 2005). Tactics are hidden and fleeting moments of action against this power: the "skirmishes in the terrain of everyday life" (Tonkiss, 2005, p. 138). Rather than regurgitating expected spatial meanings of the city, de Certeau argues that people find, literally, new paths to walk (i.e. jaywalking), as a way of creating revived meanings of a particular place. When people employ the use of tactics, they are "poaching" the spatial immediacy, taking what they want from it, and using the place as they see fit (Tonkiss, 2005, p. 138). De Certeau's notion of tactics is an example of how places are used in multiple ways by different people, illustrating the fluid nature of place-making.

Place, according to Gieryn (2000), has three necessary and sufficient features, and they are: geographic location, material form, and investment with meaning and value. Place "could be your favorite armchair, a room, building, neighborhood, district, village, city, county, metropolitan area, region, state, province, nation, continent, planet-or a

forest glade, the seaside, a mountaintop" – it is any environment one imbues with importance (Gieryn, 2000, p. 464). Further, place is physical and "social processes (difference, power, inequality, collective action) happen through the material forms that we design, build, use, and protest" (Gieryn, 2000, p. 465). Through the process of place-making – "naming, identification, or representation by ordinary people" – physical environments are imbued with meaning and value (Gieryn, 2000, p. 465). Physical environments become transformed into places of significance through social (inter)actions through, with, and within them. Place, and the social relations that co-construct physical environments into places are not static, but dynamic processes (Massey, 1994). An example of a place changing cultural meaning is the establishment of Gros Morne National Park; through the process of designating the region as a national park with international UNESCO distinction, people's perceptions about the rural area and notions of how they relate to place may have altered. Cultural understandings of what it means to live in a rural region may have also been impacted.

Rurality, like community, is difficult to define (George et al., 2009). The Organization for Economic Cooperation and Development (OECD) (1994) suggests that rurality "focuses on three dominant discussion points: population density and size of settlements; land use and its dominance by agriculture and forestry; and traditional social structures and issues of community identity and heritage" (George et al., 2009, p. 8). Rural settlements are smaller than 10, 000 inhabitants (OECD, 1994). In the context of tourism development in Nordic countries, Hall et al. (2009) explore multiple understandings of rurality. The authors suggest understandings of rurality that go beyond

population density and settlement sizes to include "a socially constructed idea that characterises it and also differentiates it from urban in specific, but culturally changing, contexts" (Hall et al., 2009, p. 115). Notions of rurality differ with unique cultural and economic contexts (Hall et al., 2009). As summarized by Cloke (2006) in the *Handbook of Rural Studies*, theorizations of rurality have evolved over decades to arrive (for now) at a perspective that understands rurality as socially constructed, meaning that one's basic assumptions and definitions of rurality are subjectively created through social practice. The social constructivist perspective of rurality has further been developed to include concepts of the networked rural (Woods, 2009), implying a co-construction of rurality through relations between local and non-local places (Cloke & Perkins, 2005). Rural Newfoundland's economy was once characterized by "extractive development," a term used by Luke (2002) to describe how locals relied on natural resources (such a fish) for subsistence. After the early 1990s cod stock collapse, however, the economy transitioned to a site for "attractive development" (Luke, 2002), turning to tourism as an alternative economic base. Other provinces in Canada, such as British Columbia (Luke, 2002), and Nova Scotia (Stoddart, 2012), have undergone similar transformations from extractive to attractive forms of development. An attraction-based economy "reconfigures the cultural meaning of rural landscapes" (Stoddart, 2012, p. 328) into places where "culture," "heritage," and "wilderness" spaces are valued and consumed (Overton, 1996). Rural places as a landscape for resource extraction are transitioning into being conceived as peaceful, reclusive, and restorative tourisms areas (Overton, 1996). The transition from "extractive" to "attractive" forms of development (Luke, 2002) is another example of the changing cultural meanings ascribed to places. In my thesis I intend to address what local

Bonne Bay residents' different, often competing, meanings of place and rurality mean in the context of the fracking debate in western Newfoundland, and how struggles over (re-)defining place and rurality may influence one's position on the issue.

Places invested with meaning are not simply or solely blocks of cement that tower over people downtown, or pave our pedestrian pathways, but are part of the very essence of sociality: "place is not just a thing in the world but a way of understanding the world" (Cresswell, 2014, p. 18). Spatial and social aspects of lived experience are in constant "conversation" with one another – simultaneously producing and re-producing meanings of places, as well as effecting the interactions, behaviour and dynamics that co-exist within them (Lefebvre, 1991). "Understandings and concepts of space [sic] cannot be divorced from the real fabric of how people live their lives," and this ongoing dialectic is fundamental to the notion of places as socially constructed (Shields, 1991, p. 46). Georg Simmel, recognizing the importance of socio-spatiality, described spatial relations as "both the condition for and the symbol of, social relations" (Tonkiss, 2005, p. 148). Like social interaction itself, place is never static (Massey, 1994); it is significant in that it holds the capacity to create attachment, and facilitate community-building.

Place attachment "generates identification with place and fosters social and political involvement in the preservation of the physical and social features that characterize a neighborhood" (Mesch & Manor, 1998, p. 505). People become attached to places when they emotionally invest in them (Mesch & Manor, 1998, p. 505) and a positive emotional bond is established between groups or individuals and their environment (Mesch & Manor, 1998, p. 504). Place-making, an emotional attachment to

place, taps into the "human capacity to produce and consume meaning" (Cresswell, 2014, p. 14). Shared affective aspects of place have the potential to "tie people together and provide a sense of community and continuity" (Power et al., 2014, p. 14). Place attachment is an important aspect of political engagement at the community level, as well as contributing to the process of how one forms an individual identity (Bell, 2013).

The literature on place attachment suggests that "the higher the neighborhood attachment the more likely are individuals to develop a set of norms and to exert effective formal and informal social control…to fend off attempts to change the social and physical nature of the area" (Mesch & Manor, 1998, p. 505). The process of place-making is also important because places bring people together in corporeal co-presence. This co-presence, according to Gieryn (2000) allows for two possibilities: "engagement or estrangement" (p. 473). Physical co-presence, facilitated by place, encourages interaction and creates the capacity for community-building: it "arranges the patterns of face-to-face interaction that constitute network-formation and collective action" (Gieryn, 2000, p. 473). The capacity for community-building is created by place, but this does not guarantee the creation of a coherent and singular sense of community.

Landscape Studies Perspective: Landscape as Living

Recent literature emphasizes the importance of landscape (place), which understands nature-culture as inherently intertwined, not as binary opposites (Willow et al., 2014). Contending that "human experience is formed ... its meaning conceived, absorbed and negotiated, around places" recognizes the importance of place in influencing and co-creating human experience (Bauman, 2003, p. 102). Although

geographers (such as Cresswell, 2014) view landscape as different from place in that landscape is something that exists outside of the viewer, I am incorporating anthropologist Anna Willow's understanding of landscape as interchangeable with place (Willow et al., 2014). In my thesis, I understand landscape and place as the same concept (as do Willow et al. (2014)): Landscape, or place, refers not to the:

> unique geophysical characteristics nor to the distant scenery we sometimes stop to admire. It is instead a profoundly cultural phenomenon; landscape is not just what we see but also what we think and feel when we encounter the natural world. (Willow et al., 2014, p. 57)

Landscape, like place, is relational in that it is co-constructed between humans and physical environments, and local and non-local places, through social interactions and relations. Experiences of place are multifaceted, and conflict can be generated over clashing ideas of how or whether place should be valued or conserved. Viewing landscape as living is "about social relationships and political structures" (Willow et al., 2014, p. 63), making the fracking debate more than an environmental debate: it is a struggle to define "our collective human-environment relationship" and over the authority to decide that definition (Willow et al., 2014, p. 63).

As an example of how human-environment relationships can play out in different ways, in *Picturing Environmental Risk*, Remillard (2011) elaborates on two prominent discourses regarding the human-nature relationship. The first example of how people may understand landscape culturally is the discourse of instrumentalism, where nature is conceived as a resource, and is understood primarily, if not solely, in economic terms.

Within this discourse, nature is conceived as a commodity, and deemed "meaningless without human necessity and use" (Remillard, 2011, p. 132). Narratives of profitability and commodity are highlighted in this discourse of rationalism. The inexhaustibility of nature in providing raw materials for extraction, manufacturing, and consumption is also a prominent theme (Remillard, 2011). Research on fracking development in Ohio demonstrates that fracking proponents such as oil and gas companies view nature as instrumental, as "a landscape of immense potential prosperity" (Willow et al., 2014, p. 63). A counter-discourse and second example of a cultural understanding of landscape or place conceives of nature as sublime and pristine, as something to preserve, protect, and cherish (Remillard, 2011). Fracking "provides a new and urgent lens through which to explore the diversity, dynamism, and politics of human-environment relationships" (Willow & Wylie, 2014, p. 224). The dominant discourses of nature-as-resource and nature-as-sublime as identified by Remillard are useful guidelines with which to begin understanding Newfoundland's fracking debate.

After surveying literature on place, rurality, and resource development and community, I will now outline how I am defining place, rurality, and community. In my thesis I understand community as a social construction that is understood as comprising multiple actors with overlapping interests, norms, and perceptions. Sometimes interests are held in common, and sometimes in conflict. This heterogeneous view of community is not to say that agreements are not made, strong social ties are not achieved, and people are dissatisfied; it instead is an attempt to frame community in a way that encompasses epistemic diversity (i.e. different aims, interests, values). This incongruence, along with

how fracking has the potential to alter one's view of their community, is partly why fracking is such a controversial issue among some residents in the Gros Morne area. The establishment of Gros Morne National Park in 1973 (Kearney, 1979) was not without its own controversy. In his work on tourism, culture, and development in Newfoundland, Overton (1996) discusses how the park's implementation created issues for many local residents. Rights to use local resources were taken away; residents were no longer permitted to participate in activities such as berry picking, hunting, and chopping timber on what is now designated park land (Overton, 1996). The controversy surrounding prospective fracking development at the edges of Bonne Bay illustrates how local perceptions of community are linked with normative notions of how local land and resources ought to be utilized. This leads to an understanding of community that is place-based, but connected to global flows of capital and oil.

I understand place and rurality as cultural phenomena. I define rurality as culturally-specific, characterized as co-constituted through social interactions between local and distant places and having generally small settlements where the population engages in place-based, resource development activities (e.g. fishing, forestry, agriculture). As found in their work on rurality and culture in Newfoundland's coastal communities (Power et al., 2014), the material rural context (local physical environments and places) plays a vital role in shaping residents' discourses and understandings of rurality. In contrast with the dominant understanding of rural places as obsolete or in decline, research on youth living in Newfoundland's "out of the way" (rural) coastal communities demonstrates that young people residing in these communities have much

more complex, nuanced, and positive imaginings of their rural communities than as recognized in the literature on rurality (Norman & Power, 2014; Power et al., 2014). Rurality is understood not as obsolete, and is usually viewed in relation to urbanity. Place is physical, and a physical environment is imbued with meaning and value (for instance, through naming) through the process place-making; place, therefore, is socially and culturally constructed through social (inter)actions with and within physical environments. In short, I understand community as comprising multiple actors with various interests and values, and place and rurality as dynamic and culturally constructed phenomena. Taken together, these definitions create the lens through which I investigate how people in Bonne Bay perceive and respond to proposed fracking development. Conceiving of place as social, as a "process" (Willow et al., 2014), aligns with my research questions which ask how community members in Bonne Bay perceive proposed fracking development in relation to their environmental values. A localized, place-based theoretical framework such as environmental justice theory, which I will now elaborate on, is thus appropriate.

Environmental Justice Theory

An environmental justice (EJ) approach aims to understand the intersections of environmental and social inequities by analyzing locally-based mobilization in response to real or perceived external threats to the well-being of a community. Based on existing literature about resource-dependent communities, the risks and the benefits of resource development projects are localized, but are not usually equally distributed. Instead, EJ theory intends to outline the ways in which structural inequalities work to distribute risks

in ways that may be deemed inequitable. This makes environmental justice theory an appropriate one through which to interpret my data gathered about community perceptions and responses to proposed fracking at the edges of Bonne Bay, as the companies proposing the work are based out of Toronto, an urban hub in Ontario, and would therefore not face potential localized impacts.

Environmental injustice is defined as the misdistribution of "environmental harm and privileges" (Pellow & Brehm, 2013, p. 235). As a theoretical orientation, environmental justice scholarship tries to explain the intersections of environment and inequity, emphasizing that environmental inequities are fundamentally social (Ali, 2009; Pellow & Brehm, 2013). Environmental risks, such as poor air or soil quality and exposure to polluted water, are disproportionately distributed among communities depending on social characteristics such as race, class, gender, citizenship, age, indigeneity, etc. (Pellow & Brehm, 2013). EJ research has shown that exposure to risks, harms, burdens, or, at the very least, minimal access to benefits, "disproportionately affect people of colour and low-income neighbourhoods" (Agyeman, 2005, p. 1). Within the field of environmental justice, most research concentrates on inequalities that are class-, gender-, and race-based (Mertig et al., 2002; Mohai et al., 2009; Pellow & Brehm, 2013). Exposure to risks and harms from energy development projects, such as fracking, become localized in communities, with fewer rewards. In response to the unequitable distribution and localization of harms and benefits to communities impacted by new energy regimes, local populations may choose to mobilize, wielding resources and capital (social, economic, political, symbolic). Environmental justice, therefore, can be

understood as “a local, grassroots, or ‘bottom-up’ community reaction to external threats to the health of the community” (Agyeman, 2005, p. 1).

Traditionally, environmental organizing “tended to seek the protection of wilderness and endangered species,” by employing “conservation narratives” about protecting biodiversity and green spaces (Vasey, 2014, p. 66). EJ advocates broadened the scope of environmental issues “to include not only wildlife, recreational, and resource issues but also issues of justice, equity, and rights” (Agyeman, 2005, p. 24). What sets environmental justice campaigners apart from more traditional environmental organizing is that the EJ academic and activist literature attempts to examine the intersectionality of gender, race, class, environment, etc. (Agyeman, 2005), and incorporate social justice, anti-capitalist and sometimes anti-colonial ideas into their work (Vasey, 2014, p. 66). Identifying intersectionality has in turn worked to redefine the environment, “so that the dominant, wilderness, greening, natural resource focus now includes urban divestment, racism, homes, jobs, neighbourhoods, and communities” (Agyeman, 2005, p. 2); the environment became “where we live, where we work and where we play” (Agyeman, 2005, p. 2). It became a place of value, with meaning and personal attachment. Local populations who mobilize at the grassroots level in reaction to externally proposed energy developments such as fracking are making efforts towards environmental justice (Lameman, 2014).

EJ Origins

The environmental justice movement, emerging from civil rights movements in the United States, cuts across and combines intersecting movements such as women’s

rights movements, and movements for racial equality (Vasey, 2014), resulting in a broadening of the traditional discourse concerning the environment (Agyeman, 2005). This has to do with its history in the United States.

The environmental justice movement has its roots in Warren County, North Carolina, where community members began assembling in protest to a toxic landfill (Agyeman, 2005; Mohai et al., 2009). These protests garnered national media attention, inspiring subsequent EJ protests, and setting a precedent for other communities to follow (Mohai et al., 2009). The Warren County incident spawned a series of reports that began questioning the placement of hazardous waste facilities. These reports revealed that toxic facilities were being disproportionately located in poor and racialized communities (Mohai et al., 2009); one investigation by the General Accounting Office determined that racial minorities comprised about 20% of the region's population, but the four landfill sites were located in communities in which minorities made up 38, 52, 66, and 90% of the population (Agyeman, 2005). Sociologist Robert D. Bullard's *Dumping in Dixie* (1990) is the first major EJ study that explicitly outlines how communities of colour in the United States were disproportionately targeted as sites for hazardous waste facilities (Mohai et al., 2009).

The field of environmental justice studies is largely concerned with ownership of voice, and how one's voice is representative of individual agency: "who gets to ask the question, who gets to be heard, (and listened to), and who benefits from how and if the questions are answered, researched, or considered relevant?" (Haluza-Delay et al., 2009, p. 9). Populations that are socially, economically, ecologically, and/or politically

disadvantaged tend to have fewer available tangible and intangible resources to muster in an effort to get their voices heard, resulting in the perpetuation of these inequalities (Haluza-Delay et al., 2009). Although the EJ movement has its origins in the U.S., it has extended north to Canada.

EJ in Canada

In comparison with environmental justice research in the United States, however, attention to the topic in Canada is limited (Haluza-Delay, 2007). Environmental inequality research in Canada is largely characterized by unjust treatment of First Nations peoples (Haluza-Delay, 2007). Situated within the social and historical context of Canadian colonialism, examples of this research are as follows: Mascarenhas's work (2007) on water management at Walpole First Nation in Chemical Valley (near Sarnia, Ontario) finds that neoliberal reform in Ontario disproportionately impacts indigenous peoples, making worse already detrimental human well-being and environmental pollution situations for local First Nations communities. Page (2007) depicts a dimension of inequality in Canada in his analysis of salmon farming and indigenous communities in British Columbia. He illustrates how salmon aquaculture development on the Pacific coast marginalizes First Nations from decision-making processes about salmon farming, despite the practice posing disproportionate exposure to health risks for coastal First Nations (Page, 2007). In a study of the Mid-Scarborough community (now part of Toronto), Teelucksingh (2007) suggests that environmental racialization better characterizes EJ dynamics in Canada, compared to the common use of environmental racism in the U.S. Shifting focus to Northern indigenous peoples in a case study on

climate justice, Trainor et al. (2007) explore how Inuit people in the Canadian and American Arctic are disproportionately burdened by climate change impacts from industrial pollutants caused by activities that they did not authorize and do not benefit from. The authors' analysis emphasizes the need for multi-scalar analysis with respect to climate and environmental justice (Trainor et al., 2007). Robinson et al. (2007) explore the potential for an EJ movement in British Columbia by studying the relationship between identification with the wilderness preservation movement and support for First Nations' land claims, finding that there is a positive correlation between strong self-identification with the environmental movement and support for First Nations' land claims. The authors conclude that an EJ movement in the province could be a useful "masterframe" to connect conservation campaigns and equal access to resources. In examining the *Vancouver Sun* media coverage during the controversial implementation of new forest management strategy in British Columbia in the early 2000s, Stoddart (2007) found that the media simplified the issue. Industry and government agents were represented in contrast to environmentalist voices, to the exclusion of indigenous and labour perspectives (Stoddart, 2007). Hanson's analysis of canola production in the Canadian Prairies (2007) asserts that technological advancements such as genetically modified seeds should be considered an example of environmental injustice in Canada, as this innovation restructures the agricultural sector in a way that disproportionately favours private capital.

The dominant paradigm model of Canadian environmental justice research is about indigenous populations, and comes from the perspective that "there is no 'post' in

post-colonial" (Haluza-Delay et al., 2009, p. 16). Indigenous scholarship in particular draws attention to how indigenous cultures relate to the land in ways that differ significantly compared to how most members of western Settler society do (Haluza-Delay et al., 2009). This highlights another theme of how these relationships to landscapes are often racially segregated (Haluza-Delay et al., 2009). Health and safety issues, often viewed in the context of toxic contamination, are another prominent theme in Canadian environmental justice literature, and is often analyzed within race- and class-based lenses (Haluza-Delay et al., 2009). A final theme that is prominent within Canadian scholarly environmental justice research follows a political economy tradition of highlighting "the interplay between local environmental social issues and economic processes at larger scales" (Haluza-Delay et al., 2009, p. 18). Ali (2009) explores structurally embedded inequalities in the context of Canada in his Nova Scotia-based work, which I will now turn to.

Taking an EJ approach that focuses on Atlantic Canada, Ali (2009) analyzes coal-mining disasters and a narrative of toxic contamination in Nova Scotia. He illustrates how environmental inequities that are embedded within Canada's political economic structure "expose[s] those in particular regions to harm" (Ali, 2009, p. 97). Structural power relationships shaped by a staples economy characterize some places as more attractive than others for natural resource development (George et al., 2009). This has created dependency relations between rural and urban areas within Canada, as well as between Canada and the United States that persist to today (Ali, 2009). Pairing Canada's history of uneven regional development with the transferral of responsibility for social and

economic welfare from federal and provincial governments onto local ones (Overton, 2007), some communities risk disproportionate exposure to natural resource development such as fracking. Communities targeted for development, thus, are vulnerable to the various real or perceived harms or burdens that accompany such projects. Ali stresses the need to conceptualize community vulnerability as an environmental injustice issue (2009). And because communities fare differently, in terms of well-being, in relation to the type of industry they rely on (i.e. fishing, agriculture, mining, energy) (Stedman et al., 2004), an analysis of community interpretations of fracking is key.

Like Ali, research by equity studies scholar Bonita Lawrence (2009) also applies an environmental justice lens to Atlantic Canada, this time in Newfoundland. EJ research in Canada is dominated by abuses imposed on indigenous communities by settler governments (municipal, provincial, federal) in what is now called Canada (Haluza-Delay, 2007). These injustices come in the form of land appropriation, unfair treaty rights violations, and appalling water quality conditions, to name but a few (Haluza-Delay et al., 2009). Lawrence (2009) explores Newfoundland Mi'kmaq communities' relationships with the land, portraying the centrality of these relationships to Mi'kmaq identities. By describing how Newfoundland Mi'kmaq communities were not recognized under the national Indian Act until 2008 (despite federal recognition of Mi'kmaq communities in other Atlantic provinces) and destabilizing popular assertions that "Mi'kmaq are not 'native' to Newfoundland" (Haluza-Delay et al., 2009, p. 20), Lawrence (2009) re-interprets this disputed history as an ongoing practice towards environmental justice.

Ali (2009) conceptualizes Canada by region: the central cities of Toronto and Montreal are metropole regions, while western and the Atlantic provinces are the peripheral regions that supply raw materials to central areas. There is concern that the dependency relationship between rural and hub populations would grow increasingly precarious, with market instability hindering the hinterland communities: "natural resource-dependent towns would therefore go from one crisis to the next with the closing of mills and mines, the loss of jobs, and the outmigration of residents" (Ali, 2009, p. 98). EJ theory would benefit from looking at the structural forces that shape, for example, where resource development projects are initially proposed. This would elevate the theoretical approach from descriptive to more explanatory (Ali, 2009).

The "geographical distribution of risk and inequity" is uneven within Canadian provinces and territories, among the provinces and territories, and between Canada and other countries (Agyeman, 2005, p. 16). Boasting the world's largest industrial project, the Alberta oil sands (Davidson & Gismondi, 2011), Canada currently has one of the largest per capita ecological footprints (Haluza-Delay et al., 2009). GHG emissions from the oil sands contribute to global climate change, increasing frequencies and intensities of extreme weather events, causing sea levels to rise and northern permafrost to melt, all the while exacerbating social problems such as poverty and community vulnerability. Climate justice theory, often understood at the national-scale, suggests that those who are least responsible for GHG emissions are at the greatest risk of exposure to health, environmental, social, and economic burdens and insecurities of a changing climate (Pellow & Brehm, 2013). Research by Trainor et al. (2009) shows that climate justice is

not just a national-scale issue, however, and that misdistributions of risk and responsibilities occur within Canada at the regional level. Those living in the north, despite being physically far removed from the centres that generate the highest amount of greenhouse gas emissions, are unequally exposed to climate change impacts (Trainor et al., 2009). The Intergovernmental Panel on Climate Change (IPCC) 5th Assessment Report states that although climate change has global environmental effects, these impacts are felt with greater intensity in the Arctic (IPCC, 2014). Sociologist Kari Marie Norgaard frames climate change as an issue of global environmental justice, which she argues combines issues of human rights with environmental degradation (2006). Compared to wealthy nations, poorer nations – those less responsible for climate change – generally lack resources and infrastructure, hindering their capacity to respond adequately to unpredictable climate change impacts (Norgaard, 2012). Norgaard theoretically situates the world's rich in a position of "global privilege," arguing this position is maintained through socially organized denial of climate change (2012, p. 1). Based on ethnographic observation and interviews, Norgaard (2012) found that Norwegian participants in her study employed "tools of innocence" to normalize climate change by "creat[ing] distance from responsibility" (p. 8). This "denial of self-involvement" (Norgaard, 2012, p. 8) involves constructing narratives of innocence, where Norwegians, through cultural myths and shared stories, distance themselves from any or all responsibility of climate change. This normalizing practice is a way of reproducing environmental privilege (Norgaard, 2012).

EJ and Sally's Cove Fracking Proposal

The Sally's Cove fracking proposal can be understood as an example of an environmental injustice, as the corporations interested in drilling in Newfoundland, Shoal Point Energy and Black Spruce Exploration, both have headquarters in Toronto (COC, 2013). This can be perceived as an example of environmental injustice, as potential environmental risks such as contamination of water and soil are localized in rural Bonne Bay communities. Benefits such as economic wealth, however, are primarily incurred by the corporations, which are headquartered in Toronto. This reflects the history of Canada's economic structuring where rural, hinterland communities provide primary materials to the country's central region. Toronto is historically and presently part of this central core. Toronto is a regional urban hub that is physically distant from the Bonne Bay communities, and thus distant from the exposure to potential environmental risks, harms, and burdens. It should be noted, however, that privileges such as economic wealth can also be incurred within the local communities, but are often unevenly distributed as not all community residents will benefit equally from employment opportunities.

One of the core principles of EJ theory is that informed community consent must be obtained prior to approval of an energy project (Agyeman, 2005). Prospective fracking in western Newfoundland can also be interpreted using environmental justice theory, as this approach aims to understand the intersections of environmental and social inequities by analyzing locally-based mobilization in response to a prospective projects deemed to threaten community well-being. Another EJ principle asserts the right of communities to meaningful and ongoing participation in environmental governance decision making

processes, including “needs assessment, planning, implementation, enforcement, and evaluation” (Agyeman, 2005, p. 18). Just and meaningful participation in the environmental decision making process by affected individuals and groups is known as procedural justice (Agyeman, 2005; Hales & Jamal, 2015). There are, however, issues of procedural justice with regard to “operationalizing the principles of free, prior, informed consent” and ensuring all those potentially impacted by major development projects are properly identified in order to be involved with making decisions (Hales & Jamal, 2015, p. 160). Thus, EJ theory is also useful for interpreting the issues of power and privilege that can be embedded in environmental governance decision making processes.

Privilege and issues of power dynamics can be present in environmental policy decision making processes, including environmental impacts assessments and public consultations regarding proposed developments (Adkin, 2009), such as fracking. Common in the environmental justice literature is “the call for the democratization of political institutions and processes of decision making in light of the ways in which these privilege elite interests” (Adkin, 2009, p. 1). Issues with representation and autonomy of those in decision making positions of power can impact how legitimate the public perceives the process (Mascarenhas & Scarce, 2004; Parkins & Davidson, 2008). These issues can be exacerbated when considering what counts as acceptable knowledge (i.e. scientific and technical expert or local ecological forms of knowledge) on which to base decisions. Plough and Krimsky (1987) make these distinctions using their concepts of “technical rationality,” the valuing of scientific empiricism, and “cultural rationality,” the valuing of personal and community experiences. Valuing some knowledge types (i.e.

expert) over others (i.e. local or traditional) is bound up with power dynamics, including symbolic power.

Symbolic power is an accumulation of capital, including symbolic capital. Capital is a resource that is recognized within social fields that "enables one to appropriate the specific profits arising out of participation and contest in it" (Bourdieu, 1977; Stones, 2007, p. 268). Bourdieu contends that capital comes in four varieties: economic (wealth, financial capital), social (networks and strength of bonds), cultural (certificates, qualifications), and symbolic (statuses of prestige, honour) (Bourdieu, 1977). Each of these distinct but inter-related forms of capital feed back into the most valued form of capital, which, in Western societies, is economic. Symbolic capital "designates the effects of any form of capital when people do not perceive them as such" (Stones, 2007, p. 268). Symbolic power exists when the "dissymmetry of the relationship" is masked by the social order and supported by social structures (Bourdieu, 1977, p. 191).

In analyzing the public understanding of science and technology framework (or PUST) which understands science as "unproblematic, universal, and invariant, equally understandable in principle in all places and at all times," Jasanoff (2005, p. 250) finds that any individual or community variation in how science is perceived can be attributed to misunderstanding or ignorance. This public ignorance can be resolved through "better dissemination of knowledge" – i.e. more science (Jasanoff, 2005, p. 250). A public understanding theory "presumes ignorant publics are in need of rescue by the state and grants science, a privileged place in forming, and informing, an educated citizenry" (Jasanoff, 2005, p. 252). I am proposing to think about the public not as an ignorant body

in need of rescue by the state, but as an educated citizenry that values multiple ways of knowing (traditional, scientific, indigenous experience-based, everyday embodied experience, etc.) without privileging one knowledge system (particularly science) over others. Symbolic power and the wielding of science in the decision making process is a way to think about who holds the authoritative capacity to make decisions related to unconventional energy development in Newfoundland.

Conclusion

In this chapter I start from the position that fracking is an example of a "tough oil" extraction technique as it targets oil in hard to reach places that is more expensive and energy-intensive to harvest than conventional methods (Urry, 2013). My research will contribute to community understandings of tough oil development in Canada, which is important at a time when the oil industry is pursuing oil from places once deemed inaccessible (such as the Arctic) while the international scientific authority on climate change, The Intergovernmental Panel on Climate Change (IPCC), is urging for 80 percent of oil to remain in the soil to avert more extreme climate impacts (IPCC, 2014).

I understand community as a social construction that is composed of multiple actors with many values, interests, and perceptions. It is place-based, but connected to global flows of oil and capital. Place is a physical environment imbued with personal or collective meaning and value, and rurality is defined as small settlements where residents engage in place-based, resource development activities (e.g. agriculture, forestry, fishing). Emphasizing rurality is important because the rural focus of environmental justice theory is a unique feature of Canadian EJ literature. Mainstream, American EJ

research focuses on disproportionate distribution of social-environmental risks on poorer and racialized communities that are often urban. Environmental justice theory starts from the idea that environmental inequities are inherently social, with injustices occurring when environmental risks and rewards are inequitably distributed among communities. Other core tenets of environmental justice theory are how companies proposing energy development must obtain informed community consent and allow for meaningful and ongoing participation by community members in environmental policy decision making processes.

A qualitative approach to understanding how Bonne Bay community members interpret and act in response to a proposed fracking project at Sally's Cove, western Newfoundland will aim to address some of the knowledge gaps found in the recent sociological literature on community responses to resource development in North America. My work will also contribute a contextualized approach that is rich in personal narratives about how rural communities are negotiating prospective tough oil development in the context of a global climate crisis. As well, my research will add to the research on fracking in Canada which, relative to the work conducted in the United States context, is largely absent. It will also be one of the first of its kind to conduct research on community responses to fracking proposals in Atlantic Canada, and Newfoundland and Labrador more specifically, despite recent turmoil in Canada's eastern provinces over fracking (Howe, 2015).

Next, in Chapter Four: Methods, I will outline the research methods and sampling strategies I use in my qualitative study of community perceptions of and responses to

proposed fracking development at the edges of Gros Morne National Park. I provide information about my research location, Bonne Bay, including a community profile, and end with a description of my data analysis processes and limitations of my research methods.

Chapter Four: Methods

In this chapter I provide an overview of the research methods for my study of Bonne Bay community interpretations and responses (actions and inactions) to proposed fracking development at Sally's Cove, western Newfoundland. I discuss Bonne Bay, my research location, and provide a community profile that includes population, major industries in the area, levels of educational attainment, and average income. My multi-method study consists of qualitative semi-structured interviews, field observation, and a qualitative content analysis of various offline (hardcopy) and web-based textual documents. I describe the sampling and data generation strategies used for each method. I provide a demographic overview of interviewees, which includes sex and average age, formal educational levels, places of residence and whether they live in Bonne Bay seasonally or year-round, and whether participants self-identify as an "environmentalist." I then describe data analysis processes. I designed a case study research project. This means that I analyze my interview, content analysis, and field observation data in different ways. For example, I analyze my qualitative interview and content analysis data by categorizing the qualitative data into various emergent themes. I do this by applying "a uniform set of indexing categories systematically and consistently to the data" (Mason, 2002, p. 151); this way of organizing and interpreting my data is also referred to as coding or cross-sectional indexing (Mason, 2002). However, I do not analyze my field observation notes and photographs in this way but instead use them primarily for illustrative purposes. I also list justifications for why I chose each method.

Research Design

To examine community interpretations and responses to proposed fracking development at Sally's Cove, I have developed a qualitative case study, as case studies allow for "opportunities to explore or describe a phenomenon in context using a variety of data sources" (Baxter & Jack, 2008, p. 544). I conducted qualitative research using a multi-method study approach that includes the following sources: qualitative semi-structured interviews, field observation of various events and settings related to oil development, content analysis of industry and non-industry websites, public meeting transcripts, and media articles from The Western Star related to fracking in western Newfoundland. (See Appendix E for interview schedule, Appendix F for field observation protocol, and Appendices G and H for list of textual sources used). I use a case study approach to data interpretation, as I analyze my interview and content analysis data by coding for themes, and use field observation data mainly for illustrative purposes. In my case study research project, I organized my data using cross-sectional indexing, meaning that I coded my qualitative interview and content analysis data according to emergent themes (Mason, 2002). Qualitative methods allow for a contextualized, nuanced approach which provides a necessary lens for investigating local community member's perspectives on fracking in western Newfoundland. Qualitative methods are "exploratory, fluid" and "context-sensitive," making the use of proposed fracking at Sally's Cove as a case study appropriate (Mason, 2002, p. 25). I used qualitative interviews, field observation, and content analysis of texts in my study because I deem them the most appropriate methods to answer my research questions. Conducting qualitative interviews allowed for in-depth, rich personal narratives from Bonne Bay community members about their opinions on fracking. I chose to employ a field observation approach such as

taking field notes and photographs on field site visits to help document and illustrate the physical context of my project, the Sally's Cove designated fracking site. The final method in my study was a qualitative content analysis of textual documents, where I analyzed text-based documents to identify emergent themes related to how Bonne Bay residents interpret and respond to prospective fracking development in western Newfoundland. As well, my chosen methods were influenced by my literature review findings. Due to the quantitative nature of the recent literature on community responses to unconventional resource development, particularly in the United States, I designed a qualitatively-focused study. Qualitative, semi-structured interviews allow for rich, personal, first-hand accounts, while a qualitative content analysis of various documents help to illustrate the socio-political context at the local level. As well as my methods emerging from reviewing the literature, they are also informed by environmental justice theory. Through the expansion of definitions of "the environment" to include, for example, "homes, jobs, neighbourhoods, and communities," (Agyeman, 2005, p. 2) environmental justice scholars have reinforced the place-based nature of the framework. Both EJ theory and qualitative methods such as field observation (capturing field notes and photographs) are "context-sensitive" (Mason, 2002, p. 25), emphasizing local, situated, and contextualized places.

Data Generation and Analysis

Research Location

I conducted my research in the Bonne Bay area of western Newfoundland, Canada's easternmost province. Bonne Bay is a fjord in Gros Morne National Park, and

is part of the Gulf of St. Lawrence (see Figure 6) (Lowitt, 2013). Due to its natural beauty and geological diversity, in 1987 Gros Morne National Park was designated a protected UNESCO World Heritage Site (UN, 2013). In Bonne Bay, there are currently three communities located on the south side of the bay (Trout River, Woody Point, Glenburnie-Birchy Head-Shoal Brook), and four on the north side (Rocky Harbour, Norris Point, Wiltondale-Bonne Bay Big Pond, Sally's Cove). Specifically, my thesis is based on a proposed fracking project in Sally's Cove. Sally's Cove has no town council and is designated a Local Service District. With a year-round population just shy of 3, 000 as of 2011, Bonne Bay is considered a rural area (Community Accounts Bonne Bay, n.d.).

Figure 6. Map of Bonne Bay Source: (Gros Morne National Park, 2015).

The Organization for Economic Cooperation and Development (OECD) (1994) suggests that rurality "focuses on three dominant discussion points: population density and size of settlements; land use and its dominance by agriculture and forestry; and traditional social structures and issues of community identity and heritage" (George et al., 2009, p. 8). Rural settlements are smaller than 10, 000 inhabitants (OECD, 1994).

Characteristics of rurality however go far beyond population size, as the OECD definition outlines, and traditionally rural areas have been "associated with agriculture, and one may argue, primary resources industries generally, including fishing" (George et al., 2009, p. 7). According to the 2006 Census (based on reference year 2005), the top three industries in Bonne Bay are: primary industries (mainly fishing and forestry); construction and related industries, with "related" including trades workers, mechanics, equipment operators, drillers; and the hospitality sector, including retail workers, food and beverage workers, and childcare and home support workers (Community Accounts Bonne Bay, n.d.). The Community Accounts information about Local Area 70: Bonne Bay is important because it crafts a community profile (e.g. population, local industries) which helps demonstrate the region's rural character. Defining Bonne Bay as a rural area is important because the focus on rural aspects of environmental justice theory is a major theme in Canadian EJ research. It is also a factor that helps differentiate Canadian EJ research from EJ research in the United States. Mainstream, American EJ literature focuses on the disproportionate distribution of social-environmental risks on poorer and racialized communities that are often urban.

The median age of Bonne Bay area community members is 42 years (Community Accounts Bonne Bay, n.d.). Gross personal income in 2011 was approximately $25, 000, which was about $6, 000 less than the provincial gross personal income. At that time, the gross personal income per capita in St. John's, was $36, 500 (Community Accounts St. John's, n.d.). According to the 2011 National Household Survey (NHS), about 68.6% of Bonne Bay residents aged 25-64 have earned at least a high school diploma, compared to

79.7% in the entire province (Community Accounts Bonne Bay, n.d.). About 10% of people in this age group have a Bachelor's Degree or higher, compared to 16.4% in the province as a whole (Community Accounts Bonne Bay, n.d.). According to the 2006 Census, occupations in the area are gendered, with women predominantly working in jobs in the fields of "office and related" (90% female) and "sales and services," (79.2% female) and men dominating occupations in "primary industries" (73.9% male) and "construction and related" (91.2% male). Occupations such as "health," "management," "education," and "processing and manufacturing" appear to have achieved a greater gender balance (Community Accounts Bonne Bay, n.d.). This information is interesting because if fracking were to go ahead in the region, any jobs created would likely be in the "primary industries" (fishing and logging) and "construction and related" (trades, mechanics, equipment operators, labourers, crane operators, and drillers) field of work, both of which are dominated by male workers (Community Accounts Bonne Bay, n.d.). This demonstrates that if fracking were to happen in Bonne Bay, and jobs generated, direct economic benefits via employment would be incurred primarily by male workers, as they overwhelmingly comprise the workforce in the sectors related to fracking. Spin off benefits of a resource extraction industry are likely to generate jobs in the "sales and service" industry as well (restaurants, accommodations sectors, etc.), which employs more females in Bonne Bay (Community Accounts Bonne Bay, n.d.). If fracking were to happen in the region, however, direct benefits would likely be disproportionately distributed based on gender, with males reaping the majority of the economic benefits of job creation. I include this particular demographic information (population of residents, levels of educational attainment, average income, and major industries in the area) about

Bonne Bay, the "community profile," because these demographics are most often cited in the literature on place attachment and community (particularly rural communities) (Boyd & Paveglio, 2015; Stedman et al., 2004), and this information provides a necessary demographic context from which to analyze community interpretations and responses to fracking in Bonne Bay. As Stedman et al. suggest in their research on community well-being and resource reliant communities, the health of a community (as measured by educational and income levels, and rates of poverty and unemployment) varies greatly in relation to the community's regional context and the type of industry the on which community relies (2004). If people in Bonne Bay rely on the fishing industry for example (which is associated with poorer community outcomes) (Stedman et al., 2004), the community is going to fare differently compared to communities reliant on the energy industry.

Exploration License (EL) 1097R is the license (covering 202, 838 hectares) permitting exploratory drilling in the Gros Morne area (see Figure 7) (LGL Limited, 2013). In December 2013, the C-NLOPB refused to extend Shoal Point's license, stating that the company did not fulfill their necessary requirements by the deadline (Fitzpatrick, 2013). This resulted in SPE and BSE losing EL 1097R and a $1 million deposit (Fitzpatrick, 2013). In January 2014, Exploration License 1097R expired and the C-NLOPB refused to grant an extraordinary license extension to SPE (and partner BSE) (Fitzpatrick, 2013). However, in the future, if the land parcel comes up for bid again, another company could apply for this license.

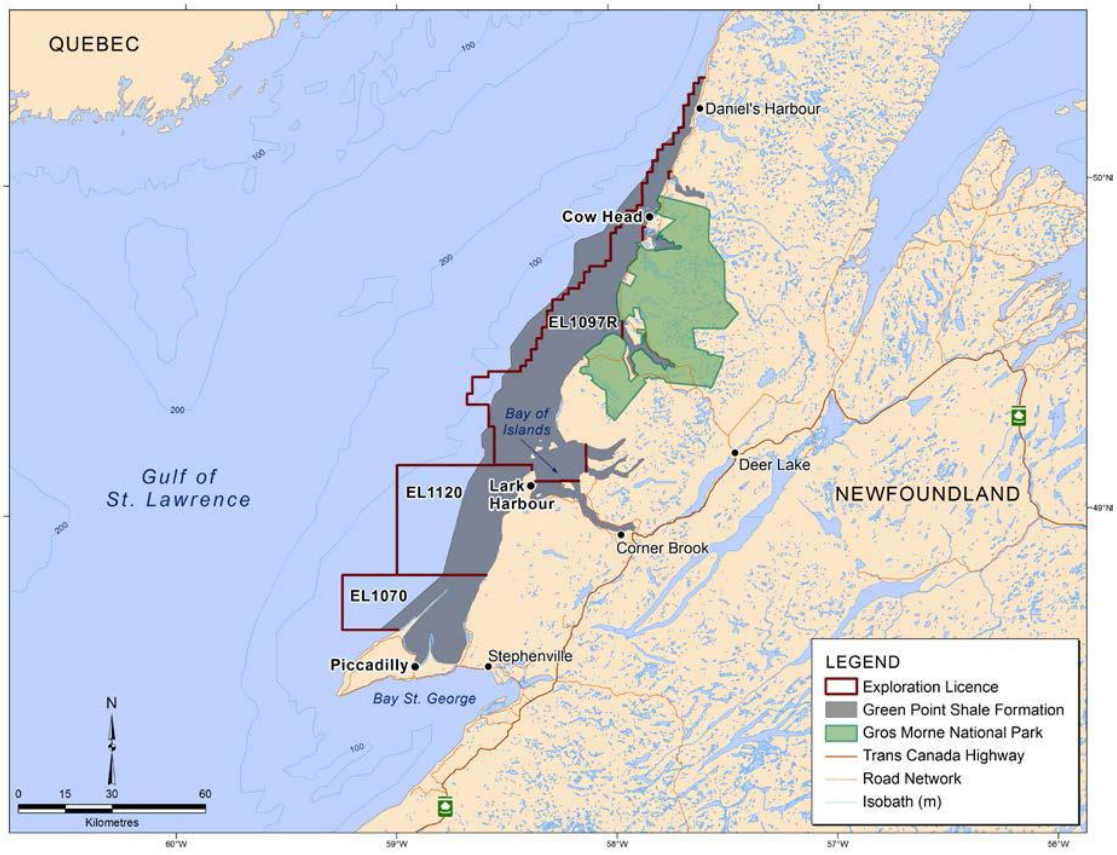

Figure 7. Map of western Newfoundland showing Exploration Licenses 1070, 1120, and 1097R (Sally's Cove). Source: (LGL, 2013, p. 1).

In fall 2014, I collected primary data for this project while living in Bonne Bay, western Newfoundland. I conducted semi-structured interviews and employed field observation techniques over two research trips to Bonne Bay. During these trips I stayed at the Bonne Bay Marine Station (BBMS), a research facility affiliated with Memorial University located in Norris Point, Newfoundland and Labrador. My research was supported by the Bonne Bay Marine Station, including direct support from both the

former facility manager, Allison Eaton, and director, Dr. Robert Scott. Allison Eaton was my gatekeeper for this project, facilitating connections to community members.

My first research trip to Norris Point was from August 15th to September 5th, 2014. At this time I conducted seven of 14 qualitative interviews with community members who were identified by my gatekeeper as local residents involved and interested in the fracking issue. I also visited multiple sites of past oil development on the west coast, including the Sally's Cove pit where fracking is proposed, past sites of oil exploration at Parson's Pond and St. Paul's Inlet, and to Green Point to observe the shale formation. At these sites I took field notes describing their physical characteristics, and gathered information about the history of oil development on Newfoundland's west coast to help contextualize my project. Other than my two key informants, people were not present at any of the field sites I visited. During interviews, I asked participants to recommend sites of importance to them in the fracking debate. I then visited the field sites that were mentioned by multiple participants, as this signifies a kind of consensus around the importance of those specific sites (e.g. Sally's Cove, Parson's Pond, St. Paul's Inlet). This sampling strategy for field sites, however, is not without its limitations; in particular, the most commonly recommended places to visit does not necessarily mean they are deemed important or relevant to everyone I interviewed.

My second field research trip was from October 14th to 22nd, 2014. During this week I conducted the seven remaining qualitative interviews. I supplemented my previous field notes and visited the Sally's Cove proposed fracking site for a second time. I also attended a private meeting of the Gros Morne Coastal Alliance, an anti-fracking

group based in Norris Point. To ensure confidentiality of meeting participants, I did not note names, quotations, or descriptive characteristics of those in attendance.

Sampling

Allison Eaton, who was the manager of the Bonne Bay Marine Station at the time helped facilitate contact with community members. Allison sent out my recruitment letter (Appendix C) via email to local residents who were interested and involved in the fracking debate. I also put up recruitment posters (Appendix D) at various businesses such as restaurants, gas stations, and coffee shops in Norris Point, Rocky Harbour, and Woody Point. The use of Allison Eaton as gatekeeper was invaluable in helping me gain access to community members to speak with them. A drawback of this is that a gatekeeper inevitably directs my focus to particular events, people, and ideas, whilst neglecting others. I sought to alleviate this limitation by noticing and inquiring about events and information that I was not initially directed to. I did this by asking community members informally about local fracking events, reading various newspapers and monitoring social media (e.g. Facebook) for public information about fracking events in Newfoundland.

On Thursday, August 28th, 2014 I was interviewed by Anita Best on the Voice of Bonne Bay, a community radio station in Norris Point. On September 4th, 2014 I was interviewed by Bernice Hillier on CBC Corner Brook's West Coast Morning Show. Radio exposure granted me opportunities to explain my project to listeners in the Bonne Bay area, and recruit interested listeners to volunteer for an interview. Although no formal interviews were garnered from the radio interviews, I did receive an email from a

Corner Brook resident/artist who spends a lot of time in the Bonne Bay region, stating they had heard my interview on CBC radio. They contacted me via email to express their opinion of proposed fracking development, gratitude for my project, and to describe their recent artistic creations related to fracking.

A combination of sampling through social networks (also known as snowball sampling) (Browne, 2005) and matrix or quota sampling was used to target individuals to interview. Matrix or quota sampling is when the researcher "identifies desired characteristics and quotas of sample members to be included in the study" (Onwuegbuzie & Collins, 2007, p. 287). The main criteria for inclusion was involvement and interest in the fracking dispute by people who live in the Bonne Bay area, which helps me learn how community members perceive and respond to proposed fracking development. This criteria potentially skews claims of representativeness of community attitudes by portraying the Bonne Bay community, overall, as more interested and involved in the fracking debate than perhaps most residents are. I did not sample according to one's position on fracking. The length of time that one has lived in the area was noted in the interview, but having lived in the region for a specific length of time was not a prerequisite for my sample.

Once I made contact with participants, I proceeded by sampling through their social networks (snowball sampling) until I achieved a sample size of 14. In an effort to build in representativeness, I shifted to a quota or matrix sampling model by strategically targeting residents of a particular gender in order to fill my quota of seven females and seven males. Once my pool of potential participants began to grow (via sampling through

social networks), I focused and directed my sample, allowing me to fill out my matrix categories (Strauss & Corbin, 1998). Matrix sampling allows for me to make more meaningful comparisons between my categories, and I have strategically designed my matrix categories to be able to compare gender (male and female). This category is significant because it reflects an environmental justice perspective. EJ traditionally focuses on gender-based (among other social categories) exposures to environmental risks and privileges, as women, globally, are more heavily burdened by environmental injustices such as water privatization and farming troubles induced by climate change impacts on agricultural land (Stein, 2004).

Sample

In total, the sample size for the interview portion of this thesis was 14. Demographics of my sample are as follows: seven of those interviewed identified as female, and seven as male. Ages of those interviewed ranged from 31-76, with the average age being 50.5 years old. My sample is highly educated. One participant graduated from college, three participants have PhDs, four have Master's degrees, and six participants have a Bachelor's degree. According to the 2011 National Household Survey (NHS), about 68.6% of people in the Bonne Bay area aged 25-64 have earned a high school diploma as their highest level of education, and 10% of people in this age group have a Bachelor's Degree (Community Accounts Bonne Bay, n.d.). My sample is unique, and not representative of the broader Bonne Bay region, as it includes only those in the 10% of people in the 18-64 age group who have a Bachelor's Degree. My sample has limitations in that it is essentially a subsample of the people with the highest levels of

formal educational attainment in the region (which again makes up only 10% of Bonne Bay residents, current as of 2011) (see Table 1 for more detailed demographic overview of my sample).

Demographic Overview of Interviewees
o Seven females and seven males o One interviewee has a college diploma, six have Bachelor's degree, seven have earned higher (Master's or PhD) o Age range from early-30s to mid-70s; average age 50.5 o 11 reside on north side of Bonne Bay, three on south side o Nine residents live in Bonne Bay all year-round, four are seasonal residents o Eight self-identify as an environmentalist, six do not

Table 1. Demographic Overview of Interviewees

Communities in Bonne Bay may not be typical of Newfoundland. When compared to other rural regions in Newfoundland with similar populations of approximately 3, 000 in 2011, such as Burin and Twillingate areas, about 6.5 % of people aged 25-64 in the Burin area and 7.4% in the Twillingate Island area had a Bachelor's Degree or higher, respectively (Community Accounts Burin, n.d.; Community Accounts Twillingate Island, n.d.). This differs from 10% of those with at least a Bachelor's Degree in Bonne Bay. Despite comparable populations, there are lower regional rates of formally educated residents, according to the 2011 National Household Survey. This suggests that local residents who are more highly educated have more stable and lucrative employment than those with lower socio-economic statuses, putting those residents in positions of increased social, economic, and political security to oppose local fracking development, if they so wish.

Interviews

Qualitative semi-structured interviews are central to this research. I conducted a series of 14 qualitative, semi-structured interviews with members from various communities from the Bonne Bay region. After obtaining written informed consent (see Appendices A and B), interviews took place in a location that was agreeable to the interviewee. Interviews were conducted in the following locations: in the interviewee's home, at a public restaurant, and the Bonne Bay Marine Station library. Two phone interviews were conducted. The length of each interview ranged from 40 minutes to almost two hours. The average interview length was approximately 50 minutes. Each interview was audio recorded using a digital audio recording device. Hand-written notes were also taken for some of the interviews to supplement the audio recordings. Based on previous qualitative case studies, approximately 12 interviews were needed before data saturation occurred (Guest et al., 2006). Semi-structured interviews allow for spontaneity, flexibility, and openness. I conducted thematic interviews, meaning that the questions oriented around various themes of interest, such as perceived risks and benefits of fracking to the community, and actions taken or not taken by community members in response to proposed fracking. This topic-centred approach is suitable as I can ask questions that focused on the issue of fracking in western Newfoundland. Specifically, I asked questions pertaining to how people became interested in the topic of fracking in Newfoundland, how they learn about the issue, if they believe there are benefits and risks to fracking development, what they think about the project proposed near Gros Morne National Park, how different sectors have responded to fracking, if and how they discuss fracking with family, friends, neighbours, or co-workers, what public events they may have attended, or actions they may have taken, and what they consider to be the ideal

outcome regarding fracking in Newfoundland. I also engaged in informal conversations with local residents to help supplement the data generated from my more formal interviews.

To begin the process of analysis, I transcribed my interview recordings individually into a Microsoft Word document. I maintained confidentiality of each participant by assigning each interview with a number. I kept a single file that holds the names of each participant along with their corresponding number on my password-protected computer, in a password-protected Excel spreadsheet file. After I completed transcription of each interview in November 2014, I imported the documents into NVIVO 10, a computer-assisted qualitative data analysis software (CAQDAS) program (Bringer et al., 2006). To analyze my interview data, I used NVIVO to help identify various emergent themes. I have chosen to analyze my interview data with the help of CAQDAS because it facilitates the move from mere static description to theorizing by allowing me to easily reshape and reorganize my coding and node structures in tandem with the changes in my thinking and theorizing. Thematic analysis is when "statements are coded into categories reflective of observed patterns in the data, which are then situated into larger themes and illustrated by representative quotations" (Boyd & Paveglio, 2015, p. 7). I used themes present in the environmental justice theory, such as importance of and relationships to place and place-protection, grassroots mobilization, and the localization of perceived risks and benefits to direct my coding process. I have chosen to use NVIVO in particular for practical reasons: my present work as a research assistant has allowed me

ample opportunity to familiarize myself with NVIVO, and I currently own the software program.

Once my transcripts were imported into NVIVO, I continued my data analysis process by coding thematically. I created a preliminary coding scheme before I began the process of coding. Some of my codes were informed by EJ theory (e.g. "concern about impacts on wildlife and marine life" and "concern about fracking contaminating water sources" because these nodes focus on place-based concerns raised by some participants), whereas other codes are merely descriptive (e.g. "society is dependent on fossil fuels"). A semi-structured approach to coding scheme creation means that my coding scheme fluctuated between open and closed approaches. Starting from an inductive approach, I expanded my coding categories according to themes that arose from interviews and informal conversations, and general preliminary observations while in the field. From this more flexible creation of categories, I then contracted and collapsed my categories by deleting or combining codes (Silverman & Marvasti, 2008), continuing until no new themes emerged. My final coding scheme (Appendix I), which has 19 Parent nodes, covers many topics, including: economic, environmental, health, and social impacts of fracking; opinions on the province's fracking moratorium and the independent review panel; and actions taken, or not, by local community residents I spoke with. My coding scheme is informed by environmental justice theory because it captures the ways that my participants perceive potential fracking impacts (positive and negative) altering local physical landscapes, the local and regional economy, and social and community dynamics. It captures the local and provincial context by including community responses

to political outcomes in the fracking debate, such as the moratorium and the provincial government's external review panel. Furthermore, my coding scheme is informed by environmental justice theory in that it demonstrates actions taken and not taken by local residents in response to proposed development. Using an online random name generator, I created pseudonyms for all of my research participants, which I use consistently throughout my thesis in place of their real names.

Field Observation

My second data generation strategy involved field observation. Field observation techniques are "grounded in a commitment to the first-hand experience and exploration of a particular social or cultural setting on the basis of (though not exclusively by) participant observation" (Mason, 2002, p. 55). This approach "seeks to take the material world and analyze a socially meaningful aspect of it" (Hudgins & Poole, 2014, p. 306). I understand "the field" as not existing "out there" waiting to be observed and "solved" but as "constructed through [my] own observational presence, practices and products," including my own notes and photographs taken while in the research location (Mason, 2002, p. 99). This field observation strategy was employed simultaneously with semi-structured interviews on both field research trips. The field observation component of my data generation strategy consisted of living in Bonne Bay for one, three-week period followed by one, one-week period (with approximately one month break in between field research trips), to gain an understanding of the pace of the place. I also specifically visited places related to (past and potential) oil development on the coast, as well as attended a private meeting hosted by an anti-fracking group. In August 2014, two local

residents took me to the Sally's Cove site where the fracking project of interest is proposed. Here I generated field notes and visual material in the form of photographs. Upon my second field research trip in October, I visited the Sally's Cove site again, on my own, to take more photos and generate more field notes.

On my first field research trip, the two local residents who took me to Sally's Cove also took me to Parson's Pond and St. Paul's Inlet as they were identified by some research participants as being significant for contextualizing the fracking debate on the west coast. At these sites of past oil exploration, I took descriptive field notes and photographs that contextualize my study. My two visits to the Sally's Cove proposed site did not provide information about the history of oil development in western Newfoundland, but allowed me to note spatial descriptions of the physical environment, and produce supplementary visual representations via photographs to illustrate the site to readers. Field notes were generated using a field research protocol that I have developed (Appendix F) to maintain consistency in generating observations.

Site visits to Sally's Cove, Parson's Pond, and St. Paul's Inlet all included an unobtrusive field observation component. I visited these sites to observe them, making notes based on my field research protocol. To supplement my field notes I photographed the sites as well. Photos and notes were used in a research location context to help document place and illustrate geography. No people were present at the sites other than the two residents who were my key informants. I did, however, speak informally with the two local residents, but did not record their names or any identifying characteristics to help maintain confidentiality. In an effort to create a more holistic social context and to

gain a better understanding of the controversy, I also took notes of publicly displayed material culture related to fracking. The study of material culture, prevalent in archeology and anthropology, uses physical objects like books, tools, artwork, architecture, electronics to better understand nonmaterial culture such as "the beliefs – the values, ideas, attitudes, and assumptions – of a particular community or society at a given time" (Mayne, 2011, p. 50). For example, I snapped a photo of a poster reading "Save Gros Morne" placed at the foot of the Western Brook Pond hiking trail by residents involved in the "Save Gros Morne and Our West Coast" anti-fracking campaign. This provides insight into how some local residents were expressing dissent regarding the proposed development. I did not notice other public material culture items related to fracking, such as, for example, job postings, or public art such as murals or graffiti.

Documenting material culture helps me to make sense of what participants say and do, and is illustrative of how community members are expressing and negotiating particular tensions, competing interests and ideas. As well as taking field notes, I documented in photos the physical environment (such as the Sally's Cove designated fracking site), and material culture (such as the Save Gros Morne poster with text indicating fracking resistance in the area) related to fracking. I avoided ethical issues by only taking photos in public spaces, and by not including people in my photos. I was the only person operating my camera. Photos were regularly transferred from camera to my password-protected computer, and then deleted from my camera.

During my second field research trip in October 2014, I was invited to attend and take notes at a private meeting of the Gros Morne Coastal Alliance, a fracking awareness

group based in Norris Point. At this private meeting, I introduced myself and my research. I generally did not participate in discussions, but took notes on what was being said. I was a researcher immersed in the research setting as a participant observer. On the complete participant-complete observer continuum, my role as a researcher hovered between these binaries, but leaned slightly more towards being a complete observer (but with people aware of my research). The reason for this subtle leaning is because I want to learn about all opinions on fracking. I recognize that without respect on the part of the researcher, an open atmosphere that is willing to hear all opinions cannot be facilitated. However, when asked my views on fracking, I stated them honestly, but followed with how I'm here to learn about the ways that local people are interpreting the issue. I planned to attend informal public gatherings or formal town council meetings that might be scheduled in summer or fall 2014. However, no meetings of that kind occurred in Bonne Bay communities while I was conducting my field research in 2014.

Field observation is valuable as part of a multi-method study, as it helps create a holistic picture of the social setting(s) of focus. As outlined earlier in this chapter, I designed my project using a case study approach. A contextual or case study methodology does not use the same approaches to analyze data generated using different methods (Mason, 2002). For example, I coded my interview and qualitative textual data using a coding scheme and protocols of questions informed by environmental justice theory. I used the coding scheme and protocols to ensure a systematic approach to my interview and content analysis data. However, I did not code/cross-sectionally index my

field observation notes and photographs; instead, field notes and pictures were used to illustrate and document the dynamics of my field setting (Mason, 2002).

Observing various sites in and around Bonne Bay, and documenting them in words and visuals, demonstrated the rurality of the region, and illustrated the tangible place in which my participants live, work, and play. Being physically present, I embodied these places, experiencing them in multi-sensuous ways. Do the kinds of trees that lined the Sally's Cove site, or the smell of oil at Parsons Pond matter? Perhaps not, but these sensory experiences brought to life elements of environment, of place, of *home* (in the eyes and hearts of my participants), in ways that words on a page cannot. I believe this is important when employing environmental justice, a place-based theory, as my master theoretical frame.

Content analysis

The third data generation strategy was a qualitative content analysis of online and offline texts related to fracking in Newfoundland in order to identify emergent themes, and parse out what individuals and organizations are delivering the content. Content analysis conceives of "text and talk as data sources" (Mason, 2002, p. 57), and is a method of reading documents to explore "*manifest* characteristics of communication – that is, asking what, how, and to whom something is said" (Krippendorff, 2013, p. 51). Drawing from textual discourse analysis studies, I used a content analysis approach that examined texts "to identify patterns, themes, cultural assumptions, and/or ideological meanings" (C. S. Lewis, 2010, p. 68). Qualitative content analysis is a method of

evaluating text-based documents for various themes related to how Bonne Bay residents interpret and respond to fracking proposals in western Newfoundland.

I used purposive sampling to identify a body of texts (offline and online) that are relevant to the topic of fracking in western Newfoundland. This sampling technique involved using preliminary research findings and my judgement to determine which texts feature prominently in the fracking debate in the region (Leary, 2012). A notable limitation to this sampling strategy is that it may not be representative of the wider population. Based on preliminary observations, I found the following websites and documents to be actively communicating opinions and facts about fracking. Online websites that I analyzed include: industry websites (BSE and SPE), Hospitality Newfoundland and Labrador (represents the province's tourism industry), and the Save West Coast NL Wordpress website. Offline documents I analyzed include: The Western Star, a BSE Project Magazine, and notes from a public meeting in Cow Head (a town near Gros Morne) between industry and community stakeholders that was referenced repeatedly by my participants as significant. I also included the Corner Brook-based newspaper, The Western Star (offline). I conducted keyword searches of "fracking" using Eureka, an online database of local, regional, national, and international news sources from Newfoundland and Labrador (http://eureka.cc/). I set the date range from November 1st 2013, a few days before the provincial moratorium, to February 1st 2015, when I began the content analysis portion of my project. This resulted in 147 articles, all of which I saved in pdf format and analyzed by reading each article and sorting (coding) into multiple Microsoft Word documents according to emergent themes. All of these texts

provided insight into how regional community members understand fracking. I took note of what people and/or organizations were delivering the content, as it helped me to better understand competing interests. Corporate documents on industry websites were examined to understand how industry, clearly a proponent of fracking development in western Newfoundland, framed fracking.

One advantage of content analysis was the ability to observe unobtrusively as large swaths of relevant data exist in the public domain (e.g. BSE and SPE websites). Although this did not necessarily help me gather a wider range of community responses to the potential for fracking, it did help me to better understand the broader social and political setting in which the fracking debate takes place in the province. Conducting a content analysis also allowed for minimal ethical and logistical complications. Accessing the internet is a minimal cost, and one that I would be incurring regardless of whether or not I am conducting research. As web content of interest and offline documents are, with the exception of the notes from the Cow Head meeting, publicly available and easily accessible, this is a pragmatic choice as I did not need to physically travel to access texts. Text-based content analysis was helpful for learning background knowledge of the fracking issue, and for understanding its political trajectory, as online web content is generally well-archived. I engaged with the first two of my three data generation strategies simultaneously and in an ongoing manner while in the field, and I qualitatively analyzed texts post-field research trips, in March 2015.

I analyzed texts according to a pre-designed set of principles to help ensure consistency. I created two separate protocols: an Internet Observation Protocol (Appendix

G) and a Protocol for Offline Documents (Appendix H) to record details and information from various texts. The protocols gather information such as the website or document's name, author, and prominent themes as framed from an environmental justice theory perspective. For example, because environmental justice theory focuses on the importance of place, I noted who was saying what about how fracking could impact Gros Morne National Park physically (e.g. potential water contamination) and/or symbolically (e.g. loss of international status). I also noted the ways that different documents were encouraging, or not, various actions (e.g. providing a link to sign a petition, encouraging submissions to the review panel). The websites, offline documents, and media articles together help create the socio-political context in which the province's fracking debate is situated.

Because I transcribed, imported, coded, and analyzed the data personally, I remained actively engaged with my data throughout the various processes of my project. I generated data by using ideas and phrases found in my preliminary research, which is known as in vivo coding (Bringer et al., 2006). The first pass of my themes derived from questions asked in my interview schedule, and themes present in emerging literature on community responses to unconventional resource development, such as who is perceived to benefit or be at risk due to proposed fracking projects. The process of interpreting my data combines literal and interpretive readings of my data, which I explain below (Mason, 2002). An initial sweep involved analyzing the transcripts literally, noting descriptions and staying close to the data. However, as I moved between open and axial coding, while writing memos and conceptualizing theory, I began to infer meaning from the transcripts

that is “beyond” description (i.e. reading interpretively). The aim of open coding is “to discover, name, and categorize phenomena according to their properties and dimensions” (Strauss & Corbin, 1998, p. 206), while axial coding draws relationships among the codes (Bringer et al., 2006). Although interpretative reading of interview transcripts was my primary method of data interpretation, this strategy requires that I incorporate a reflexive reading as well, meaning that I tried to put my own thoughts and assumptions under scrutiny when reviewing my transcripts (Mason, 2002). In inferring meaning, I tried to be aware of how my presence in the project may disrupt, inform, and influence (Mason, 2002). For example, to diminish my concerns about how my anti-fracking position might influence my data interpretation process, I tried my best to grant equal considerations (and number of nodes) for opinions that I did not agree with. I also attempted to be reflexive by writing music about my experiences of conducting field research in the Bonne Bay region, and in an effort to sort out my own opinions and framing of the topic. In the appendices I’ve included a link to my song, Shared Stories, along with the lyrics (see Appendix J).

Conclusion

In this chapter I explained the research methods for my study of Bonne Bay community members’ perceptions of and responses to prospective fracking development at Sally’s Cove, western Newfoundland. For my qualitative case study research project, I use multiple methods to generate data, including semi-structured interviews, field observation, and a qualitative content analysis of textual documents related to fracking. I discuss my research location, Bonne Bay, and provide an overview of the Bonne Bay

communities, including population, major industries in the area, levels of educational attainment, and average income. I describe the sampling and data generation techniques used in my project, which include sampling through social networks and matrix or quota sampling to generate my interview sample. I used purposive sampling to create a sample of texts that are relevant to the topic of fracking in western Newfoundland. I then detail my samples, and provide a demographic overview of interviewees, which includes sex and average age, formal educational levels, places of residence and whether they live in Bonne Bay seasonally or year-round. I describe my data analysis processes for my case study research project. I analyzed my qualitative interview and content analysis data by coding the transcripts and texts for emergent themes, and use my field observation notes and photographs mainly for illustrative purposes. I proceed to list justifications for a multi-method research approach to data generation. I end this chapter with a discussion of reflexivity.

In the next chapter I explore processes contributing to supportive positions on fracking development in western Newfoundland. I discuss the importance of place and place-making in influencing community consent and support for fracking at Sally's Cove, and how project proponents understand risk and community vulnerability. I then examine how local supporters perceive expert and local forms of knowledge.

Chapter Five: Processes Contributing to Supportive Positions on Fracking

In this chapter I explore processes contributing to supportive positions on fracking development in Bonne Bay. My data demonstrate the importance of place in influencing community perceptions of proposed fracking at Sally's Cove, and I discuss social and ecological understandings of place in the context of Newfoundland's fracking debate. I elaborate on the place-protector identity, as well as outline how place-based industries such as tourism and the fisheries fit into the discussion. I then discuss how fracking supporters understand risk, before detailing how community vulnerability is understood as opportunity because of the depressed local economy. I delineate fracking in the context of climate change from the position of supporters. I end with a discussion of how fracking proponents view expert and local ecological forms of knowledge.

As I will explore in greater depth in my analysis, fracking proponents largely view rural environments as both a space of leisure and as a resource extraction landscape. Proponents assume a place-protector identity, which is where community members contribute dialogues or actions to help preserve the communities, families, ways of life, or the physical environment from real or perceived risks (Bell, 2013). Place-protectors are motivated by protecting the local community, which is understood largely as a social network. Proponents perceive the community as facing social strains of depopulation, and argue that there will not be a community to protect in the future if it is not economically stimulated. Fracking is understood by project supporters to help bring family members home from working in Alberta's oil industry. It is considered by proponents not to pose a threat to existing tourism and fishing industries. As well, proponents perceive fracking as

not being a risk to local water sources, nor contributing negatively to climate change impacts. Understandings of risk are generally technical and quantitative in nature, meaning environmental or social risks are reduced to monetary terms. Proponents agree that potential risks are manageable with robust regulations, and fracking will help revitalize a starving local economy. Proponents make truth-claims about fracking based on appeals to scientific knowledge, and the authority that this body of knowledge wields in western society. They view expert forms of knowledge (scientific and technical) as superior to local ecological knowledge forms, dismissing local understandings as "unsophisticated," "illogical," and "irrational."

Place

When faced with an opportunity to embrace oil development, opinions formed by community members are based, at least in part, on how people individually and collectively perceive place and their relationships to it. Fracking proponents frame place and rural life in western Newfoundland as in a state of economic and population decline, viewing fracking as a way to mitigate the risks of economic decay and depopulation. In the context of prospective fracking development, parts of Bonne Bay – its land, water, and oil, for example – are considered by proponents as resources to be commodified. Monetizing abstract concepts allows for the commodification of the environment; an example of this is how part of Sally's Cove (the land and the ocean which connects to the land) became redefined as Exploration License 1097R (BSE, 2013). This happened through the process of the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) parcelling the land (Sally's Cove) to buy and sell (BSE, 2013, p. 5).

This is an example of the physical environment becoming dominated by humans, quantified, and "subjected to a *logic* of commodification insofar as it is appropriated according to institutionalized principles of exchange, private ownership and profitability" (Brenner & Theodore, 2007, p. 155; emphasis original). The neoliberal tendency towards quantification is demonstrated by fracking proponents when, for example, hydrocarbon company Black Spruce Exploration stresses that the west coast petroleum resources are "undervalued and underestimated" (BSE, 2013, p. 3). The prospective lands are framed as being "under-capitalized and under-developed" (BSE, n.d.), with the company's objective being "value creation" using fracking (BSE, n.d.). As well, Shoal Point Energy seeks "to demonstrate the commercial viability [of the Green Point Shale]," illustrating a similar way of thinking about place (SPE, n.d.). This discourse of rationalism sees nature as a commodity (Remillard, 2011), where the essential nature of nature is reduced to its "role in relation to people" (Ellis, 2013, p. 444). In his research on the symbiotic relationship of raising cattle for human consumption, Ellis (2013) suggests beef production under capitalism requires a human-animal relationship characterized by dominion, which "frames animals and the environment as being for the use of people" (p. 438). Similarly, proponents perceive western Newfoundland primarily as a resource extraction landscape, but also as a place experiencing community risks that is in need of economic stimulation and in-migration.

Social Understandings of Place

A place-protector identity is where community members fight for the preservation of place from alterations of the physical environment (Bell, 2013). Place-protectors "may

not oppose local development for reasons of self-interest, instead they may oppose a local development because of the *value* they see in that particular place" (Boyd & Paveglio, 2015, p. 5; emphasis original). Place protectors are those who fight against perceived injustices (environmental, economic, social) to protect the physical environmental, communities, families and way of life from real or perceived potential risks (Bell, 2013). Both fracking proponents and opponents assume place-protector identities, but the manifestations of these identities lead to diverging opinions of fracking development near Gros Morne National Park.

Proponents assume a place-protector identity, and are motivated by protecting the local community, which is understood largely as a social network, defined as "a representation of social interactions that can be used to study the propagation of ideas, [and] social bond dynamics" (Huberman et al., 2008, p. 1). Proponents perceive the community facing social strains of depopulation, and argue that there will not be a community to protect in the future if it is not economically stimulated.

Bring the Boys Back Home

Fracking supporters contend that oil development will help solve depopulation problems by creating jobs for residents in western Newfoundland, and creating "work that's closer to their home than Alberta" (Melissa), as one participant puts it in an interview. Another participant reflects on how a local family moved out west from Bonne Bay in search of work: "Like we had one family move away 'cause their sons went to Alberta, so they moved to Alberta. Their sons went there lookin' for work… 'cause they see some potential benefit economically from it" (Tanya). It is noted that fracking will

both help to reunite families and bring people's sons home from Alberta. Research on in- and out-migration in Canada demonstrates the presence of deep-seated cultural myths around returning to one's home community. Hillier's (2009) "three island thesis" contends that high levels of out-migration from islands in Canada's eastern region – Newfoundland, Cape Breton Island, and Prince Edward Island – produces the "myth of return" to help deal with the struggles of migration; it is "useful for both stayers and leavers" (p. 338). People of the three islands share a strong sense of loyalty to place and collective identity as islanders, and the reasons for out-migration are in search of seasonal work, or adventure (Hillier, 2009). Going away implies coming home. However, Hillier (2009) found that not everyone who leaves returns, but a significant enough number of people do come back to one of the islands to "ensure that the myth persists as a generalized truth" (p. 336). At a Cow Head meeting in 2012 between industry-hired consultants (AMEC) and local residents, one person who vocally supported the idea of hosting fracking development said, "we want our kids to move back here…[we] need young people to come back" (CHC). Chris Noseworthy, head of the Greater Corner Brook Board of Trade supports fracking on the west coast, on behalf of the Board, suggesting that a balance needs to be struck when discussing the social aspects of fracking:

> Some are saying their grandchildren will never be able to live in a place because it's too polluted to live in…The other side of the coin is, their grandchildren may never be able to live there because there is no reason for them to live there. (Hurley, 2014b, p. 3)

In an interview, one west coast resident argues fracking could create positive social implications for the region because it would keep employment localized:

> The social implications, by the way, I think would be quite positive for the region in that it keeps people home working as opposed to seeing…population of these rural areas go back to basically next to nil in the next generation. (Alan)

Supporters of fracking along the western coastline argue that fracking can work to create community embeddedness, and improve quality of life by having fathers and sons come home to work. As Chris, a politician from the Town of Norris Point, puts it:

> Now with everybody going away, some people see any of these opportunities as a way that, well maybe my Johnny or my husband or whatever can get home. And if they can get home, life's better. Right? A large portion of this coastline travels to work away and so, you know, although it may be bad for the environment in certain aspects, it may be good for the home environment that their husband can stay home because maybe he can get a job doing this. Maybe this happens more frequently up and down the coast we won't have to fly to Fort Mac or Yukon or wherever, right?

When discussing the possibility of localized employment from fracking, my participants also raise the issue of gender, demonstrating there are gendered aspects of the fracking debate. For example, my participants state that some families' lives would improve if fathers and sons could come home from Alberta to work at home, implying that women do not have a place in the oil industry. Research by Miller (2003) on women

professionals in the Alberta oil industry finds the industry to be a "gendered organization" dominated by masculinity that excludes women in everyday interactions and reinforces gender disparities. In an interview, one female respondent who worked in Alberta's oil industry discusses being warned about taking cab rides by herself:

> I've worked out in Fort Mac…at an oil company…I did the environmental audit. I was on the environmental assessment side of it. And in the summer – I think it was like three months I lived out there – I mean people were just like, "don't drive in cabs by yourself. Like they'll bring you off to who knows where." And I was like, "what!" They're like, "yeah." (Melissa)

As well, fracking will provide jobs for fathers and sons, as workers in "primary industries" and "construction and related" in Bonne Bay are 73.9% and 91.2% male, respectively (Community Accounts Bonne Bay, n.d.). This demonstrates how, through direct employment, men would disproportionately benefit from regional fracking projects, compared to women who reside locally. Touching on the oil industry as a gendered organization (Miller, 2003) and the possibility of fracking mending "broken families," Melissa continues:

> So, I mean if you can bring those families back together socially, I think that would be positive because there's a lot of broken families. They have lots of money, but there's no…there's no structure… Mom and dad…they're broken up, or dad is out west makin' all kinds of cash.

People may push for fracking on the west coast because they dislike working in Fort McMurray, but do so because of the high wages:

> Humans are just greedy, basically when it comes down to it. Or desperate to get our families together, to come back. You know that traditional, I just wanna go back home…That's another thing that could push people to be for it 'cause they are sick of Fort Mac. Every person I talk to hates it, but there's money. So they do it, even though they hate it, right? So if they could get a job opportunity [locally] not caring, they wouldn't care what it is, right? Just the opportunity to come home they'd deal with it. So I'm sure you'd see that in different communities as you get further up the coast. (Melissa)

Melissa is discussing how some families in western Newfoundland are characterized by divorces or social strains caused by a "fly-in/fly-out" work arrangement model typical to the oil industry where workers fly into remote areas to work and reside for two to three weeks at a time before returning to their home community for a similar amount of time (Storey, 2010). Family well-being, in Melissa's view, entails a co-presence of family members in the same place. This demonstrates the sociality of place, as Melissa defines place based on who is living, working, and playing in it. Those with a "fly-in/fly-out" form of work organization may miss important family events by being away from home for extended periods, causing strain on family relationships (Storey, 2010). However, research suggests that work arrangement model may also have positive consequences for family life: although workers are away for weeks at a time, upon return they are provided with opportunities to spend an extended block of time at home with their families and

communities in ways that shift workers or those with "regular" work weeks may not be afforded (Storey, 2010).

Proponents tend towards framing rural life in western Newfoundland as in a state of economic decline:

> I think a lot of people, at least the people I deal with from a more [Corner Brook] Board of Trade's perspective and things like that, I mean they recognize the state of the local economy on the west coast and the chronic unemployment…Without some form of industrial activity a lot of these communities on the west coast are gonna die. And if you look at what's happened in the last 20 years, you can see that decay happening. And now you've got you look at the aged people in those communities, et cetera, it's undeniable that that's gonna happen, right? (Alan)

Proponents sharing a place-protector identity support fracking because they believe it is helping to protect the community from continued economic decay. Since the cod fishery moratorium in the early 1990s, rural Newfoundland communities have suffered economically; and "from the point of view of caring about the west coast of the province and its survival, I've taken an interest in the topic [of fracking]," says a local resident in an interview (Alan). Fracking is viewed as a panacea. It is a shared belief among proponents that fracking, a technical extraction method, is capable of solving economic problems and social problems such as the emptying of rural communities.

Tourism and the Fishery

Tourism is a prominent place-based industry in Newfoundland. A local resident

argues tourism will not be negatively impacted by fracking:

> Now there will be those that argue that it will…totally destroy tourism and the inshore fisheries, stuff like that. But, again, there's no scientific evidence that that's actually the case, and you have to look at the size of these industries, put them in their proper perspective. I mean it's fine to say that, but you have to look at what the value of the tourism is on the west coast of Newfoundland and in terms of monetary value, we're not talking about that significant of a number…If you look at fracking taking place on the Port au Port Peninsula, I'm sorry, there's not a lot of tourists going there. And if there's a bed and breakfast there, the oil workers would fill them up more so and pay a higher rate than what you're gettin' through tourists. So I think there's it is what it is. It's more or less undeniable from an economic perspective, that there will be positive benefits if fracking is commercially viable. And I don't have any clue whether or not it would be commercially viable. Right, I'm not saying it would be and that's a given. I'm just saying that if it is, there would be positive economic benefits. (Alan)

In its summer 2013 Project Magazine, Black Spruce Exploration asserts tourism will not be negatively affected by fracking (BSE, 2013). Black Spruce states it understands "the value and importance of the tourism industry to western Newfoundland" and assure that "development will happen responsibly" (BSE, 2013, p. 15). The company assumes a pragmatic view, quoting Hawkes Bay former mayor, Sam Hoddinott, who says that "we must co-exist…or else we won't exist" (BSE, 2013, p. 15). As Hawkes Bay mayor for two decades, Hoddinott "has seen a steady decline in opportunities and options for his town's residents and the region in particular" and Black Spruce sees itself as providing

economic opportunities for the region (BSE, 2013, p. 15). The company also contends fracking "installations are small" and visually unobtrusive, and that hydrocarbon development is "safely occurring in other regions with tourist industries," citing the California winery region as an example (BSE, 2013, p. 15).

According to some of my research participants, none of whom are involved in the local accommodations and/or hospitality (food and beverage) sector, some locals who *are* employed in that line of work believe that they stand to economically gain from the prospective opportunities provided by fracking. Chris, a politician from the Town of Norris Point, suggests that hotel operators are intrigued by the notion of having "bums in [their] beds in the fall and winter and spring," (the local off-season) with summer being the peak period for tourism in the area. According to another respondent, contractors, hotel operators, restaurant owners and operators, transportation firms, building supply companies might all stand to economically benefit from fracking developments in western Newfoundland:

> The business community…might well see benefits in this. I'm sure some of them to people who supply building supplies, for example, people who have trucking and transportation firms and there's one of those, a big firm, in Birchy Head…Anyway, those people in Birchy Head run trucks all over Newfoundland might well benefit…Those people who are entrepreneurial in the business community have trucks or drive trucks or heavy equipment would be bound to benefit on the short term if there was job opportunities associated with development of oil and gas deposits off the coast. (Jonathan)

Another research participant considers the possibility of benefits for those in the

accommodations sector:

> I know there were also some businesses in the area, contractors, hotels, things like that, who could see themselves directly benefitting from this project and were only too happy to have a discussion about it. And fair enough for them, right? They do have, they could potentially benefit from it at least in the short-term. I'm not sure that they've fully considered the longer, especially things like hotel operators, the longer term impacts potentially on tourism, which is another big sector for, or, market for them, right? (Jason)

In interviews, both Jonathan and Jason state how any gains incurred by the local accommodations or hospitality industry would likely be short-term.

There also exists the sentiment that the park has only ever resulted in restricting local residents' behaviours in terms of hunting, fishing, or berry-picking. At the time of the establishment of Gros Morne National Park in the early 1970s, there was backlash from local communities who saw this development correlating with the confiscation of their rights to utilize certain areas for leisure or foraging purposes (Overton, 1996). This has resulted in a lingering resentment towards the park, and the development of a "what has the park ever done for me?" attitude. This complicates the conversations around fracking, and allows for some people who remember the controversial time of the park's development (especially in Sally's Cove) to perhaps welcome the fracking development as an employment opportunity, an opportunity that the park did not offer to them. In interviews, research participants informed me that this sentiment existed – not prominent, but still present – in the communities.

Another place-based industry in Newfoundland is the fishery. Proponents argue that fracking will not harm the fisheries. Reasons given to support this claim vary. One participant states that fracking would not harm the fisheries:

> So people have said, "it might affect the fishery." I don't think it's gonna affect the fishery, not on any big scale. I don't think it could possibly. The volumes of fluids are so small and the leakage rate would be so small, it's not gonna happen. (Glen)

Alan asserts that "no scientific evidence" exists to support the claim that the inshore fisheries would be impacted in an area where fracking is occurring. He maintains that the insignificant size of the fishing industry on the west coast needs to be considered, and any analysis of fracking impacts on the fisheries needs to "put them in their proper perspective" (Alan). Alan makes these claims based on his professional experiences working on energy projects in North America:

> I've proactively done research on it. I've actually put together presentations…I've worked on a lot of different sites to learn about the technique. I'm not an engineer, but I liked to see how it actually works…In addition to that I've read some of the review panels that are out there. I've read the Nova Scotia panel report, and the [Canadian Council of Academies report]…As well I follow media. (Alan)

In its Project Magazine, Black Spruce Exploration addresses the public's concern about fracking and the impact on fisheries, stating that, based on "independent studies," risks associated with fracking, such as seismic activity and potential spills, will not harm

the lobster and crab fishery (2013, p. 15). Black Spruce states that drilling and risk of spills will be concentrated onshore where they have "mitigation procedures in place" to minimize negative impacts (BSE, 2013, p. 15). The company points to Hibernia, White Rose, and Terra Nova – offshore oil developments in Newfoundland – as examples of how natural resource extraction can co-exist with protection of local fisheries (BSE, 2015).

Ecological Understandings of Place

Place-based experiences with local ecological systems are an example of a relationship to place (Boyd & Paveglio, 2015). I will use place-based experiences such as viewing the night sky as a way to demonstrate how fracking proponents interpret proposed fracking in western Newfoundland. In an interview, a proponent expresses concerns about light pollution caused by flaring, the on-site burning of natural gas:

> If they did actually produce oil, they would produce gas along with it, and that would probably have been flared, so…it would actually be burnt on site. Sally's Cove is, what, 20 kilometres north of here [Norris Point] – it's not very far away – and we would be able to see the flaring from here. There would be a light in the sky whenever they were burning, which would probably be constantly. And again, a lot of light pollution right on the very edge of Gros Morne National Park, and I mean I couldn't count on that, the impact of that on wildlife. Not very much atmospheric pollution comes with it 'cause it's a fairly clean burn since it mostly just produces carbon dioxide and water, but the light pollution would be, have significant impact on fauna and that would bother me. (Glen)

Glen, a Norris Point resident, is worried about light pollution being visible from Norris Point, expressing concern that the brightness of the fire would hinder his enjoyable experiences of star-gazing in the dark night sky: “The flaring would’ve been just unpleasant. From where we live here, on a dark night you can see the stars. You wouldn’t be able to do that anymore, I don’t think, in lots of places” (Glen). Fracking potentially effecting observations of the night sky demonstrates how pollution knows no boundaries. Glen, however, is not concerned with air quality degradation, only the visual impacts of flaring (Glen). He supports fracking if potential risks, such as flaring, are regulated (i.e. flaring does not happen on site), and he argues this is possible if the companies were forced not to flare by legislation (Glen).

Water

Proponents of fracking development near Gros Morne National Park did not express concerns about risks of contaminating water sources. Glen references how in Sally’s Cove and Port au Port, residents don’t use the aquifers:

> The main concerns have been in relation to aquifers that people use, that’s been the main concern. Both here and the Port au Port people don’t use the aquifers. So in Sally’s Cove the water that’s used for the community that’s only about 25 houses, is actually surface water, and that comes from topographically higher points than the points they were going to fracture. So in terms of human consumption of it, I don’t think there’s any risk whatsoever. The site at Sally’s Cove… is pretty much at sea level. It’s in a topographic depression so, again, the chances of something, like, pouring over the surface and into the coastal waters is

> fairly small. It's likely to go down into the earth. So it's somewhat contained there. So, I mean, so the site of the fracking itself, in terms of fluids getting to the surface and bothering people, I don't think it's gonna happen…In Wyoming and places like that, sure. I would be concerned if I lived there, about it. But even there there's not really very much evidence that certainly the hydro fracturing fluids themselves are getting into the aquifer. Maybe hydrocarbons are getting into the aquifer, but they're probably getting to the aquifer anyway 'cause hydrocarbons do migrate through the earth. (Glen)

Therefore, Glen argues there is not a risk of contaminating water that is used for human consumption. As an affiliate with Memorial University, Glen generates his opinions about fracking "based upon published science" and by "treating it as an academic exercise, really, and, just being objective and giving people what I believe to be the facts" (Glen). Alan, another west coast resident, does not consider the potential contamination of water a concern:

> I think we need to look at all these risks in their proper contexts and, a lot of the concerns relate to ground water contamination. Well, in Newfoundland, most of the, our drinking water comes from surface water, for example.

These descriptions of water demonstrate how proponents relate to water and their environment. Supporters measure the value of water according to the degree it can be used to directly benefit humans. That is, because people in those communities do not directly consume water from subterranean sources, then proponents support the use of fracking and its associated risks of water degradation. This is a limited view of water that

undermines or omits considerations of the indirect ways in which humans consume water, and rely on it as a source of life. Research on the hydrological-social cycle and fracking in Pennsylvania has found that people define water in various ways (Finewood & Stroup, 2012). The authors found that fracking opponents develop narratives about water that are more rich and personal, framing water as "life-giving resource critical to community values and as a human/non-human right" (Finewood & Stroup, 2012, p. 73). These complex narratives tend to consider more broadly the life-cycle of water (Finewood & Stroup, 2012). That proponents posit water-use can be segregated ("for human use" versus "not for human use") demonstrates an instrumental human-nature relationship (Remillard, 2011) where humans can control the flows of water. It also illustrates the belief that risks can be isolated and succinctly managed and regulated. In *Managed Annihilation*, Bavington (2010) argues for the rejection of "the belief that all problems (including environmental ones) can be solved merely by exerting more effort, and obtaining greater efficiency, within the status quo order of advanced industrial societies" (p. xvii). According to Bavington (2010), the hyper-management of natural resources is precisely what caused the collapse of the Newfoundland cod fishery.

Socio-cultural Approaches to Risk and Vulnerability

Understandings of risk

In my data, I found understandings of risk to be technically-oriented and quantitative in nature. An example of understanding risk in a technical sense is reducing subjective evaluations of possible hazards into distinct categories that can be ranked according to the likelihood and severity of their occurrence. These risks are commonly

expressed in numeric or economic terms. A participant provides an example of what it means to quantify non-economic facets of energy projects:

> I practiced at a company, and our decision-making framework in looking at projects, we combined the economic, social, and environmental consequences of various projects…We actually quantified the impacts from an economic and environmental perspective and social perspective and showed that if you look at things from a holistic perspective, which would include quantifying and putting in dollar terms some of the environmental consequences, that it would be better to, in that instance, to close the coal plants and use a technology that has fewer emissions with it, for example. (Alan)

A technical approach to risk assumes uncertainties can be rationalized and alleviated using robust rules and strict regulations, and this approach is consistent with positions that support fracking. For example, project proponent Black Spruce Exploration states that "there are regulations and standards in place that are designed to protect groundwater and the environment and ensure that safe practices are employed by industry" (BSE, 2013, p. 13) and "mitigation strategies" will be implemented to ensure marine and coastal wildlife are not at risk (BSE, 2013, p. 13). Above all, "hydraulic fracturing is safe" (BSE, 2013, p. 11). The outlook that proclaims that the unpredictability of the environment can be harnessed by the law and proper, robust regulations and mitigation strategies is diametrically opposed to the narrative present in the discourse of opponents that "you can't control nature" (Erin). In reflecting on the Board of Trades' position, one

respondent says: “I think the Board of Trade…believe fracking can be done in a safe manner if the appropriate regulations are in place” (Alan). Alan echoes this sentiment:

> I think no matter what it is we do we need to put regulations in place to manage the resource effectively … There’s no doubt you need to regulate industry … I would look at fracking the same way I’d look at, say, a new mine or a new pulp and paper plant in a different part of the region. Whatever it is, right, you need to first of all make sure it’s safe and can provide economic benefits and if there are risks associated you need to do your best to regulate and manage them.

When asked what kinds of regulations should be imposed to help minimize potential unwanted consequences of risks, the same participant suggests:

> It would be regulations to the use of water, regulations related to drilling, essentially to make sure that the casings, etc. are safe … Nothing is full-proof. As well as regulations related to potential chemical used in the fracking process, regulations [will be needed] related to the transport of fracking fluids. I mean, again, I’m not an engineer or specialist in this area, but, basically anything related to any of the risks that the panel come up with. So, they’ll identify which risks, I would expect the panel to come up with a bunch of recommendations for – if it’s feasible – to regulate those risks or to minimize the likelihood of the risks to occur, and the consequences of managing the consequences of the risk should they need to occur. (Alan)

This quotation demonstrates that Alan comes to take a pro-fracking position by trusting the institutional processes in place (such as the provincial government and their external review panel) to both identify potential fracking risks and devise regulations to mitigate the risks.

Community Vulnerability as Opportunity

The community is vulnerable due to the historical origins of the Canadian political economy where rural communities depended on economic or political centres to purchase raw materials to keep rural hinterland economies, and communities, alive. Remnants of this dependency relationship (and its power differentials) exist in Canada today. Ali (2009) suggests that environmental justice research focus on the implications on these structural patterns. This results in community vulnerability being considered an environmental justice issue, as it results in specific rural communities (such as Sally's Cove) being sites of resource extraction. Fracking proponents recognize the community vulnerability of Bonne Bay when they maintain that the local economy of western Newfoundland is suffering. However, this vulnerability is framed as an opportunity. Proponents contend fracking will create jobs and localized benefits that will help to revitalize the economy.

Those who embrace fracking as a much-needed economic opportunity regard the local economies to be suffering and in a slump, as characterized by high rates of unemployment and high rates of people relying on government transfers, such as old age pensions and employment insurance (Alan). The western economy is framed as "not buoyant" (Glen), and experiencing steep economic and population decline (Alan). One

proponent suggests: “without some form of new industrial development, a generation from now, these communities which are already in significant decline and highly rely on transfer income as a means of survival…these communities aren’t going to exist anymore” (Alan). The local economy, in short, needs an economic defibrillation so as not to “decay” (Alan). And, specifically, this economic boost must come in the form of industrial development and private investment. Fracking is considered that boost.

Industry shares similar narratives with local project supporters. For example, BSE President and CEO, W. T. David Murray views fracking as an opportunity that western Newfoundland “deserves” (BSE, 2013, p. 8) and is not to be missed: the “people of western Newfoundland have a potential energy industry that will rival that of Hibernia” (BSE, 2013, p. 2) with the amount of recoverable oil from their three exploration licenses (1070, 1120, and the Sally’s Cove license 1097R) totalling an estimated 581 million barrels (MMbbls) (BSE, 2013, p. 5). BSE will “contribut[e] to local economies” (BSE, n.d.) by offering employment opportunities at all stages of the fracking process, including exploration drilling, further drilling (appraisal and development), and in the production stage (BSE, 2013, p. 7). Because of BSE’s local hire policy, “employment opportunities will increase with each phase (BSE, 2013, p. 7). Shoal Point Energy, like BSE, claims that fracking could bring jobs and royalties to the province (SPE, n.d.), and that the west coast’s Green Point shale play is considered a “potential major oil-producing area,” with economic opportunities that could “parallel Eastern Newfoundland” (SPE, n.d.).

On September 11, 2014, in his opening address at the 9th Annual International Symposium on the Oil and Gas Resources of Western Newfoundland in Corner Brook,

Natural Resources Minister at the time, Derrick Dalley, states that the role of the government "is to facilitate development and make the connections needed between industry and the residents of Newfoundland and Labrador," while also balancing "the health and safety of its residents and the environment" with the need for economic development (Kean, 2014d, p. 5). He also recognizes that the petroleum industry has "played a significant role in the economic growth of this province, transforming the economy and prospects for Newfoundland and Labrador" (The Telegram, 2013).

On behalf of the Greater Corner Brook Board of Trade (BOT), the Head, Chris Noseworthy, and Chair, Matthew Connolly support fracking in western Newfoundland, because fracking will stimulate the local economy and bring prosperity to the region. The Board of Trade states that the province relies on the petroleum industry and the organization should continue to promote its development and the development of NL's natural resources (GCBBOT, 2014). The Corner Brook Port Corporation advocates for fracking to be used in western Newfoundland, as the organization argues it will generate business for ports. Common discourses are shared by the industry, provincial government, a local economist, the CB Port Corporation, Greater Corner Brook Board of Trade, as well as Dr. Wade Locke, one of the people appointed to independently review the issue of fracking in western Newfoundland. While speaking at the Oil and Gas Symposium in Corner Brook, he recognizes that the province has economically benefited from the petroleum industry, and that it would be "tragic" to miss the economic opportunities provided by fracking (Kean, 2014c).

Can't Pick and Choose Industries

University of New Brunswick economics professor, David Murrell employs a sort of "beggers can't be choosers" logic when he states that the Newfoundland "government should not pick and choose their industries" (Bissett, 2014). This suggests that the province should seize the opportunity of fracking because it is the only opportunity. A local fracking proponent contends:

> We don't do anything on this Earth to make money that doesn't cause a negative environmental footprint. That's just the reality of the day. And, that being said in the west coast of the island we're in a desperate position and we need something. So I don't think we can just discount anything, no matter what the risks are. We need to look at the risks and see if they can be managed appropriately … But I don't think we can take anything and just throw it away just because there are potential risks. (Alan)

Potential benefits of fracking at Sally's Cove are perceived as being localized, as are the risks. Proponents welcome the opportunity for jobs and tax revenue benefits despite actual or perceived associated environmental risks of fracking, such as potential water contamination, because these risks are seen as manageable. Local fracking proponents reduce the emphasis on environmental risks. At the same time, they emphasize risks to community decline, such as economic depression and population decay, and use these risks as a way to bolster their supportive positions on fracking. This perspective frames fracking as an opportunity (with controllable risks) to escape community vulnerability and dependency relations imposed by Canada's political economic history.

What About Climate Change?

Fracking development in the context of climate change is included here as the environmental justice movement has recently expanded its focus to include climate change (Agyeman, 2005; Norgaard, 2012). Newfoundland's fracking controversy exists in the context of Canada, a petro-capitalist state (Nikiforuk, 2013). Petro-capitalism is a political and economic system based on the principal of infinite economic growth (Karl, 1999). It promotes an unsustainable way of life due to the exhaustibility of oil and gas resources (Karl, 1999). It is a contradictory system because the burning of fossil fuels contributes to climate change, which is making waves, sometimes literally, around the world. This system exacerbates the impacts of vulnerabilities of climate change, including social inequality, extreme weather events, and food insecurity. Everyone is made vulnerable to the impacts of the climate change, to varying degrees and intensities. Despite the IPCC's 5th assessment report stating that 80% of all oil must remain in the soil to avert irreversible climate change catastrophes (IPCC, 2014), Natural Resources Minister at the time, Derrick Dalley, states that although the "point may be widely held" that fossil fuel dependency should be declining and that the review panel should be considering fracking in the context of climate change, he "suspect[s] there's also viewpoints widely held that…there is a tremendous need for fossil fuels at this point in time in our history" (Brake, 2014, p. 1). Climate change is arguably one of the most pressing, yet abstract, socio-environmental and economic problems of today, and some fracking proponents draw connections between fracking and climate change. The connections are mainly characterized by denial of fracking in western Newfoundland as contributing in a significant way to the climate change crisis:

> It's such a small scale in relation to what's going on in Wyoming. And I think stopping hydrocarbon production in western Newfoundland is a drop in the ocean. There are bigger concerns for the hydrocarbon industry than a few wells in western Newfoundland…The scale of things that we're doing…a bit of extra hydrocarbon production in western Newfoundland is not gonna make a difference. Yeah. We need hydrocarbons, you know? All the people that are part of these hydro fracturing awareness groups, they all drive everywhere, they all wear plastics. Until we discover a form of free energy – fusion, basically – we're gonna need complex hydrocarbons as the basis for plastics. And that's the only place they're gonna come from. (Glen)

In her study of collective cultural denial in a rural Norwegian community, Norgaard (2006) asks why well-informed people do not respond to climate change. Drawing on the work of Zerubavel, who broadened the scope of denial from a psychological focus to a societal one, Norgaard argues that "ignoring information about global warming [sic] takes places in response to social circumstances and is carried out through a process of social interaction" (2006, p. 352). As in Norgaard's research (2012), fracking proponents in western Newfoundland share stories and cultural myths that reinforce the notion that energy development in rural Newfoundland will not contribute to climate change-related risks and vulnerabilities in any significant way. One narrative used by Norwegians to cultivate innocence is that "Norway is a small, insignificant nation," and that actions taken by the population would simply be a "drop in the bucket" on the global scale (Norgaard, 2012, p. 13). Similarly, fracking proponents in my study

employ the same cultural myth, explaining that Newfoundland is too small to have an impact on carbon emissions. When asked in an interview about potential concerns about fracking in the context of climate change, one research participant states, "climate change and fracking's water use, I don't really see that as a big issue necessarily here" (Alan). These may be tactics used by proponents to distance themselves from bearing responsibility for climate change impacts, or to justify supporting regional fracking development. In Newfoundland, July 2014 made history as the warmest month in St. John's, "with temperatures rising above 25 degrees Celcius [sic] 19 out of 31 days" (Brake, 2014, p. 1). But despite localized impacts of climate change currently experienced in Newfoundland and Labrador, there is evidence of some residents denying connections between unconventional fossil fuel development in the province and its impacts on climate change.

Drawing on my interview data, one local resident suggests that fracking in the United States has allowed the U.S. to meet their Kyoto requirements, if the country had ratified the 1992 agreement:

> It's ironic that in the States that fracking…inadvertently has actually helped the U.S. meet its Kyoto, even though it didn't sign up for the Kyoto Agreement…And because of that, actually the U.S., believe it or not made their Kyoto, if they had signed up for the Kyoto Agreement, they…would've met their requirements. And again, this is undeniable. So I mean, it's sort of an inadvertent impact of the fracking industry in the States. (Alan)

This logic stems from fracking used as a fuel that displaces other, "dirtier" types of resource development, such as coal:

> Power generating stations are the biggest polluters in general, but because of fracking it made natural gas available cheaper, [and] actually shut down coal plants…If it displaces coal, you could make the argument that – and I haven't done the full analytical exercise out of it – you could make the argument that fracking for natural gas, if it displaces coal, has a positive environmental footprint related to emissions. Now again that's an unproven statement, I will say, it's undeniable that it has helped, at least in the short run, the United States reach its emission obligations under Kyoto. (Alan)

Alan states, however, that natural gas displacing coal is not a realistic scenario in Newfoundland at this time, as companies would be fracking for oil, not natural gas (Alan; SPE, n.d.). He notes that all industrial processes have emissions:

> It's not to say, again, the industrial process [fracking] has no emissions with it because obviously any industrial process has. But, again, I think it's important to look at it in its full context, for the potential downstream impacts it could actually have, right? (Alan)

The emphasis is thus placed on considering fracking from within a regional, place-based context.

Knowledge

Expert Forms of Knowledge

In this section I explore how fracking proponents view and value expert forms of knowledge. Despite implementing the moratorium, Newfoundland and Labrador's Natural Resources Minister until November 2015, Derrick Dalley, can be considered a fracking proponent as he states the government's role is to facilitate connections between the public and the oil and gas industry (Kean, 2014d, p. 5). Dalley appointed panelists for the Newfoundland and Labrador Hydraulic Fracturing Review Panel (NLHFRP). Three of the five panelists are certified engineers, and all possess expertise in their respective scientific fields (NLHFRP, 2015). Fracking proponents make truth-claims about fracking based on appeals to scientific knowledge, and the authority that this body of knowledge wields in western society. In *The Western Star*, Corner Brook economist Dennis Bruce recommends that Dalley separates "scientific evidence from public input" by splitting the government's Terms of Reference and the review panel into two panels: "a scientific or technical panel and a public outreach panel" (Bruce, 2014, p. 4). This is akin to Plough and Krimsky's typology of rationality, where the authors separate the concept into "technical rationality" (valuing scientific empiricism), and "cultural rationality" (valuing personal and communal experiences) (1987). Former Natural Resources Minister and former Newfoundland and Labrador Premier, Tom Marshall, states publicly that a decision on fracking must be "based on the evidence and the science not just emotion" (Kean, 2014e, pp. 1-2). Further, Marshall has criticized faculty and students from Memorial University's Grenfell campus who spoke out against fracking on the west coast, discrediting the opposing viewpoint raised by the students by saying that their position was "not based on a full appreciation of the science behind fracking" (Hurley, 2014a, pp. 1, 5). Fracking proponents call for assessments and decisions to be

scientifically-based. Black Spruce Exploration CEO David Murray wants the government's external review to be "based on science and not based on a lot of political rhetoric" (Kean, 2014f, p. 1-2). Shoal Point Energy says the panel should use science to assess the risks and rewards of fracking (Fitzpatrick, 2014a). The company makes a distinction between scientific and community knowledge by saying, "this is an opportunity to educate the public" (Fitzpatrick, 2014a, p. 12). Dalley also contends that the independent review panel's decision "will be based on science, but it will also consider the perspectives of both the oil and gas industry and those who argue against fracking" (Kean, 2014d, p. 5). This demonstrates that the provincial government values expert forms of knowledge, which is characterized as scientific, objective, and technical. It also follows a "linear model of expertise" (Beck, 2011) that views scientific knowledge as a linear system. This model of science assumes that more scientific knowledge will necessarily lead to more certainty, and more "sound" scientific certainty generates good policy (Beck, 2011). Given that the problem is framed scientifically as a technical issue, this linear model of expertise, in response, assumes solutions that are "static and technical in nature" (Beck, 2011, p. 303). This "science-first" approach (Howe, 2014) also assumes that the public is uneducated, that if people had the "right" information then they would come to the "right" decision (in this case, to support fracking).

Objectivity is a contested term (Fuchs, 1997). Fracking proponents are the only research participants to use the term "objectivity" to indicate it is something that exists "out there" that can be ascertained using specific scientific methods and expert forms of knowledge. Prior to Dalley publicly appointing the review panelists, one proponent

expressed a desire that the panel be composed of "objective world experts" who approach the problem of fracking as a set of data (Glen). It is the role of academics, or experts in various fields, to treat the fracking proposals in western Newfoundland as an academic exercise, where the data, which are based on published science and not "scare-mongering," are objectively reviewed and assessed, and presented to the public as the facts, not as opinion (Glen). Another fracking proponent, although initially disappointed that the government's internal report came back inconclusive, because they "didn't finish what they started," view the panel positively "because at the end of the day we want to look at this objectively and come out with the right answer" (Alan). The panelists were appointed "to review the evidence, not create the evidence" in an objective manner (Alan). They are required to dispassionately review the evidence and make a decision "based on the truth and not based on intimidation by some loud voices" (Alan). Truth is framed as a concept or answer that exists outside of oneself and one is incapable of knowing what it is. Understanding "Truth" as an external concept only knowable through specific scientific expertise held by a designated few grants authority (and a platform) to those who have the ability to speak using this scientific discourse. Proponents value expert knowledge by trusting that the panelists will produce expert, accurate knowledge and reach the "right" decision. They trust that "the review panel decides what the truth is and I don't know what that is" (Alan). Similarly, data, documents and literature will be shared with the panel, and "what will be, will be" (Glen). Panelists are constructed by fracking proponents as authoritative arbitrators of the truth, indicating that fracking supporters place trust in the external review panel.

Local Forms of Knowledge

In this section I explore how fracking proponents view and value local forms of knowledge. Fracking proponents dismiss local forms of knowledge as "unsophisticated," "illogical," and "irrational" (Alan). An example of a local proponent chastising local knowledge is when an anti-fracking spokesperson was interviewed on a local Newfoundland radio station and this was the proponent's response:

> But [anti-fracking person] of the, I'll call it the anti-fracking group, went on [the radio] and he basically said, "we better be careful because, you know, they frack in Alberta. Alberta's who Newfoundland compares itself to all the time in this and, you know, Alberta has a deficit. So therefore, you know, fracking is – basically, we better be careful. We don't know if we can afford to get into a deficit position in Newfoundland." I mean, the argument was so illogical and unsophisticated, again, [it] would make one blush. But at the same time, the [radio] reported it, made that as news! I mean, that was news. I mean, I just, you know, I gotta scratch my head sometimes. (Alan)

In an interview, a local resident clearly distinguishes himself from fracking opponents: "I think in lots of regards what they're doing isn't really very…I couldn't be part of it 'cause I don't think it's really ethical, what they're doing, 'cause I think they're misrepresenting a lot of the facts" (Glen). When it comes to the topic of fracking, opinions misalign between fracking proponents and opponents based in part on whether one's knowledge or information stems from expert, scientific sources or not.

As Bell (2013) demonstrates in her study of Appalachian women's struggles against irresponsible coal mining practices in Central Appalachia, dismissing local ways of knowing minimizes the very real concerns and viewpoints of opponents. Disregarding local forms of knowledge is a strategy for controlling the agenda and the terms for what is considered acceptable for discussion. If individuals or groups fail to subscribe solely to the authority of empirical science, their thoughts, ideas, concerns, and opinions are discredited as "irrational" or "emotional." This was demonstrated in Newfoundland when former Natural Resources Minister Tom Marshall stated, "I want to make sure any decisions here are based on science and not emotion" (Simms, 2014). Scientism is the belief that what is known using western science's inductive methods is true, objective, and authoritative (Garner, 2009; Mann, 2011). In heralding the use of the scientific method as the principal way of knowing, alternative ways of knowing the world (such as local, place-based knowledge, everyday embodied experience, indigenous experience-based knowledge, traditional knowledge) are marginalized or excluded (Gilligan et al., 2006). Also, local ecological knowledge (LEK) can be considered undermined by the provincial government as well because if LEK was highly valued by the government, local residents representing LEK would have a position on the fracking review panel. If LEK held value in the eyes of the provincial government, people possessing LEK would be granted an authoritative voice to speak from that perspective.

Symbolic Power

Fracking proponents view expert forms of knowledge (scientific and technical) as superior to local ecological knowledge forms, granting scientific and technical ways of

knowing (and its knowers) symbolic power over other knowledge forms. For example, a respondent with a university association and a high level of formal education is concerned that fracking opponents aren't wielding factual, objective, and scientific information in the debate:

> The barriers is the information, like, real information. Hopefully that will come out in the review because mostly what people are hearing is rhetoric from the environmentalists. My personal opinion is that it's not generally based – it's not balanced. It's not all based on fact; lots of it's scare-mongering. So if you speak to people, ordinary people and ask them, they will say, "oh, it's bad, bad, bad," and I say "well what've you got, you know, where've you got your opinion from?" It's basically just from the popular media, and Facebook, you know. And there's been very little…there's been very little published that's very objective because the people who would have a more positive impression of it, don't really have the same vested interest that the environmentalist groups have. (Glen)

Capital is a resource that is recognized within social fields that "enables one to appropriate the specific profits arising out of participation and contest in it" (Bourdieu, 1977; Stones, 2007, p. 268). Bourdieu contends that capital comes in four varieties: economic (wealth, financial capital), social (networks and strength of bonds), cultural (certificates, qualifications), and symbolic (statuses of prestige, honour) (Bourdieu, 1977). Each of these distinct but inter-related forms of capital feed back into the most valued form of capital, which, in Western societies, is economic. Symbolic capital "designates the effects of any form of capital when people do not perceive them as such"

(Stones, 2007, p. 268). For example, fracking proponents who conceive of the panelists as objective authorities in their fields neglect the cultural capital of the panelists that paint them as authorities in scientific discourse. Symbolic power exists when the "dissymmetry of the relationship" is masked by the social order and supported by social structures (Bourdieu, 1977, p. 191).

Conclusion

In this chapter I outline how proponents view place and "the rural" as both a space of leisure and as a resource extraction landscape, demonstrating a discourse of instrumentalism. Proponents assume a place-protector identity, and are motivated by protecting the local community, which is understood largely as social network. Proponents perceive the community as facing social strains of depopulation, and argue that there will not be a community to protect in the future if it is not economically stimulated. Fracking development is understood as solving social problems such as out-migration, and is not considered a risk to existing local fishing and tourism industries. Understanding the Newfoundland oil industry as small and insignificant, it is not perceived by proponents to potentially contaminate local groundwater sources or exacerbate climate change impacts in any significant way. Understandings of risk by fracking supporters are technical and quantitative, believing risks can be isolated and mitigated using robust regulations. Proponents come to develop a pro-fracking position by trusting the institutional processes in place to both identify risks and develop regulations to minimize the risks. Advocates make truth-claims about fracking based on appeals to scientific knowledge, with the Newfoundland government and its review

panelists employing a "science-first" approach that assumes more scientific knowledge will increase certainty and lead to sound policy decisions. Fracking proponents hold expert forms of knowledge (scientific and technical) in high regard, often to the exclusion of other ways of knowing.

Like fracking proponents, opponents assume place-protector identities as well. However, fracking adversaries adopt this identity not out of belief that the community is at risk of continuing economic decline and depopulation, but because they seek to conserve the "pristine" environment from industrialization. Fracking supporters do not express concern about potential groundwater contamination. This ignores water supply issues currently facing some communities in western Newfoundland, which opponents raise as a reason to reject regional fracking development. In the next chapter, I discuss other differences in how fracking opponents interpret the issue of fracking depending on social and ecological understandings of place. I explore processes that contribute to oppositional positions on fracking development in Bonne Bay, western Newfoundland. As I demonstrated, place means different things to different people. Drawing on my interview, textual, and field observation data, in the next chapter I will further highlight the contentious nature of place by providing perspectives of fracking opponents.

Chapter Six: Processes Contributing to Oppositional Positions on Fracking

In the last chapter I demonstrated how place is used to construct pro-fracking arguments. Proponents understand the community as facing economic and population decline, with fracking development considered a solution to these problems. Here I illustrate how place is used to shape anti-fracking perspectives of proposed development at Sally's Cove. I examine how fracking opponents understand place socially and ecologically, and elaborate on how those against fracking in the region take up a place-protector identity. Local residents who oppose fracking display a place-protector identity and relationship to place in various ways, including through creative expression. I discuss how opponents view potential impacts on the province's existing tourism industry, before turning to an analysis of place-based experiences such as hunting, hiking, fishing, and observing the night sky to demonstrate how fracking opponents interpret proposed fracking. I outline how participants who oppose the development understand risk and community vulnerability. Lastly I examine how fracking opponents view and value expert and local forms of knowledge.

As I will outline in more detail in my analysis, fracking opponents understand place and "the rural" as spaces of leisure with inherent value that is to be conserved and protected. The rural is perceived as a peaceful and restorative place. The discourse of conservation is exemplified by opponents calling for the implementation of a buffer zone around Gros Morne National Park to clearly demarcate industrial zones from spaces of leisure and tourism. Fracking opponents share concerns about fracking negatively impacting the regions tourism industry and contributing to a loss of the "sense of rural."

Those who oppose fracking also worry about the potential impact on fresh and salt water sources, with some participants situating this concern within the broader regional context, expressing some of the difficulties west coast communities currently face in procuring consistent drinkable water supplies. Some local residents link fracking to broader concerns about climate change, and also worry about how fracking may impact place-based activities such as hunting, hiking, fishing, and star-gazing. Understandings of risk held by local fracking opponents are technical; however, compared to proponents, opponents do not place the same level of trust in the institutional processes in place to evaluate risks. Opponents believe that industry and local fracking supporters exaggerate the number of jobs and benefits to be gained locally, leading to a mistrust of the oil and gas companies. Many fracking opponents use, or call for the use of expert, scientific knowledge to better understand the risks and rewards that accompany fracking practices. Fracking opponents heavily criticize the province's external review panel for lacking objectivity and diversity in representation.

Place

Social Understandings of Place

Place is a factor influencing community perceptions of fracking development in Bonne Bay. Many community members opposed to fracking at Sally's Cove conceptualize place in a way that differs from fracking supporters in the area. Unlike those in favour of fracking, who tend to view place as both a space of leisure and as a resource extraction landscape, many opponents see nature as possessing non-economic value and as a place to be preserved and protected. A counter-discourse to nature as

commodity is that of preservationism (Remillard, 2011). This view, influenced largely by one's attachment to place, understands place as a pristine, sometimes spiritual space in need of protection and preservation (Remillard, 2011). Emerging from these discourses is a place-protector identity, where community members fight for the preservation of place from alterations of the physical environment (Bell, 2013). Place-protectors "may not oppose local development for reasons of self-interest, instead they may oppose a local development because of the *value* they see in that particular place" (Boyd & Paveglio, 2015, p. 5; emphasis original). Drawing on my textual data, an opinion piece in the *Western Star* written by a west coast resident summarizes the place-protector identity: "Our urge to protect this area of land from oil and gas development is innate – and it's the right thing to do" ("Leave it out of the conversation," 2015). In the *Western Star*, Kenny Bennet, who is a Mi'kmaq cultural leader and resident of Stephenville Crossing cautions if fracking threatens the healthy life of the environment, it needs to be placed under scrutiny before being permitted (Kean, 2014a), suggesting an attitude oriented towards place protection. Bennet is also a member of the Newfoundland and Labrador Fracking Awareness Network (NL-FAN), a group motivated to "protect citizens and the environment" (NL-FAN, n.d.). After being accused by a local resident of western Newfoundland of working in the interests of big oil, New Democrat MHA George Murphy of St. John's East electoral district clarifies in the *Western Star* that for him the issue of fracking is about "protecting the environment and our people's right to clean water, air and earth" (Murphy, 2014, p. 4). Place protectors are those who fight against perceived injustices (environmental, social, economic, political) to protect the physical environmental, communities, families and ways of life from real or perceived potential

risks (Bell, 2013); Place-protectors may also challenge perceived threats to economic livelihood (e.g. threats to Gros Morne National Park). Bell's (2013) research on Appalachian women's resistance to irresponsible coal mining practices finds that the place-protector identity is an extension of the motherhood protector identity. The latter assumes that one is "a protector because [they are] a mother" (Lameman, 2014, p. 119). In an interview, a Bonne Bay fracking opponent assumed this identity: "I'm planning on having a family… So, well what about my kids … I don't want them to grow up in that … Like I don't need unknown cancers forming in their body" (Melissa). Activism research has shown that "the drive to protect one's children from harm is often translated into efforts to defend the larger community" (Bell, 2013, p. 172). This, among other reasons, is motivating them to protect the land now for their future plans to have children. A place-protecting person is often motivated by a strong sense of place. This can derive from place-making processes, whereby through naming and identification a place is permeated with meaning and value (Gieryn, 2000).

Not only are many fracking opponents in western Newfoundland motivated to protect places that have personal significance such as Gros Morne National Park, they also recommend an idea on how to do so: Fracking opponents in western Newfoundland suggest the implementation of a buffer zone around the park. Gros Morne National Park is an internationally recognized place. My data suggest that this international importance and World Heritage Site designation enhances the value of the place to many local residents which in turn heightens their desire to protect it. Residents demonstrate the importance of the park by calling on the provincial and federal government, along with

organizations such as CPAWS and HNL to implement an industrial-free buffer zone around the park's perimeter in order to protect or "save" the park (Marilyn; Stephen). A "celebrity-packed plea" for a buffer zone also came from prominent Canadians such as Roberta Bondar and authors Lisa Moore and Michael Crummey (Fitzpatrick, 2015b, p. 2). None of the letter's signatories reside in western Newfoundland, demonstrating the national (and international) attention the fracking controversy has received. It also suggests non-locals – and in this case, famous non-locals – have greater political leverage in achieving a buffer zone discussion (or its implementation), compared to locals with the same goal. Based on my textual analysis of fracking websites related to the debate in western Newfoundland, framing the park as a place to be "saved" is language used by the Save West Coast NL organization, an anti-fracking group that publicly demanded a protective buffer zone (Save WC, n.d.). Interview participants reference Red Bay National Historic Site in Labrador when discussing how Gros Morne should have a radius of protection, emphasizing how "the community of Red Bay has helped in setting that [buffer zone] up" (Joy). A fracking opponents notes the recent changes in World Heritage Site approval processes, noting when a

> site is being nominated to be submitted to be considered as a World Heritage Site that proposal has to include the outlining of a buffer zone. Gros Morne doesn't have a buffer zone around it because, I mean, it was established as a World Heritage Site back in …'87. (Marilyn)

According to one local resident, the buffer zone would represent:

> a way of protecting the park itself, but I think more importantly it's actually a way of protecting the way of life of the communities. So there's a national sensitivity or sensibility…but then there's local practices, there's local ways of doing, which I think is…a perfect mix. (Marilyn)

Requesting a protective zone around the park illustrates a sense of attachment to the local landscape, which "fosters social and political involvement in the preservation of the physical and social features that characterize a [region]" (Mesch & Manor, 1998, p. 505). After a June 2014 meeting in Doha, the UNESCO World Heritage Committee recommended a buffer zone be implemented around Gros Morne National Park to protect from industrial development (Fitzpatrick, 2015b, p. 2).

Beauty of the Place

Expressing the beauty of a place through verbal, written, or creative representation (e.g. in a painting) is a way of articulating one's relationship to place. In turn, the perceived beauty of a place influences one's relationship to activities that may alter this human-nature relationship, such as energy development (Boyd & Paveglio, 2015). For example, a positive connection with local "area aesthetics" is likely to translate into a desire to protect the place from activities that may harm its perceived beauty (Boyd & Paveglio, 2015, p. 12).

Based on qualitative interviews, fracking opponents cite Newfoundland's "pristine environment" as a reason for drawing people to reside in the area, and for driving people to protect it (Marilyn; Stephen; Lewis; Chris). A sense of place is

enhanced by creative (artistic, musical, etc.) representations of the local landscape. A place is made meaningful in part through "representation by ordinary people" (Gieryn, 2000, p. 465). Artistic expression, such as composing a song, painting or photograph, is often emotive in nature, and place attachment can result from emotional investment in a place (Mesch & Manor, 1998). When an artistic commodity (a painting or an album) is sold, however, creating art becomes an economic endeavour used to make a living; the commodification of art means that representations of Gros Morne are used to make money. One respondent illustrates an attachment or emotional investment in place, saying that artists of all sorts are commonly drawn to the area "because Gros Morne is one of those places, whether you're … [writing] music, painting…danc[ing], anything like that … it's just an unbelievable place that inspires you to just…be able to write" (Chris). They continue: the "landscape of the place … staggering mountains to lowlands to ocean" is what stirs in people feelings of an "intrinsic value to the place" and "you definitely see a bigger connection with the arts and culture community and the anti-side of it" (Chris). This sense of place is exemplified in a painting of Western Brook Gorge (which neighbours Sally's Cove) by a Corner Brook artist, titled "Don't Frack Near Me." The artist, who has a self-proclaimed very strong connection to Bonne Bay and Gros Morne, uses art as a way to express apprehension about fracking locally. To accompany their painting of one of Newfoundland's iconic landmarks, the Western Brook Gorge (see Figure 8), the artist writes: "though it appears as a strong immovable mountain, it is still quite vulnerable" (email correspondence with artist, 2014). A participant discusses the fragility of such a striking natural feature as the Gorge through comments about their concern that seismic activity may impact the stoic natural structure:

A risk would be the risk of generating seismic activity – earthquakes, in other words that would be very, would likely be very small, but might be just enough to initiate rock falls on nearby sea cliffs, and particularly Western Brook Pond. You've probably…been in there and have seen those massive vertical cliffs. There's a lot of unstable rocks there – many of them fall from time to time…It's possible that with fluids underground you would disturb these natural stresses within the rock so that, in effect, you're injecting grease in between rocks that are normally quite stable. But if you put grease between two plates that are under pressure, these plates might slip, the rocks might slip. And if they slip that generates a little earthquake, a little seismic tremor, and that might be enough to generate rock falls on these cliffs nearby. (Jonathan)

Figure 8. "Don't Frack Near Me" painting of the Western Brook Gorge by Corner Brook artist and resident. Source: the artist.

The painting of Western Brook Pond portrays a physical landscape that is dramatic, serene, and untouched by human development. Despite the physical presence of human activity at Western Brook Pond, the artist communicates a lack of human impact by

omitting any signs of development from the painting, such as hiking trails, hikers, or boats and buildings used by tourism operators to allow visitors to explore the Gorge. The painting depicts an idealized interpretation of the landscape as quiet and still, sending the message that industrial development would disrupt the landscape, negatively impacting what Western Brook Pond (and its rural setting) represents.

Loss of Rural Character

The rurality of Bonne Bay is an important part of some community members' sense of place, with "the rural" understood by opponents as a quaint, small-scale, and non-industrialized landscape. The "quaint rural character we have of small communities all along the coast" would be diminished if "everywhere you went there was an oil rig pokin' out" (Jason). The "sense of rural" would be threatened, according to one interview participant, and if Newfoundland were to host fracking projects, "it would completely change the impression people would have when they came to western Newfoundland and the sense of place that people who live here have" (Jason). Fracking is viewed as having the potential to change the rural character of the west coast through expansion of the single highway and increased traffic (Jason). Research on transportation stresses of fracking in the Eagle Ford Shale, shows that the fracking boom in Texas has resulted in increased truck traffic, accidents and road fatalities, as well as a strain on local infrastructure in areas hosting fracking projects (Rahm et al., 2015). Opponents framing the potential for fracking as the potential loss of the "sense of rural" (Jason) to industrialization demonstrates their concern about the alteration of one's (sense of) place. It also points to a particular conceptualization of "rurality" as peaceful, idyllic, and

recreational space used for leisure and tourism activities. This demonstrates, as suggested by Hall et al. (2009), how "rurality" can be understood in multiple ways, depending on one's cultural and economics contexts. As outlined in Chapter Three: Literature Review, until the collapse of the industrial fishery in the early 1990s, rural Newfoundland's economy was characterized by "extractive development," which Luke (2002) defines as a local reliance on natural resources for subsistence. As the province embraced tourism as a new economic base in the post-cod stock collapse era, the economy transitioned from "extractive development" to a site for "attractive development" (Luke, 2002). An attraction-based economy "reconfigures the cultural meaning of rural landscapes" (Stoddart, 2012, p. 328) into places where "culture" and "wilderness" spaces are valued and consumed (Overton, 1996). This led to the transition of the rural landscape from places of natural resource extraction to restorative tourism and leisure areas (Overton, 1996). Proposed fracking development near Gros Morne National Park, an area of internationally-acclaimed significance, threatens to, yet again, redefine the landscape.

Tourism and Sustainability

Newfoundland and Labrador has a thriving nature-based tourism industry which earns over $1 billion annually (TCR, 2014). Nature-based tourism is considered by local tourism operators and promoters to be an environmentally, and therefore, economically, sustainable industry (Lewis; Jan). Environmental sustainability – the conservation and protection of physical environments for future generations – is a lens through which many fracking opponents view the debate. Tourism operators running nature-based tourism businesses in Bonne Bay believe Newfoundland's tourism economy is based on a

sustainable model, and that it is incompatible with oil development because the oil industry is viewed as unsustainable. One local tourism operator discusses how they consider the park to be part of a sustainable tourism industry:

> We don't want it here. We don't want any industrialization taking place in a national park. I mean, it's not part of a national park, and we don't want it part of ours. And this is a very unique park here. It's been, it's taken a long time for like myself and other entrepreneurs, and the province, and the federal government to make people aware of what we have here and the beauty and the, pristine environment which we got, we offer people who come and visit the park. So, I mean, I don't want anything brought in here that's gonna take away and destroy in one year what we've been doing ever since this park formed. And that's what I feel that type of development would do. It's certainly not gonna help us. If anything it's gonna downgrade us, and we don't want any downgrades. What we want coming in here are things that are positive, that're going to continue doing what we have done in the past…we want to make it available, and still keep what we have here. We don't want it destroyed, we don't want it; we're not gonna allow the people that are coming in to destroy it. We, in our development, are not destroying anything here. (Lewis)

Another local tourism operator echoes Lewis' sentiments about how they perceive oil development and tourism development related to Gros Morne as incompatible activities:

> In terms of oil development in this region, in a UNESCO World Heritage Site…I think it's very difficult for those two industries to co-exist. And in particular if

> that oil extraction were to happen through fracking because then I think that adds even more of an environmental issue. (Jan)

Nature-based tourism "involves traveling to nature for its beauty or for physical activity," (Widener, 2009, p. 268). In light of the 1992 cod stock collapse, Newfoundland has largely turned to tourism (along with oil development) to achieve economic growth (Overton, 1996). The province has funnelled money into modernizing the province's infrastructure (e.g. building the TransCanada Highway in the 1960s) to promote nature-based tourism (Overton, 1996). Nature and the province's "heritage" became the new resources to be sold for consumption (Overton, 1996). It has taken many years of determination, effort, and collaboration between business entrepreneurs, and the provincial and federal governments to build a successful tourism industry based on the province's "pristine environment" (Lewis), and local tourism owners and operators are not prepared to jeopardize their decades of work. One participant puts it frankly: "I don't want anything brought in here that's gonna take away and destroy in one year what we've been doing ever since this park formed. And that's what I feel…that type of development [oil] would do" (Lewis). Local tourism operators believe that the increased volume of tractor trailer traffic that accompanies fracking development will "have a devastating effect on this area," arguing that the "economics for a sustainable tourism industry probably are better than the economics of a…short-lasting…oil industry" (Jan).

Framing nature-based tourism as unproblematic, however, ignores how both oil and tourism industries are based on transportation industries that rely heavily on oil and gas (Widener, 2009). Both industries "extract and supply a resource (oil) or experience

(tourism) to non-local consumers" (Widener, 2009, p 270). Gros Morne tourism operators and promoters view the local tourism industry as nature-based, and do not draw links between the tourism and oil industry; they interpret the two industries as dissimilar and unable to co-exist.

Many fracking adversaries contend that the potential for fracking could negatively impact the province's tourism industry, as it risks harming the reputation of Gros Morne National Park and hindering tourists from (re-)visiting the region. The tourism economy in the province is built on the natural environment: "it's built on pristineness" (Chris). Although Newfoundland and Labrador's tourism industry was created to stimulate the economy after the cod-stock collapse in the early 1990s, the industry is perceived by local tourism operators as an environmentally benign, "pleasurable industry" while the oil industry is viewed as environmentally damaging (Widener, 2009). A local politician explains how tourists, who are disproportionately environmentally-minded (Jan), don't want to witness, or viscerally experience environmental degradation: "a lot of our European visitors get upset when they see cut blocks [from timber harvesting] further up the coast" (Chris). The tourists say, "I was told I was coming to a pristine area and now I see clear cutting… This is not what I came for. This is not what I wanna see. …There's scars on the earth" (Chris).

The tourism operators oppose fracking development near the park, as they can "see the potential for very negative impacts on the tourism industry" (Jan). This is partly due to potential disturbances of fracking, just as the possibly unexpected experience of seeing an oil rig near Gros Morne National Park. Urry and Larsen argue that tourists

experience place using all of the senses, making it a multi-sensory experience (2011). Unanticipated tourism experiences could be jarring for visitors. The importance of tourism to local operators and promoters demonstrates the value of the Gros Morne region as a place to them, while also illustrating how the park is an important generator of economic income: it's how local tourism operators and promotors earn a financial living. One local tourism operator is, however, open to hydrocarbon exploration in other areas in the province, including supporting the offshore industry:

> It's one thing to go out, like, offshore in Newfoundland. The way they're extracting the oil out there it's, you know, basically, they, it's almost like they stick a pin in the ground and the pressure, you know, the oil comes out. But the way that they would have to do it here would mean so much more environmental degradation. (Jan)

Other concerns raised by tourists and operators include impacts on "the tourist experience," having to deal with increased truck traffic and environmental hazards (Tanya). A local Bonne Bay tourism operator has heard personally from people that if fracking were to be developed near Gros Morne that they would not return to the area (Jan) because of its close proximity to Western Brook Pond – one of Newfoundland's most iconic images – and because fracking isn't a sustainable form of development (Chris). As Gros Morne is marketed as a nature-tourism destination, there is a greater likelihood (but not a guarantee, of course) that tourists visiting the region will be more environmentally-attuned, more likely to be "a nature-lover" (Jan). Conversely, the same local tourism operator did tell a story about two tourists, one who was employed by the

oil and gas industry in northern Alberta, who said, “fracking is not, definitely not…a bad thing…we make our living because of that” (Jan).

Gros Morne National Park is actively, and effectively, marketed as an international tourism destination. But local tourism operators fear the problems of perception, meaning that drilling near a national park “could have major implications on people even deciding to come to Gros Morne” (Jan). Continually, tourism industry stakeholders in the Gros Morne area are competing globally with UNESCO sites, and fear that if potential visitors catch wind of rumours about industrial development occurring near the park, they will choose not to come (Jan). In his work on the anti-old growth logging movement in Clayoquot Sound, British Columbia, Luke (2002) asserts that environmentalism can function as ecological advertising or “envirotising” to the benefit of local tourism operators. In his analysis, every anti-logging ad is dual purposed in that it might change public opinion about logging practices in British Columbia while also attracting tourists (Luke, 2002). Tourism in Newfoundland and Labrador uses “envirotising” (Luke, 2002) to entice visitors to Gros Morne National Park. The potential for fracking nearby threatens to dismantle the effectiveness of this promotional strategy: tourists catching wind of possible oil development near Gros Morne threatens to mar ideas of it as a picturesque, pristine, remote, place undisturbed by industrial development. Travelling to Newfoundland, where nature and culture are sold as new resources and commodities (an attractive industry) (Luke, 2002) may be appealing to the modern tourist, looking to “escape” from the industrialized, modernized world (Overton, 1996). Modern oil development such as fracking (an extractive industry) (Luke, 2002), disrupts

this attempted cultural-societal "escape" of the psyche or imagination, demonstrating the potential incompatibility of tourism and oil industries.

Local Bonne Bay residents have been wary of the potential for fracking development in the area for reasons other than the potential implications of a tarnished image on the existing tourism industry. A major concern is the proximity of the proposed site (at Sally's Cove) to Western Brook Pond, arguably the most iconic image in the provincial tourism industry's advertising repertoire. As one interview participant puts it: "if somebody comes to Gros Morne, they go to Western Brook… That's the icon" (Chris). In participant interviews, issues such as flaring (the burning of natural gas on a fracking site), is one of the major concerns raised by local residents worried about impacts of fracking on tourism. This is due to the very close proximity of Sally's Cove from Western Brook Pond (approximately 10-15 km). Large vehicles and an overall increase in truck traffic on the single highway on which tourists will inevitably travel upon are other reasons cited for raising alarm about the potentially adverse effects of fracking on the local tourism industry. Representing the Gros Morne Coastal Alliance, an anti-fracking group based in Bonne Bay, Anne Marceau comments in the *Western Star* on the topic of tourism and fracking, stating:

> (tourism) [sic] may not be the absolute salvation of the community, but it is a long-term viable future that governments, the private sector and communities have embraced and are actively pursuing. To risk that for something that has unknown risks, that has documented cases of negative consequences…just doesn't seem like a wise move. (Kean, 2014a)

In reflecting on the change in advertising media in the tourism industry from using magazines as a primary form of marketing to now using television commercials and more interactive technologies such as social media, a research participant recognizes the possible pitfalls of a two-way advertising campaign (where tourists are able to review, rate, and personally advertise and recommend (or not) using social media websites such as Twitter and Facebook). She discusses how a "social media blitz" could be created by the circulation of "one bad rumour" about the potential for fracking on Newfoundland's west coast, and how that could negatively impact the tourism industry by deterring potential European or Australian tourists from visiting the region; "you just need one bad rumour…and it shuts down a whole industry" (Amanda). In general, for a myriad of reasons, fracking near Gros Morne National Park is a concern for local tourism owners, operators, and promoters, and is considered a serious threat to the region's perceived nature-based tourism industry.

Water

Fracking opponents overwhelmingly express concern about potential contamination of fresh and salt water. One reason expressed in participant interviews for the concern of potential ground and surface water contamination is because of the region's unique and complex geology:

> there's a great long list of problems associated just with the activity of fracking and that's not even talking about the damage to, potential damage to well waters, to reservoirs, town reservoirs. In this case they're going to be drilling out under the ocean…The geology here is such that, unlike other places where they're doing

> most of the fracking where the strata are all in a flat line. The strata here have all been tilted up, or even overturned in some places. So if you create cracks down below, it's very easy for those cracks to propagate up through the strata and, and come up to the surface. So that can damage surface water supplies on land, and it can also pollute the water offshore if that happens. (Stephen)

In discussing the issue of potential water contamination as a reason to reject fracking development, one local adversary connects current water supply issues with perceived potential risks to water supplies caused by fracking:

> Right now in the Port au Port, most of those communities are having a hard time finding water. You know, so…for fracking, through fracking, not only is the possibility of contaminating water, but they've gotta consume water, right, they've gotta take water, permanently pollute it, and then dispose of it. Well these are towns that are having a hard enough time just getting drinking water… So why risk that water supply? (Marilyn)

Drawing on data generated in my interviews, some opponents link potential water contamination issues with the broader concern that some towns on the west coast are already having difficulty accessing water:

> wells that are of good drinkable quality…because of either sea water infiltration or because of flavouring coming in from the rocks…iron oxide and hydrogen sulfide, things like that that're in the rocks. Yeah, they've got a lot of problems already. (Stephen)

A participant points out that regional communities already have insufficient water purification facilities:

> Water contamination's huge. That's one thing I'm really worried about because right now they don't have a huge water purifying system in these communities. Right, so we'll have the tap water and everybody's pretty okay with that. But I mean without fracking there's already boil orders. There's already, like, "be careful water…we're trying to flush out the system, so boil order is on." Right, like, it's already not perfect water. So if you go and put in fracking with methane that's in there, there's so many different greenhouse gases that're around as well. (Melissa)

In a letter to the editor in the *Western Star*, Mike Hackett outlines how there is "presently a shortage of fresh water" in Port au Port East and the area also experiences boil orders and water being shut off for hours at a time due to insufficient rainfall to replenish reservoirs (Hackett, 2014b).

Another way that socio-cultural constructions of water shape anti-fracking arguments is in how opponents view water as interconnected and in constant movement:

> The bigger challenge, really, for us, is the whole question of just oil exploration and development within the national park, within the Gulf of St. Lawrence…Right, and I know this is broadening the issue and for many of us, that is really the bigger question because something that happens down at the Port au Port Peninsula…what happens down there is away from us, so it doesn't affect

> our land directly but because it's in the Gulf of St. Lawrence – like, this is a body of water that is really interconnected. (Marilyn)

To illustrate how she understands the flow and interconnectedness of water, Marilyn draws on the movement of blue whales that died in the Gulf of St. Lawrence:

> Earlier this spring, you might have heard, there were a number of blue whales that were caught in the ice, crushed, killed. And that happened off the Port au Port Peninsula basically between the Magdalen Islands and the southwestern tip of Newfoundland. That's where the whales were caught. That's where the whales were reported dead. Those whales…possibly four but definitely two of them wound up here [in Bonne Bay]. One was in Trout River…one was in Rocky Harbour. One was seen floating north of Sally's Cove…So, it's a small illustration but it's a point that something that happened down there came to rest on the beach up here. (Marilyn)

This prominent concern by fracking opponents about potential water contamination demonstrates community members who oppose regional fracking development do so, in part, because they understand water as a vital component to their definition of place.

The fracking process requires the consumption of vast volumes of water and an adequate waste water disposal plan for water that may have become "permanently pollute[d]" (Stephen). Waste water produced in the fracking process requires transportation, storage, and disposal – activities with their own suite of associated risks (Jan; Jonathan). One respondent explains that

> My biggest fear with fracking is the human error in dealing with the waste water… so I think for me the technology and the science is really quite interesting and impressive, but…the human factor is what bothers me the most about it. (Amanda)

In the United States, depending on the well's horizontal distance, depth, and number of previous fractures, approximately 2-5 million gallons of water is required per well (EPA, 2010, p. 1). In the Canadian context, the amount of water required for fracking is not the greatest concern, but the "timing of its withdrawal" (CCA, 2014b, p. 3). Water resources may become stressed "depending on location, season and pre-existing uses" (CCA, 2014b, p. 3). One of the ways industry is trying to avoid stressing water supplies is by storing water in advance of use, recycling flowback water (water that resurfaces after being used in fracking fluid mixture), and using salt water (CCA, 2014b). Questions of handling flowback water are raised by Bonne Bay fracking opponents in participant interviews, as about 30 to 70 percent of the fracking fluids migrate to the surface with the shale oil or natural gas, along with underground naturally occurring radioactive materials (NORMs) (Finkel & Hays, 2013). In the *Western Star*, George Murphy, St. John's East New Democrat MHA and host of "A Fracking Town Hall" event in St. John's, cautions that there are not suitable regulations in place regarding water use (Murphy, 2014). Wastewater disposal is of specific concern in eastern Canada, "where the accepted practice of deep-well injection of wastewater may not be geologically possible" (CCA, 2014b, p. 3). The Newfoundland government currently does not have a plan in place to

adequately deal with flowback water and its associated issues of storage, transportation and treatment.

Ecological Understandings of Place

Place-based experiences with local ecological systems are an example of a relationship to place (Boyd & Paveglio, 2015). I will use place-based experiences such as hunting, hiking, fishing, and observing the night sky to demonstrate how fracking opponents interpret proposed fracking. Based on my qualitative interview data, Bonne Bay is framed by research participants as a biologically diverse area (Melissa). Gros Morne National Park is depicted as a "pristine" environment (Lewis; Chris) with a complex and unique geology (Stephen). Fracking opponents define the ecology of Bonne Bay in terms of the activities they engage in to experience the local place. Place-based experiences with local ecological systems are an example of a relationship to place (Boyd & Paveglio, 2015). The activities I will focus on in this chapter to help explain how opponents are interpreting proposed fracking are hunting, hiking, fishing, and star-gazing.

Some opponents express concern about potential impacts on migratory caribou, moose and their habitats, as fracking chemicals may infiltrate water supplies in the area and accumulate in bog-wading moose who are "direct feeders on vegetation" (Melissa). In the winter months, many community members depend on hunting moose which is deemed a culturally significant activity (Melissa). Because "everything's connected," the chemicals will therefore accumulate in the human body (Melissa). People come from Quebec and the United States to hunt moose, and this could change if fracking were to

occur and pollute water sources and the animals – including humans – that rely on water as a life source (Melissa).

Working the land is a factor outlined by Boyd and Paveglio (2015) that influences community member's perception of energy development. Working in the fishing industry can be considered working the land (sea) and an example of a relationship to place (Boyd & Paveglio, 2015). Opponents expressed trepidation about the long-term impacts on fish species due to potential ocean spills, water contamination, and seismic activity. Opponents articulated anxieties about risks of trucking accidents and spills associated with trucking away potential hydrocarbons from Sally's Cove. This is a concern for community members due to the proximity of Sally's Cove to Gros Morne, and because the Southeast Hills are very steep, windy, and narrow (Glen; Jason; Jan). It is presently fairly common for tanker trucks to come off the road on the Southeast Hills in the winter (Jason). Road accidents or spills would shut down the single road that people in the area rely on (Tanya), and potential oil spills could harm local inshore fisheries, which are considered a fairly sustainable industry (Chris). A short and spontaneous informal conversation with a local mackerel fish harvester taught me that his opposition to fracking on the west coast was because he didn't want to risk polluting the waters on which his job relies (Field Notes, October 2014). One evening in October 2014, I spoke informally on a wharf in Norris Point with a mackerel fish harvester during my second field research trip to the area. Curious about his opinion of the fracking proposals on the west coast of Newfoundland, I approached him: As he coiled up hoses, chucking them in boats and tidying the wharf, I timidly asked, "you in because of the weather?" He replied,

with a hint of snark, how they'll be in until the mackerel come. I said, standing awkwardly, "this is somewhat abrupt but, I'm a student from MUN doing research in the area about what people think about fracking". We got into a conversation, and he stated he is opposed to it, saying that we should get our oil from elsewhere (Saudi Arabia, in particular). This local fish harvester from the west coast of the island said that he didn't want to risk it dirtying the water, and that fracking will probably make jobs, but at a cost to the environment (Field Notes, October 2014). Due to the movement of currents, potential spills in Bonne Bay or the Gulf of St. Lawrence would dissipate slower and less thoroughly compared to the way water moves in the Grand Banks, where offshore oil is produced (Stephen; Chris).

Seismic testing occurs at the same time as the fisheries are active, and a research participant, a Master's student from the Bonne Bay area, explains that seismic shooting negatively impacts fish species, as the air guns scare off fish (Melissa). Marine life nurseries could face adversity too, so even if species are migrating, their food hot spots are not necessarily sustained, (disrupting places where zooplankton thrive, etc., so when whales come back they won't have anything to eat) (Melissa). A local resident referenced the scallop fishery collapse on the Port au Port Peninsula, indicating that the reason for this collapse was unknown, but alluded to it being because of recent drilling that had taken place on the Peninsula. "Port au Port has lost a lot of their fisheries because…there was drilling there. We're not certain if that's the reason, but it's coincided with it. But when they weren't drilling for a while it started coming back, and as it started again, it dropped off" (Joy).

One participant, a seasoned hiker, is concerned about the potential sensory impacts of fracking disrupting their hikes:

> Me and [partner] go on hikes every single year. If I can't go on that hike and relax [if] … there's oil in the water or … I can't even stand the smell of it … It's just not relaxing, right? This is our home. (Melissa)

This demonstrates how the potential for fracking is perceived negatively as interrupting some residents' usual or anticipated hiking experiences of place.

Fracking opponents expressed concern over potential light and air pollution caused by flaring (Jason; Jan). As well as compromising air quality, participants worry that valued experiences of the night sky will be hindered by the burning of natural gas on site (flaring) (Jason). This example also demonstrates the rurality of the region because, unlike in the city, there is currently no light pollution in Bonne Bay. Other opponents argue that flaring will adversely alter the impression that tourists have on the character of the west coast, possibly posing, simultaneously, a visual degradation of landscape and negative economic impacts on the regional tourism industry (Jason). One opponent cited a recent report by Memorial University Chemist Cora Young, among others, that demonstrates how fracking compromises air quality, causing "extreme" ozone pollution (2014). Although the study investigates fracking's air quality impacts in rural Utah and Wyoming where fracking is common, the authors state that similar air polluting phenomena could occur in Canada, especially on the west and east coasts where the mountainous geography parallels that of Utah and Wyoming (Edwards et al., 2014).

Socio-cultural Approaches to Risk and Vulnerability

Understandings of Risk

Although there are variations in how local residents approach risk, both fracking proponents and opponents use expert, technical knowledge to understand risks. One difference is that proponents trust the institutional processes in place (such as the government's external review panel) to identify the risks of fracking and ways to mitigate the risks, as demonstrated in Chapter Five. Opponents are less trusting of the review panel's abilities to identify and adequately address the array of risks. For example, at an October 2014 meeting of the Gros Morne Coastal Alliance, a local fracking opposition group in Bonne Bay, those at the meeting identified risks that the governmental panel overlooked in their Terms of Reference. The Terms of Reference is a trilogy of documents collectively called the *Newfoundland & Labrador Basis for Development of Guidance Related to Hydraulic Fracturing, Parts I, II, and III* (Precht & Dempster, 2014), and was prepared by Government of Newfoundland and Labrador's Internal Review of Hydraulic Fracturing for use by the Newfoundland and Labrador Hydraulic Fracturing Review Panel (External). Part One of the trilogy provides an overview of Newfoundland and Labrador's regulatory framework regarding fracking, while Part Two surveys how other Canadian jurisdictions are regulating fracking (Precht & Dempster, 2014). Part Three assesses Newfoundland and Labrador's current legislative and regulatory frameworks, supplementing these with draft guidelines for how to safely conduct fracking in the province (Precht & Dempster, 2014). Gros Morne Coastal Alliance members identified gaps in the Terms of Reference regarding social impacts of

fracking, public heath, tourism and the current economic situation, fishing, and climate change (Field Notes, October 2014).

A second difference between proponents' and opponents' socio-cultural approaches to risks lies in the manifestation of these concerns. One local opponent expands on this idea:

> The comment that you'll hear is, "well if it's good for jobs, if it'll bring some families back, you know then I'd like to see it go ahead. But only if it's safe and if it's well regulated, and if it doesn't have an impact on our water." So people have all these caveats, these, you know, these conditions. So some people will say, "no, because of all these things." Other people will say, "yes, if these things are taken care of." So the concern underlies both. I think that each group manifests it differently. One is maybe a more pessimistic, don't trust 'em. The other one is well if we could trust 'em, we'd like to see it go ahead. (Marilyn)

As I outlined in Chapter Five, people holding pro-fracking opinions place trust in the Newfoundland and Labrador government and the external review panel to identify and thoroughly examine the risks of fracking, and then devise regulations to diminish the risks: "you have to trust government in the end. And, you know, I hope the right decisions are made for the right reason, through the moratorium and the review" (Glen). Those who oppose fracking, on the other hand, express mistrust regarding the government and its internal and external fracking review panels: prior to the appointment of the five-panel external review committee, the internal governmental panel which devised the trilogy of documents (the Terms of Reference), including draft legislative and

regulatory frameworks for fracking in Newfoundland and Labrador, was criticized at the Gros Morne Coastal Alliance meeting as seeming to answer questions of *how* to conduct fracking in the province as opposed to *should* fracking be developed in the province (Field Notes, October 2014). Feelings of mistrust for regulations being capable of managing all potential risks related to fracking surfaced in interviews as well:

> Even though there may be regulations and safety standards, if a mistake is made – and there's always human error – it could be irreversible here. Or it could be they find something out down the road, that what they were doing was very detrimental. I mean, years from now, that'll have an impact. (Tanya)

Proponents view social and environmental risks as manageable through robust regulations, whereas opponents assume a more tentative position that understands the potential risks as reason enough to take a "go-slow" approach to fracking development, or reject fracking altogether.

Community Vulnerability as Environmental Injustice

Using coal-mining disasters and toxic contamination in Nova Scotia as case studies, Ali (2009) illustrates how environmental injustices are imbedded within the Canadian political economic structure. Examining the broader structural aspects of environmental inequity enables the understanding of community vulnerability as an environmental justice issue, as it helps to explain why resource development projects such as fracking are sited in specific (rural) locations and not others (Ali, 2009). Conceiving of community vulnerability as an EJ issue helps expand the definition of

environmental inequities to include "the social and economic vulnerabilities tied to a community's dependence on natural resource extraction" (Ali, 2009, p. 106). The Canadian Centre of Academies report states that the "distribution of risks and benefits is more important than the balance of risks and benefits" (CCA, 2014a, p. 11). If community vulnerability is understood as an environmental justice issue, then when discussing proposed fracking development from an environmental justice perspective, equitable distribution of community vulnerabilities must be considered as well. Within the Canadian context, rural communities are often characterized by high unemployment and deteriorating services (schools, hospitals) and transportation infrastructure (Ali, 2009). In particular, rural communities in Newfoundland have been disadvantaged by state policies that encourage the shifting of responsibility from federal and provincial to community levels (Overton, 2007). This results in a disproportionate amount of strain on local communities, who generally have fewer resources and less capital than larger urban hubs (Overton, 2007). Given the historical origins of the country's development, these communities also face greater exposure to risks and vulnerabilities.

Exaggeration of Estimated Jobs

Fracking proponents argue that the industry will generate a large number of local and secure jobs. Opponents, however, contend that benefits for local communities in the form of jobs and revenue from taxes are overstated by the petroleum companies. One participant said this exaggeration of benefits happened at the November 2012 Cow Head consultation "very thoroughly" (Stephen). Based on readings about other jurisdictions where fracking has occurred, localized benefits fail to appear:

> what invariably happens is the grants don't appear, the jobs don't appear because they need, in most cases they need qualified labour so they bring that in from other places where fracking has been going on, where people are already trained. People come in, they work for a year, two years, maybe three years and then they move on to another site. The well, or the wells that are started, run almost automatically. You have a couple of people who check them out, and maybe a few watchmen positioned. (Stephen)

Another respondent elaborates on their experiences with fracking in Pennsylvania, where fracking was occurring in rural areas with high rates of unemployment:

> The people, like I said, that own their property own their mineral rights, so they sold them to the oil companies. And they thought their children would come back, or the people who were there who were scrambling for work would get work, but the companies brought in their own skilled workers. And, you know, they hired flagmen and stuff like that, and paid 'em really high wages. Some people quit their jobs to make the higher wages, but within six months they were done with the drilling and they pulled out. (Tanya)

The majority of the work completed on the fracking site, also, was done by one of the petroleum company's skilled, previously trained work crew (Tanya).

A Bonne Bay resident reflects on what unfolded following a private meeting between Black Spruce Exploration (BSE) and some west coast mayors. After the meeting, in the town hall at Parson's Pond, a mayor reported to the Economic

Development Board that "we need fracking" (Chris). Black Spruce Exploration "told 'em everything is gonna be sunshine, lollipops, and rainbows" (Chris). The participant claimed that BSE was inflating the number of jobs to be created, as well as who could earn the jobs. BSE said that "*your* son could work on this rig," a message that Chris, a community resident and local politician, doubted. He continues:

> there is about 0.002 percent chance that any of their kids could work on that rig because they take their own crew down. They're highly specialized for fracking. There's not a chance that someone's gonna walk off and get that job. Actually, that's a bit of a lie because there's one guy in the Northern Peninsula that does high risk drilling. There's only one person. So, and he works in Alberta or whatever. So this is what they kinda went in sellin' to 'em, right? (Chris)

A local politician spoke up at the town hall, saying that a reality check is needed: "if they're telling you what you say they're telling ya, b'ys they are not even remotely close to just giving you a bit of the realistic expectations… They're pullin' the wool over your eyes" (Chris). Further, any jobs that are created in the service or catering industries, for example, are perceived by many local residents to be short-term, claiming that neither the industry nor government (which works to promote the oil and gas industry in the province) (Kean, 2014d, p. 5) engage in long-term thinking or long-term planning (Jason). Jason continues by challenging the idea of benefits being incurred primarily at the local level, arguing that because of the companies' ties to urban centres outside of the province, benefits stand to not be concentrated in Bonne Bay:

> There are certainly potentially economic benefits to communities. I mean, I guess it depends on what you consider a benefit. Certainly society requires petroleum resources in our current economy and as long as we have the current economy we have, yes, there are absolutely benefits that could come about from it. And there are certainly individuals who would benefit in an economic sense locally and further afield…There will be some local people employed on it in the short- and maybe long-term. But, you know, the corporations that're running the projects are not locally based even though they often try and portray themselves as having local connections, which they do have to some extent, but they're generally based in Toronto or further afield. And so, as with a lot of these large-scale developments, they require a lot of capital investment. A lot of the profits are, you know, just because of the nature of large-scale economics involved, are gonna go elsewhere too, right? So it's not just a local economic benefit, you know, that goes without saying.

This perceived overestimation of locally created jobs demonstrates a lack of trust of the hydrocarbon companies by local opponents. It also highlights the community's vulnerability: the community's desire for economic subsistence exposes residents to the risks of industries that show interest in developing in Bonne Bay. The companies proposing fracking could be seen as preying on the community's vulnerability when exaggerating the number of jobs to be created, as residents may accept risks that they're not entirely comfortable with in return for tangible local benefits and jobs. For example, David Murrell, an economics professor at the University of New Brunswick, says that

"government should not pick and choose their industries" and political decisions such as implementing a moratorium might deter future industry interest and investment (Bissett, 2014, p. 1). Accepting any and all industrial development because it is the only option for economic stimulation is abusing the community's vulnerability because it undermines the autonomy of Bonne Bay residents in deciding what their communities look like, and how local places are utilized and defined.

What About Climate Change?

As outlined in the previous chapter, climate change is a global issue that makes every single person susceptible to it impacts and vulnerabilities, to varying degrees. One opponent drew connections between fracking and climate change, stating, "I would affiliate fracking with climate change in as much as it's just like any other petroleum extraction industry… It's…a symptom of our demand for oil … It's a symptom of just this petroleum-based economy that we have" (Jason). Unlike fracking project proponents who did not view fracking as contributing to the myriad vulnerabilities and risks created by climate change, the one fracking opponent who relates fracking development to climate change argues that fracking's contribution to climate change is neither environmentally benign nor unique. Drawing on my textual data, in the *Western Star*, associate professor of historical studies at Memorial University (Grenfell), Dr. Edwin Bezzina links fracking to the IPCC report, stating "fracking undermines any effort to stop climate change" and "is not in our long-term best interests" (Bezzina, 2015, p. 4). Dr. Ian Simpson, a Corner Brook-based family physician writes, also in the *Western Star*, about his concerns regarding potential implications of fracking development in the context of

climate change, arguing scientific consensus on the reality of climate change is being denied by politicians and big industry (Gale, 2014a). Simpson references a letter submitted by a group of Canadian doctors to the *Canadian Medical Journal* calling for divestment from fossil fuels, stating climate change is resulting in the migration of diseases to the north (Gale, 2014a). The physician expresses concerns "with the way people are hurting their environment, which in turn raises concerns about the way our health is being changed" (Gale, 2014a, p. 1). In a letter to the editor, Bezzina (2014) references Dr. Anthony Ingraffea, a Cornell engineering professor and industry insider who developed fracking technology but now speaks out about how its use hinders our abilities to combat global climate change.

Knowledge

Expert Forms of Knowledge

In this section I explore how fracking opponents view and value expert forms of knowledge. As I outlined in the previous chapter, fracking proponents appeal to a linear model of scientific expertise, where it is believed that more science will lead to more certainty and better policy (Beck, 2011). Similarly, many fracking opponents use, or call for the use of scientific knowledge to better understand the risks and rewards that accompany fracking practices. Scientific ways of knowing are considered by opponents to be an expert form of knowledge. Appointing a panel of experts to review fracking evidence signals to the public that the panelists hold expert knowledge and have the authority and political platform to speak on the issue of fracking. However, not all opponents accept this without question or critique. The Newfoundland and Labrador

fracking review panel has been criticized by opponents for lacking diversity in representation and objectivity.

Lacking Objectivity

The last seven of my interviews were conducted on my second field research trip to Bonne Bay, October 14th to 22nd, 2014. Derrick Dalley, Newfoundland and Labrador's Natural Resources Minister at the time announced the five review panelists on October 10th 2014. I'm noting these dates to say that I conducted half (seven) of my interviews prior to the public announcement of panelists, and the other half after the news was announced. Research participants who critique the review panelists in interviews state that the panel should ideally be "unbiased" (Jan) or "neutral" (Erin). One fracking opponent eloquently expresses their desire for transparency in the review process: "Well I'm a strong believer that sunlight is the best disinfectant. And so the more open and public a process they have, the better it will be for everybody" (Jason). He continues by saying people will

> be really scrutinizing the process to see that it's transparent…that it's not just an attempt to facilitate the industry, but it's actually an attempt to really scrutinize and regulate where necessary, and to protect, you know, the broader public interest, and the environment, and health, and things like that. (Jason)

And criticized the panel has been. In another letter to the editor published in *The Western Star*, one Port au Port resident problematizes the panel's objectivity, contending that there are "five members, three of whom are on record as supporting fracking" (Hackett,

2014a). Wade Locke, Newfoundland-based economist and review panelist states that it would be a tragedy not to seize the economic opportunity of fracking "simply because of an ill-informed appeal to emotion" (Kean, 2014c), indicating a seemingly supportive position. Maurice Dusseault, another panelist, has also been publicly criticized by Graham Oliver, spokesperson of the Port au Port/Bay St. George Fracking Awareness Group who thinks "there is an appearance of some conflict of interest there, since Dusseault has a patent on fracking" (CIPO, 2013; Gale, 2014b, p. 1). In *The Western Star*, public chairperson for NL-Fracking Awareness Network, Simon Jansen, asks: "how impartial can the review be when the Department of Natural Resources' website already contains draft guidelines for hydraulic fracturing?" (Fitzpatrick, 2014b, p. 1). As my data demonstrate, the objectivity of the expert scientific panel was drawn into question by many members of the public.

Lacking Diversity in Representation

The Newfoundland and Labrador government composed the fracking review panel of five white men considered technical experts in their respective scientific fields, including Civil and Resource Engineering, Electrical Engineering, Engineering Geology, Economics, and Biochemistry. This signifies the government values expert, scientific forms of knowledge. The all-male panel is comprised mainly of engineers, and marginalizes representation of First Nations and women (Ware, 2014b). In an interview, one panel critic who resides in Bonne Bay points out the lack of women on the review committee:

> I thought it was interesting there was no women on the panel…I kind of felt that they were all men who were like 45 and above. And so, I don't wanna use the term "old boys club" but…I feel that they're all very much from a similar demographic. (Amanda)

The majority of the panelists have engineering educational backgrounds, and Amanda's comment draws attention to engineering as a discipline that perpetuates disparity among genders, as well as the lack of gender parity in politics (Miller, 2003). In her study on the culture of masculinity in Alberta's oil industry, Miller (2003) found "values and beliefs specific to the dominant occupation of engineering which reinforce gender divisions," contributing to the systemic exclusion of women (p. 47). The Newfoundland and Labrador government's all-male panel, which has been referred to as a "manel" ("Congrats," 2015), over-represents men and dismisses (deliberately or not) the voices of women engineering professionals as not qualified enough to authoritatively speak or adjudicate on the subject of fracking in western Newfoundland.

Another way that the panel lacks diversity in representation is based on where the panelists reside; the panelists "live hundreds of miles from the location of the fracking activities," states New Democrat politician of the Humber East district, Martine Ware in *The Western Star* (2014b, p. 4). Local ecological knowledge (LEK), therefore, has no government-sanctioned place on the panel, suggesting the "[asymmetrical] power relations" associated with state-sponsored review panels (Parkins & Davidson, 2008, p. 193). An analysis of public participation in the environmental governance process in Alberta's forest sector reveals that representation and autonomy of advisory committee

membership are two factors contributing to the level of "success" in the public deliberation process (Parkins & Davidson, 2008). The authors suggest that, within the context of review panels,

> an ideal form of representation would thus include Aboriginal people, community boosters, social critics, environmental advocates, and a host of other interest representatives who can fuel debate and critical reflection. (Parkins & Davidson, 2008, p. 181)

In a letter to the editor in *The Western Star*, Martin Ware contends that the government has "chosen not to include on the panel those who might contribute down-to earth realism and compassion to a perspective that is likely to be hard and technical" (2014b, p. 4), critiquing both the lack of local representation and the tendency for experts to dismiss local forms of knowledge. This also demonstrates the pervasiveness of Plough and Krimsky's concept of "technical rationality" – the valuing of scientific empiricism – in the province's political discourse on fracking, and a lack of "cultural rationality," that is, valuing personal and community experiences (1987). In his letter to the editor, Ware elaborates:

> They will not have to breathe the polluted air of the fracking pads. They will not have their peace destroyed by many, many heavy diesel tankers rumbling through their communities and along their fragile road systems; they will not have to fear that if one of the tankers is involved in a serious accident, it may be carrying toxic chemicals. They will not have to feel apprehension every time they drink a glass of water. (2014b, p. 4)

Ware is problematizing the misdistribution of various potential risks fracking development poses (2014). The Port au Port/Bay St. George Fracking Awareness Group publicly criticizes the panel's composition as well, arguing it is too industry- and engineering-heavy, and lacks representatives from health, environment, tourism, and fisheries sectors ("Lots of interest," 2014). Ware is framing prospective fracking development in western Newfoundland as an issue of environmental injustice.

EJ and the Panel

In the Canadian environmental justice literature, recognitional injustice is inequitable access to political space and platforms to speak on an issue, and procedural injustice is unequal democratic participation (Agyeman, 2009). In the case of the fracking review panel in Newfoundland, the panel's composition represents recognitional and procedural injustices. Panelists are granted greater authority and voice than local residents in the process to review fracking evidence, which is an example of recognitional injustice and procedural injustice. It may be so that the panel permitted public participation, but in the end, the appointed technocrats have the final say on how they wish to advise the provincial government on fracking; in essence, they control the political space by deciding on the amount of attention, consideration, and credence to grant to each item submitted to the panel, from songs to media reports to scholarly journal articles. Due to the nature of the province's institutionalized political structure, the power lies with the five men.

Environmental justice literature frames expert scientific panels as "part of a system of oppression" (Agyeman, 2005, p. 22). This can create a "knowledge battle"

(Slovic, 1999) over who is considered qualified to review fracking-related documents and literature. The five panelists appointed by former Minister Dalley in October 2014 were chosen as the qualified five without public input (Government of Newfoundland and Labrador, 2013b). Dalley deems these panelists "the right people…[with] the right approach to the issue" (Kean, 2014b). The panel's composition, and the emphasis on how the panelists are "experts" and "the right people for the job" of reviewing the "evidence" implies that technical rationality (Plough & Krimsky, 1987) is the optimal way of thinking about the fracking issue. This top-down approach to environmental governance, however, has disgruntled fracking opponents, leading them to "challenge the authority of scientific experts to adequately express community concerns" (Agyeman, 2005, p. 22). According to NDP politician Martin Ware, in his letter to the editor published in *The Western Star*, "general opinion of the fracking review panel which is taking shape is that it is neither impartial nor credible" (Ware, 2014c, p. 4). The discrediting and public mistrust of the panel by opponents mars the panel's legitimacy, which Mascarenhas and Scarce (2004) identify as the defining component of a successful public planning process. Based on my content analysis of textual data, struggles are prominent in the media over the role of the review panel. Dennis Bruce, Corner Brook economist and vocal fracking advocate, publicly advised Natural Resources Minister at the time Derrick Dalley to assure industry in the Terms of Reference trilogy that the government will act on the decision of the panel within a stated timeframe (Bruce, 2014). Conversely, vocal anti-fracking advocate, NDP politician Martin Ware argues that the review panel should act only as an advisory board, and for the government to blindly follow their decision would be an "abdication of democracy" (Ware, 2014a, p. 4). He suggests the final decision rests

with the government, and that the panel is strictly advisory, not policy-making (Ware, 2014a).

Expert panelists as appointed authority on the issue of fracking also clashes with the environmental justice tenet of people speaking for themselves (Haluza-Delay et al., 2009). In their analysis of a forest land management dispute in British Columbia, Mascarenhas and Scarce (2004) found that one of the reasons the public feels disgruntled in a public environmental planning process is because of "the control over them that was built into the process" by government mandate and influence that forced the public to "abide by a structure that withheld certain topics from the planning process" (pp. 29-30). The Newfoundland and Labrador government's internal review panel on fracking created a trilogy of reports called the *Newfoundland & Labrador Basis for Development of Guidance Related to Hydraulic Fracturing, Parts I, II, and III*, which is also referred to as the Terms of Reference (Precht & Dempster, 2014). As outlined earlier in this chapter, the trilogy provides an overview of oil development regulations in the province, a summary of how other Canadian jurisdictions regulate fracking, and draft legislative and regulatory guidelines for how Newfoundland and Labrador could conduct fracking if the provincial government decides to go ahead with it (Precht & Dempster, 2014). The Newfoundland and Labrador government's Terms of Reference could be interpreted as "shortcomings in the planning structure" (Mascarenhas & Scarce, 2004, p. 30), as the terms were set by the internal government review panel on fracking without public participation or consent (Graham, 2015). The terms omitted controversial topics, such as fracking's potential impacts on climate change, imposing a restrictive planning process

structure (Field Notes, October 2014; Graham, 2015; NLHFRP, 2015; Precht & Dempster, 2014).

However, these limitations could be seen to be addressed, to some degree, by the public written submissions and consultation processes. As part of the review process, the panel allowed for public input from April-June 2015 in the form of written and creative (e.g. songs, drawings) submissions on the topics outlined in the government's Terms of Reference (NLHFRP, 2015). At that time, people were also allowed to request public consultations sessions with the panel (Fitzpatrick, 2015a) which were held in Rocky Harbour (Bonne Bay), Corner Brook, Port au Port East, and Stephenville (all in western Newfoundland) in October 2015 (COC, 2015). Paula Graham, member of the East Coast Fracking Awareness Group, an anti-fracking group that organized to perform supportive roles for the network of fracking awareness groups on Newfoundland's west coast, argues that written submissions via an online form can be restrictive to people who may be illiterate or without internet access (2015). Initially artistic and creative submissions were not considered an appropriate input format, but the definition of acceptable submission formats was eventually expanded after public criticism (Graham, 2015).

Local Forms of Knowledge

In this section I explore how fracking opponents view and value local forms of knowledge. Opponents characterize local forms of knowledge as both scientific and local ecological knowledge (LEK). Both fracking proponents and opponents make truth-claims about fracking based on appeals to scientific knowledge, and the authority that this body of knowledge holds in western societies. Opponents such as The NL Fracking Awareness

Network, Port au Port/Bay St. George Fracking Awareness Group, and Save West Coast NL call on the independent panel to make recommendations based on a comprehensive public, scientific review of the impacts of unconventional energy, that includes an assessment of environmental, social, and health impacts (NL-FAN, n.d.). Fracking opponents have also called for a scientific approach to assessing perceived risks and potential rewards, saying that scientific claims discrediting fracking exist. As an example of such research, in a *Western Star* opinion piece responding to BSE David Murray's call for scientific facts on the issue, Mike Hackett cites a report out of New York by cardiologist Baron Schoenfeld, *Health Risks Demand Fracking Moratorium*, saying that "the facts are out there" (2014b, p. 4). Hackett continues: the report "does not support fracking. Why won't Black Spruce Exploration accept these scientific facts and discontinue the misinformation and promises of best practices and stringent regulations?" (Hackett, 2014b, p. 4), arguing that "we need real science" (Hackett, 2014a, p. 5). This creates a situation where both fracking supporters and adversaries call on science to justify their respective perspectives on fracking. Proponents argue that those opposed are trying to shut down fracking regardless of the "truth" or science that provides evidence for it as a safe practice. Conversely, opponents argue that those in favour of fracking are attempting to use science to justify why fracking development should happen, and ignoring scientific evidence that fracking is risky business. Opponents expending local ecological knowledge or expressing concerns or mistrust about the review panel (critiquing its lack of representation, objectivity, etc.) are expressing what Jasanoff terms "civic epistemology," which, in seeking to understand how knowledge is viewed and valued in public political arenas, questions the taken for granted nature of scientific

authority (2005, p. 250). Civic epistemology represents "culturally specific, historically and politically grounded, public knowledge-ways" (Jasanoff, 2005, p. 249). Instead of engaging with a binary or "linear model of expertise" (Beck, 2011) where the public either understands or misunderstands – or "passively takes up [or] fearfully rejects all scientific advances" – Jasanoff (2005, p. 255), casts off a one-dimensional view of human intelligence. She urges consideration of civic epistemology as a "conceptual tool for planting the politics of science and technology firmly in the social world," contending that "the greatest weakness of the 'public understanding of science' model is that it forces us to analyze knowledgeable publics in relation to their uptake of science and technology rather than science and technology in relation to their embeddedness in culture and society" (Jasanoff, 2005, p. 271).

My interview data demonstrate that local ecological, place-based knowledge is important to opponents of fracking in Bonne Bay. Localized knowledge is an example of a relationship to place (Boyd & Paveglio, 2015). One research participant is a local resident who is working on an academic project exploring the impacts of oil and gas development (specifically seismic activity) on biological diversity in western Newfoundland (Melissa). They stress the importance of knowing where feeding areas are for marine mammals in Bonne Bay, and express concern for the potential impacts of seismic surveying on these populations (Melissa). In an interview, the local resident references a report stating "seismic survey always occurs at the same time as fisheries, because that's when the water's the calmest" (Melissa). They argue that despite this

making sense from a safety perspective, it represents a misguided approach to local ecological understandings of Bonne Bay:

> There's so much data and papers, and research, and all this stuff, proving that these air guns that shoot off to get your survey of where the oil is causes so much damage to the migratory mammals, to the fish…And I'm like, well, if you're sending out air guns, where's the fish? They're not gonna stick around. (Melissa)

The participant values the biodiversity of the Bonne Bay marine areas, and challenges the techo-rational approach to seismic surveying because of its lack of consideration of localized impacts, such as impacts on marine species.

As I have demonstrated, fracking opponents have heavily criticized the province's review panel. As a "creative exercise of imagination" some organizations have attempted to move beyond criticizing the panel's membership to instead creating their own alternative approaches (Allderdice, 2015, p. 1). The first example of trying to fill knowledge gaps and missing perspectives is the public fracking forum that was held at Memorial University's Grenfell campus in Corner Brook on February 1 2015 (Diamond, 2015). Hosted by the Social Justice Co-operative of Newfoundland and Labrador and Save Our Seas and Shores, the goal of the forum was to draw connections between proposed fracking development in western Newfoundland and broader regional concerns about oil development in the Gulf of St. Lawrence, such as the Old Harry project between the Magdalene Islands and western Newfoundland (Diamond, 2015). The three panelists included Michael Bradfield, economist and appointed panelist of the Nova Scotia fracking review panel, Irene Novazcek, marine ecology expert and professor of island

studies at the University of PEI, and Chief Mi'sel Joe of the Conne River Mi'kmaq Tribal Nation as a representative of indigenous knowledge and culture (Diamond, 2015). Jon Parsons, forum co-organizer and member of the Social Justice Co-operative's Board of Directors states in the media that the forum was organized to provide a platform for discussing topics that countered the industry's talking points, "offering perspectives on human health, environmental regulations, indigenous sovereignty, economics, legal frameworks and social acceptability" ("Public forum," 2015, p. 3).

The second example of people moving beyond criticism is the Research Exchange Group (REG), organized through Memorial University, whose objectives include "investigating, collating and making available to the general public, information on the health impacts of hydraulic fracturing" (Allderdice, 2015, p. 1). The REG, a group of "university researchers, health professionals, decision makers, citizens and community group representatives," has a public web page that provides scholarly and non-academic reports on the health effects of fracking. There is also an option for REG members to add new material to the online database. The Research Exchange Group on the Health Impacts of Fracking intends to inform the government's independent review panel of their position in the upcoming months (REG, 2015). These alternative review panels suggest that fracking opponents on the west coast view the government's expert panel as representing a narrow range of knowledge forms. Alternative fora create an "opportunity for a counter-hegemonic voice to be represented," offering alternative visions of the province's review process (Hudgins & Poole, 2014, p. 311). The REG illustrates the value of integrating scientific and local knowledge.

Newfoundland and Labrador's Natural Resources Minister at the time, Derrick Dalley repeatedly stated that the health of Newfoundland and Labrador residents and the health of the environment are of utmost importance (NLNDP, 2015), yet those well-versed in public health are absent from the panel's composition. One research participant thought that Dr. Ian Simpson, a public fracking adversary, and member of the NL College of Physicians (and subsequently NL-FAN), should be a member of NL's fracking review panel (Erin). A similar situation has unfolded in the United States, where governmental advisory boards are created to review the evidence on fracking and make recommendations (Hudgins & Poole, 2014). Governors from Pennsylvania and Maryland, as well as President Obama have stated that, in regards to fracking, health is a major concern (Hudgins & Poole, 2014). However, as in the case of Newfoundland and Labrador's independent expert review panel, "no experts of public health sit on any of the shale drilling commissions" (Hudgins & Poole, 2014, p. 310) Concerns are expressed by those in charge (government) about health impacts, yet their actions do not coincide with their publicly-voiced concerns (NLNDP, 2015). Only on July 9 2015, after public pressure, were actions taken to reconcile this disconnect, when the review panel announced that public health is now included as a topic required for the panel's consideration (NLHFRP, 2015).

Fracking proponents posit that there's an external tangible truth to be discovered by pairing scientific and technical methods and rational thinking. Opponents, however, suggest that there's a pervasive "confirmation bias" that characterizes Newfoundland's fracking discourse for those holding both supportive and oppositional positions on

fracking. Initial opinions about fracking led people to seek out certain information that confirms their pre-existing beliefs, which is known as confirmation bias (Allahverdyan & Galstyan, 2014; Stephen; Joy; Tanya; Melissa; Chris). As one research participant puts it, "when you read something or when you hear something, you tend to believe the parts that agree with your preconceived ideas…you see what you expect to see. You hear what you expect to hear" (Stephen).

Conclusion

In this chapter I analyze processes contributing to oppositional positions on fracking development in Bonne Bay. Opponents understand place and rurality as spaces of leisure and/or tourism that ought to be preserved and protected based on their inherent value. Rurality is understood as idyllic and restorative where industrial development has no place. Opponents demonstrate a discourse of protection by calling on the provincial government to enact a buffer zone around Gros Morne National Park. Those against development in the Bonne Bay region share concerns about fracking's potentially negative impacts on tourism, the fishery, and ground and surface water reservoirs. Apprehensions are expressed about fracking diminishing the coastline's unique "sense of the rural." As well, some opponents link the local issue to global climate change, arguing fracking, as a type of oil and gas development, will contribute to climate change impacts. Others still worry about how potential fracking development could hinder their place-based experiences of hunting, fishing, hiking, and star-gazing. Perceptions of risk held by local fracking opponents are more qualitatively rich and varied than expert perceptions of risk, which are more technical in nature. Opponents express a mistrust of fracking

proponents and industry, arguing they overstate the degree to which local residents, communities, and economies will benefit from development. Fracking opponents value expert (scientific, technical) and local ecological knowledge forms, and heavily criticize the state-sanctioned review panel for lacking objectivity, diversity in representation, and omitting topics they identify as largely important, such as community consent and climate change considerations.

In the next chapter I examine communication and mobilization strategies fracking proponents and opponents use, or do not use, in the context of proposed development along Newfoundland's western coastline. I outline commonalities and differences in each group's repertoire of (in-)action and talks, and provide an analytical argument for the different approaches to the issue. I also discuss how the different social groups engage with traditional and non-traditional (i.e. social media) media outlets.

Chapter Seven: Communication and Mobilization Strategies

In the previous two chapters I illustrate how the different ways of understanding rural place and community work to construct supportive or oppositional positions on fracking. Here I explore community networking, communication, and mobilization strategies that proponents and opponents use in response to proposed fracking development in Bonne Bay, western Newfoundland. I use environmental justice theory to consider the socio-cultural power of oppositional and supportive stances on fracking. One of my three research question asks: In what ways, if at all, are people acting in support of, and in resistance to, fracking in Newfoundland? In this chapter I answer this question, based on data generated from qualitative semi-structured interviews, field observation and content analysis of texts. In this chapter I also peripherally address one of my other research questions, which is: What tensions exist among community members in this region around the issue of fracking, and how are these potential tensions expressed? I outline the communication strategies fracking supporters and adversaries use to discuss, inform, and plan events related to fracking. I then examine mobilization strategies, repertoires of tactics, and engagement with traditional and non-traditional forms of media by proponents and opponents, respectively.

In their book on environmental justice in Canada, Haluza-Delay et al. (2009) explore the multi-faceted theory of environmental justice as a "conversation for community understanding, advocacy, and mobilization" in the social and political spheres (p. 3). Social movements studies have been criticized for being too narrowly-focused, concentrating primarily on when social movements occur, despite actual mobilizations

being relatively rare events (McAdam & Boudet, 2012). Instead, McAdam and Boudet (2012) suggest broadening the scope of the social movements paradigm, emphasizing the tactics of resistance, attempts at mobilization, and "factors and dynamic processes" that exist within contentious politics, regardless of whether a single social movement occurs (p. 206). This brings an interesting focus to the localized practices of Bonne Bay fracking proponents and opponents, and provides a lens through which to view the repertoire of tactics used, or not used, by local proponents and opponents involved in the fracking debate. Engaging with environmental justice theory, in this chapter I consider the social and cultural power of supportive and oppositional positions on fracking.

Based on interview and textual data, proponents and opponents vary in their communication strategies most noticeably in that fracking supporters do not use public Facebook groups as a platform for communication. Fracking supporters believe traditional media overstate the anti-fracking message to sell newspapers. Proponents and opponents share information and get informed by talking to people in private or public settings. Opponents also build communication networks by engaging with social media outlets such as Facebook and Wordpress blogs. My data suggest fracking opponents tend to have a greater public presence than proponents, with some supporters expressing uneasiness with the idea of being publicly vocal. Those in favour or against fracking development can agree that staying informed is time-consuming; opponents suggest their involvement in the issue has impacted some of their personal relationships, in both negative and positive ways. Opponents use communication and mobilization strategies to

call for a precautionary approach to fracking where industry and proponents must obtain community consent.

Communication strategies

In this section I will briefly examine the role of local news media in representing the fracking debate in western Newfoundland. I will then outline the various communication strategies used by fracking supporters and their adversaries, such as sharing information publicly via Facebook, a social media website, and/or communicating via email and listservs.

Media

Local news media outlet *The Western Star* makes covering the fracking issue a priority, as it was in the top eight most prominent topics in 2014 based on readers' most read stories online. A lot of discussion in *The Western Star* takes an Atlantic Canada-focus by reporting on various ways neighbouring provinces such as Nova Scotia and New Brunswick negotiate the prospect of fracking. In particular, there are numerous references to the New Brunswick shale gas protests between Elsipogtog First Nations, Canadian allies, and SWN Resources (Howe, 2015), and Nova Scotia's final report submitted by the province's independent review panel recommending a ban on fracking (known as the Wheeler Report) (CBC, 2014b). Traditional media outlets, such as Corner Brook's *The Western Star* newspaper, are a contested domain, as both fracking proponents and opponents use traditional media as a venue to amplify their disparate messages. When people with different opinions engage with the same media outlets, this results in

struggles for a platform to broadcast their normative ideas. As is the case in western Newfoundland, media become a contested domain..

Proponents

Here I expand on the communication strategies used by fracking proponents in western Newfoundland. Fracking proponents include industry, the Greater Corner Brook Board of Trade and the Corner Brook Port Corporation. Derrick Dalley, who was the province's Natural Resources Minister until November 2015, can also be considered a proponent, as he states that the government's role is to facilitate connections between the public and the oil and gas industry (Kean, 2014d, p. 5). Fracking supporters take advantage of traditional media sources, such as local news outlet, *The Western Star*, using it to:

> inform and provide, and basically to demonstrate when the anti-fracking voice gets on with their propaganda to be able to put the counter side to that, or at least to show people how silly this is, right? And so I do that through social media or through writing a letter to the editor. (Alan)

They argue traditional media over-represents the anti-fracking argument, and accommodates those with oppositional positions to generate business for their newspaper:

> Most of the media coverage gives far too much attention to the anti-fracking groups… The media does play the issue to me; it plays the one side of the issue, I would argue…The media, say when it announced about this review panel last week: The media goes immediately to the anti-fracking groups and gets their

> opinion on it. They don't go to anyone that might be, you know, open minded, if I could put it that way, or even could be accused to be somewhat supportive of fracking. They go to the one side and they portray the issue that way. And I take it that's because they want to create controversy to sell newspapers and things like that. (Alan)

Alan provides another example to illustrate his view on media biases:

> The media's job is to sell newspapers and keep people interested in what's going on. And they're actually very much giving a lot of press, if you will, to the anti voice. And very little to the, I won't say the pro voice, but at least those that're interested in seeing a legitimate review of the facts…As an example *The Western Star* has been hesitant to, I shouldn't say hesitant, they haven't been highly responsive in posting letters that the Corner Brook Board of Trade have written about the issue. I mean I think that maybe ultimately they have, but it's not something that gets in there quickly.

Proponents communicate using non-traditional, Web 2.0 applications such as Twitter. However, public Facebook groups voicing support for fracking development in Newfoundland do not exist.

Black Spruce Exploration and Shoal Point Energy, the oil and gas companies proposing fracking at the edges of Bonne Bay, employ what Willow and Wylie (2014) call a "divide and conquer" tactic. This is when the companies cultivate a dynamic designed to divide communities by pitting people "of various social categories, vocations,

socioeconomics statuses, etc." against one another (Willow & Wylie, 2014, p. 227). Some respondents reference the use of this tactic in the Sally's Cove case study:

> When the C-NLOPB held the Strategic Environmental Assessment meetings there was a pretty good turnout here in Rocky Harbour. It might have been, it was like 60 or something people which is really good. You know, and of course it was the kind of public meeting which was basically posters on the wall, right? Sort of, divide, diffuse, deflect…confuse. (Marilyn)

Another example raised in participant interviews was when industry hosted a private meeting on the west coast for mayors and business community members only (Chris). The people in attendance at this meeting, designed to "[create] new divisions between community residents" (Willow & Wylie, 2014, p. 227), were told that they would benefit from fracking in the area – or as one research participant describes the meeting: "a lot of blowin' smoke" (Chris). This seeks to "[reshape] the social fabric" by dividing Bonne Bay community residents into "have" and "have nots" (Willow & Wylie, 2014, p. 227).

A communication strategy used by fracking proponents is to host, participate, or present at public or private, invitation-only meetings. These meetings are used to discuss fracking in Newfoundland. One private event that I was informed about from an interview participant is the Oil and Gas Lunch and Learn Session on Fracking and the Economy meeting held in Corner Brook in fall 2014. There was also a public International Oil and Gas Symposium held in Corner Brook in September 2014 where the potential for fracking in Newfoundland was discussed (Kean, 2014c, p. 1, 5). Agrawal

and Gibson (1999) stress the importance of intercommunity networking for sharing resources among communities. Public and private meetings such as the Lunch and Learn and International Oil and Gas Symposium are used as platforms for people to share ideas, mobilize resources, form alliances, and enrol members to participate in fracking discussions.

Opponents

Fracking was a frequent topic of conversation, especially in summer 2013, and would often be discussed "anywhere from the coffee shop to a hockey game or sittin' on the dock" (Chris). Numerous organizations along Newfoundland's west coast have created networks of ideas, resources, voices, and strategies of resistance. This network building is facilitated by a suite of communication strategies, including organizing private meetings. The largest, umbrella organization along the coast is the Newfoundland and Labrador Fracking Awareness Network (NL-FAN), which comprises over 20 groups from a diversity of sectors. Some of the organizations in NL-FAN are a Cultural Awareness Mi'kmaq Group, the Public Services Alliance of Canada (PSAC), the College of Family Physicians, and the Salmonid Foundation, (NL-FAN, n.d.). NL-FAN is a province-wide organization that asks questions not directly about the potential for fracking at Sally's Cove, but instead questions whether fracking is "something that's good, that's healthy, that has benefits for the province and even for the region…taking into account the Gulf of St. Lawrence" (Marilyn). In the Bonne Bay area there is the Gros Morne Coastal Alliance, which shares conversations, and sometimes overlapping memberships with many other groups about fracking, including Canada Parks and

Wilderness Society (CPAWS), the Gros Morne Co-operating Association, the St. Lawrence Coalition, and the Save West Coast NL organization. The Gros Morne Coastal Alliance also works with the Port au Port/Bay St. George Fracking Awareness Group, based out of the Port au Port Peninsula. As is the case among fracking supporters, opponents engage in intercommunity networking (Agrawal & Gibson, 1999) along Newfoundland's west coast for similar reasons of sharing resources, and developing communication and mobilization strategies. Cross-provincial networking (connecting west and east coasts) exists in the province too. St. John's based-group, the East Coast Fracking Awareness Group, works in solidarity with the west coast anti-fracking groups by initiating fracking-related conversations on the east coast of the province. These organizations, particularly the groups based out of the western Newfoundland, form a grassroots west coast activism coalition. Other organizations such as Save Our Seas and Shores and the Social Justice Co-operative of Newfoundland and Labrador work to link fracking to broader regional concerns regarding oil development in the Gulf of St. Lawrence. This networking is facilitated by strong and varied communication strategies, which I will now outline.

Prominent communication strategies employed by fracking opponents include: attending public meetings as an observer; discussing fracking with people face-to-face and using Web 2.0. Social networking websites and applications that people engage with to discuss fracking and share information are Facebook, Twitter, Hootsuite, Skype, and internet blogs. A local campaign called Save Gros Morne and Our West Coast created a Facebook page to disseminate information about fracking. Many fracking opponents

(individuals and groups) use emails and listservs to discuss ideas related to fracking, share resources, and plan meetings and events. Public groups have been made on Facebook, a social media website, by the Port au Port/Bay St. George Fracking Awareness Group and Save Gros Morne & our West Coast supporters as a platform for communication. The East Coast Fracking Awareness Group also has a public group on Facebook. Save West Coast NL has created a blog (Save WC, n.d.) to post information and accept feedback via comment submissions, and NL-FAN created a website as well (NL-FAN, n.d.). Members of the Gros Morne Coastal Alliance also use Skype as a way to communicate with organizations in other Canadian provinces; the Gros Morne Coastal Alliance communicates with Canada Parks and Wilderness Society based in Ottawa, for example (Marilyn). These communicative links are made to share ideas, resources, stories, strategies, and to plan public and private meetings. Fracking adversaries also use various communication strategies to discuss how they will frame their opposition to the development. I will now turn to a few examples of how fracking opponents frame the issue using the precautionary principle, social license, and by linking local fracking projects to broader social movements.

Precautionary Principle

The precautionary principle is a deliberative tool used by fracking opponents to frame the issue of fracking in western Newfoundland. The precautionary principle is an idea prominent in environmental justice research that dictates that a company proposing industrial work must prove "in advance of the risk" that their proposed activity is not exceedingly harmful to human or environmental health (Agyeman, 2005, p. 21). The NL

Fracking Awareness Network, Port au Port/Bay St. George Fracking Awareness Group, and Save West Coast NL, all sharing an anti-fracking stance, call on the independent panel to embrace the precautionary principle; that is, they want the government to make recommendations based on a comprehensive public, scientific review of the impacts of unconventional energy, that includes an assessment of environmental, social, and health impacts (NL-FAN, n.d.). Hospitality Newfoundland and Labrador (HNL) is the official voice of the province's tourism industry. HNL Chair Darlene Thomas publicly recommends the province proceed with caution on the issue of fracking:

> Those in support of the project say that the impacts on tourism will be minimal but this simply cannot be known at this stage of the proposed development, in the absence of comprehensive study of our unique circumstances. If this fracking project is indeed such a positive step forward for the region, allowing the time for a comprehensive analysis will provide evidence of this and give everyone involved an opportunity to fully understand what will happen if this project goes ahead. (HNL, 2015a, p. 1)

This echoes the "go-slow" approach to fracking recommended by the Canadian Council of Academies (CCA, 2014).

Social License

Derrick Dalley, Newfoundland and Labrador's Natural Resources Minister until November 2015, emphasizes that oil companies interested in fracking in western

Newfoundland must earn a social license from the potentially impacted communities (Kean, 2014d). Raymond Cusson, a resident of Shoal Brook, Newfoundland (near Gros Morne) argues candidly that "public consultation is not to be considered equal to social license. The two are not the same!" (Cusson, 2015, p. 1). Social license, also known as public acceptability (CCA, 2014) or free, prior informed consent (FPIC) (Voss & Greenspan, 2012), is a "form of approval…for the communities or, at the very least, a direct involvement in the decision making process" (Cusson, 2015, p. 1). It is the idea that "industry and governments are being asked to obtain some level of permission from communities" before moving forward on energy projects that could potentially effect local residents, their economies and/or environments (Cusson, 2015, p. 1). The Canadian Council of Academies emphasizes that social permission will not be procured "through industry claims of technological prowess or through government assurances that environmental effects are acceptable" but instead through developing relationships of trust with the community, and considering potential impacts "in the context of local concerns and values" (CCA, 2014a, p. xvi). Underlying the notion of this "social contract to be obtained and respected" is the capacity for communities to have the right to say no to a new energy project, and for that stance to be acknowledged, and fully accepted (Cusson, 2015, p. 1).

Links to Broader Social Movements

In an interview with the CBC West Coast Morning Show, Conor Curtis, on behalf of the group Divest MUN, articulated how the oil and gas companies must have social permission from the communities where they wish to develop fracking (Curtis, 2015).

The fossil fuel divestment movement is a global campaign calling for various institutions (such as universities, charities, and religious organizations) to withdraw investments in gas, oil, and coal companies for "moral and financial reasons" (Howard, 2015, p. 1). This movement, termed "the fastest-growing divestment campaign in history" (Howard, 2015, p. 1), has been particularly dynamic across university campuses in Canada and abroad, with students spear-heading the move towards investing in alternative energy sources, and thus, a fossil free future. The international movement is taking local roots in Newfoundland via the issue of fracking (Curtis, 2015). The Newfoundland-based campaign is called Divest MUN, which originates in western Newfoundland on MUN's Grenfell campus, and it is an example of how opponents are linking local fracking concerns with questions about broader oil and gas development.

Mobilization strategies

In this section I outline the various mobilization strategies used by fracking supporters and opponents. Based on my interview data and content analysis of numerous online and offline textual documents, I find that fracking opponents tend to have a greater public presence than proponents, with some proponents expressing unease with the notion of being too vocal in the public realm. Mobilization strategies for opponents include organizing private meetings and public community events to discuss the (then recent) announcement of the fracking review panelists.

Proponents

My data suggest that fracking proponents are not mobilizing in the public sphere. I draw on my participant interview data to exemplify this. First, as mentioned in the communication strategies section of this chapter, fracking proponents do not share their ideas in the public domain using public Facebook groups or designing text-based blogs or websites. Project proponents with whom I spoke express discomfort in making their opinions public. As one respondent states in an interview: "I'm basically pro-it…but you know, I'm not gonna stick my neck out 'cause I'd get all kinds of hate mail, I'm pretty sure [laughs]" (Glen). Aside from expressing uneasiness about the idea of making enemies in their local community, in an interview one resident also states that they have concerns about incurring property damage because of their opinions: "[A family member] tells me to leave it alone 'cause those guys [particularly vocal fracking opponents] will egg the house. [laughs] That's true! But that, it is really unfortunate" (Alan). The participant continues by saying:

> It's very difficult for an individual to get out and comment without getting beat up. That's their nature. They're, the anti-fracking groups are, again, they don't need to rely, they don't rely on factual information. They don't want factual information! They want to spout continual propaganda. (Alan)

He states that "the bottom line is, you know, you're gonna have an 'X' on your back if you do speak out" because of fracking opponents' use of "intimidation" tactics (Alan). Proponents' uneasiness about speaking out in favour of fracking (out of concern for garnering unwanted attention, hate mail, or property damage) may contribute to their lack of public presence on social media websites such as Facebook and blogs. The sentiment

expressing concern or unease about being vocal about supporting fracking locally is a sentiment that fracking opponents do not share.

Opponents

In this section I examine the mobilization of fracking opponents, with mobilization being a "facet of social movement mechanics" (Agyeman, 2005, p. 26). Emphasized in environmental justice research is the mobilization of people at the grassroots level (Lameman, 2014, p. 126), and this is happening in Bonne Bay among fracking opponents. Grassroots models of environmental organization differ from traditional environmental non-governmental organizations (ENGOs) organization (Vasey, 2014, p. 66). Many fracking opponents in Bonne Bay reflect traditional environmental organizing patterns in that they are white, upper- and middle-class people promoting conservationist principles (Vasey, 2014). However, some opponents transition into the environmental justice paradigm by integrating anti-capitalist principles. For example, in an interview, one opponent favours "accepting lower, slower development…potentially forego[ing] a big influx of cash and development in the short-term for longer term sustainability" (Jason). This questions capitalism's ideological mantra of perpetual economic growth.

Mobilization strategies for fracking opponents include organizing public events designed to keep people up to date on what's been unfolding with regard to the local fracking issue. During my second field research trip to Gros Morne, the Port au Port/Bay St. George Fracking Awareness Group hosted an event on October 16th 2014 in Stephenville, western Newfoundland. It consisted of a free public screening of a film

about fracking in Australia (titled Fractured Country: An Unconventional Invasion), a discussion about the film and the province's external review panel (panelists then recently announced) (Field Notes, October 2014; Save WC, n.d.). Although I was unable to attend that event, I was invited to sit in on a meeting of the Gros Morne Coastal Alliance on October 19th 2014. I attended the meeting, which had a similar focus as the Stephenville event, and that was to discuss the implications of the review panel announcement and develop a strategic plan of action for moving forward (Field Notes, October 2014).

As a mobilization strategy, the local campaign called Save Gros Morne and Our West Coast, along with creating a public Facebook group (which is an action taken for communicative purposes) also put up posters to create awareness and conversation around the fracking issue (see Figure 9). Tactics of resistance also include writing letters to the editor and engaging more traditional news sources, such as Corner Brook's *The Western Star*. Prominent messages portrayed by communication and mobilization means include calling for a ban on fracking in the province, a buffer zone around the park, notifying the UNESCO World Heritage Committee of the potential industrialization of the area adjacent to Gros Morne National Park, and, drawing on my participant interview data, calling for "a third-party, non-government, non-industry review…that looks not just at the geology and the regulations, but looks at the health impacts and the social impacts of this" (Marilyn). Fracking project opponents are also acting in resistance by creating a public Facebook group called the NL Fracking Review Submission Party, which is used to organize "a series of parties where we write/draw/create our submissions. We'll use

words (traditional letters), paint, crayons, videos, songs, theatre, etc. to express our views about fracking in NL" (Submission Party, 2015). The group, which sometimes collaborates with the Council of Canadians, also states that the "parties" can be attended by anyone, no matter their opinion on fracking. Local fracking groups recommend that people in the region get their water tested now so that if fracking were to happen and water may become contaminated, residents will "have a leg to stand on" (Chris). Chris elaborates on why he believes now is the time for residents to get their water tested:

> Getting the water properly tested by the properly regulated labs and stuff and having it so that, you know, if push came to shove, if something ever happened down the road, they could say "we have this: the water was tested over a four-year period and it was proven to have this level of this, this level of this, this level of this. Now that fracking's taking place a year later, this is what our water looks like." If there happens to be an issue, then they have something to base it on…It's just precautionary stuff, right, and I found some of that has happened. Yeah, people have taken water samples and sent them to get tested.

Some local residents have already gotten their water tested, demonstrating a proactive and precautious approach taken by Bonne Bay community members who oppose fracking in the region.

Figure 9. Save Gros Morne poster at start of Western Brook Pond hiking trail. Photo by author, September 2014.

Discussion of Strategies

Opponents use communication and mobilization strategies to frame the issue as one that requires the use of the precautionary principle. As well, they use various communication and mobilization strategies to demand industry's attainment of a community social license. To reach broader provincial, national, and even potentially international support, some fracking opponents link western Newfoundland fracking proposals to regional questions of oil and gas development, allowing for fracking to be situated within much larger movements such as the global campaign for fossil fuel

divestment. Proponents and opponents both share information and opinions about fracking by discussing the topic with people in public and private settings. Proponents and opponents vary in their communication strategies most noticeably in that fracking supporters do not use public Facebook groups or Wordpress blogs as platforms for communication. Fracking supporters believe traditional media overstate the anti-fracking message to sell newspapers, an issue that opponents do not raise. Compared to proponents, fracking opponents tend to have a greater public presence; those who support fracking development express fear of public persecution (or in one case, property damage) if they were to share their position publicly. However, it can be argued that fracking proponents do not need to speak out insofar as their supportive position on fracking is shared by the provincial government, as demonstrated by then Natural Resources Minister Derrick Dalley speaking at an oil and gas symposium about his role as facilitator of public-industry connections (Kean, 2014d, p. 5) and appointing a review panel that's been heavily criticized as unrepresentative and lacking objectivity. That the government displays pro-fracking tendencies leaves opponents at a political disadvantage, which is a facet of environmental justice theory (Haluza-Delay et al., 2009), in that their oppositional positions on fracking misalign with the position held by the government. This disadvantage points to issues of power and privilege that underlie the institutional processes of the debate. Symbolic power exists when a power imbalance or relationship of "dissymmetry" (Bourdieu, 1977) is masked by the social order or institutional processes in place. It may be the case that proponents fear being vocal about supporting fracking, but it may also be the case that it is not necessary for them to speak out in support because their position already pervades the government's political

discourse. Environmental justice literature calls "for the democratization of political institutions" (Adkin, 2009, p. 1) and the unmasking of socio-political structures that normalize these unequal power relations.

Social Strain and Strengthening

Proponents' and opponents' dedication to various communicative and mobilization strategies is reflected in how community members discuss the ways their involvement has, in many cases, altered their daily lives and personal relationships. The potential for fracking development near Gros Morne has both strained and strengthened social relationships, exemplifying what Gieryn (2000) calls community engagement or estrangement.

A few participants, all of whom oppose fracking in the area, report making new friends because of the fracking issue:

> There were a lot of people I hadn't talked to before and, in some ways it's really, really plain: if people are also involved because they don't want fracking then I made friends that way and I see people more often. And if it's somebody who…does want fracking, then it's almost like a, it's at least I'm talking to them, which I wouldn't have been otherwise. And I've had several really good conversations with people and we just had to keep saying, "well you believe this and I believe that," and agree to disagree. (Joy)

New friends were made, and some friendships rekindled from decades ago and they are now active collaborators in their personal and collective battles against fracking development in the region:

> We've made new friends! We've made new friends as a result, which is kind of a bonus, you know. People that we knew, or maybe knew of, now we're finding well we're actually kind of collaborating with them on things, which is kind of nice. (Marilyn)

Another participant adds that they and their partner have "reconnected with people who we knew 30 years ago, in some cases" (Stephen). This aligns with Bell's environmental justice research in the United States (2013), where women expand their network of friends in mobilizing against irresponsible coal mining practices in Central Appalachia.

Others who discuss changes in their personal relationships share less positive experiences. One local opponent shares in an interview concerns about how her outspoken opposition to fracking may have angered others in her community: "Sometimes I wonder if I didn't piss some people off here. [laughs] Well, I think maybe my next door neighbours" (Erin). An "awkward" tiff occurred between two close acquaintances because of me coming into the region as a researcher and receiving academic support from the Bonne Bay Marine Station (Amanda). Another local is "good friends" with someone who works for Black Spruce Exploration, which they say has the potential to make it "sometimes awkward to go down that route" of discussing fracking (Chris). But, overall, their relationship has not changed in any significant way:

> It's not something that we just sit down and have a chat about it or anything. We realize, you know, it's a job, you get paid. [The Black Spruce employee] provides, you know, consultation and a service and a knowledge to this business and leadership and stuff to the operation. (Chris)

One fracking opponent states they have not experienced conflicts with family or friends but did witness disagreements between others in the community:

> We surround ourselves with likeminded people, right? And so I won't say I had a lot of direct conflicts, none with any of my close peer group or family. That said, I did see some very painful conversations between different people in the community, especially at public meetings where things would often be quite passionate. That, in some ways, was really, it was really painful for me to see that how divisive an issue it was for communities that, you know, are quite happy communities. You know, you bring in an opportunity like this and then you have people who feel like they're gonna win and lose because of it. And like I say, when you have people on one side of the fence who think they're gonna, it could affect their livelihood, and then you have people on the other side, you know, for better or worse, and then you have people on the other side who worry about it affecting the health of their children and things. And it's really hard for them to find middle ground. And so very polarizing, even between close friends at times, or people who are good, you know, good close acquaintances in the community. And that was hard to see, actually. It was, it was disturbing. (Jason)

These tensions illustrate how disagreements about fracking take place within social interactions in Bonne Bay. Clashing ideas about how or whether Bonne Bay should host fracking projects impacts, negatively and positively, some respondent's social relationships. As perceptions of place are also about "social relationships and political structures" (Willow et al., 2014, p. 63), the changing nature of some people's relationships because of prospective fracking demonstrates the sociality of place. It also shows how disputes over fracking are really struggles over how local landscapes (place) should be used and defined.

Daily lives have been impacted by those involved in the fracking debate. Many people, both in favour of and in opposition to the Sally's Cove project, reflected on the time-consuming nature of reading and being informed about fracking (Marilyn; Stephen; Joy; Alan; Jan). More time is dedicated to preparing for and participating in meetings (or "strategy sessions") (Marilyn), conferences via Skype, speaking with politicians, using social media, and writing or editing submissions such as emails and/or letters to the editor Marilyn; Stephen; Alan). One person states that the fracking debate has changed the way he perceives his community, as it is an issue that mobilized local community members to organize themselves to protect the environment, which reassured him that "there were so many people who actually really cared about the environment and the development of the economy and…the rural character of the area, and who were willing to really become engaged in it" (Jason). On one hand, people were "hearten[ed]" to witness the "reasonable conversations" that were occurring around the topic (Jason), whereas others said they were spending a lot of their time countering the "propaganda" promoted by

those holding anti-fracking positions (Alan). But both are examples of how one's life has been modified, to various degrees, because of the fracking issue.

Conclusion

In this chapter I outline communication and mobilization strategies used by proponents and opponents. Those for and against fracking vary in their communication strategies most noticeably in that fracking supporters do not use public Facebook groups as a platform for communication. Fracking proponents include industry, the Greater Corner Brook Board of Trade and the Corner Brook Port Corporation and residents I interviewed who express supportive sentiments towards fracking. Proponents argue local traditional news sources, like *The Western Star* and *The Telegram* over-represent the anti-fracking position because it is a controversial position that helps sell newspapers. Proponents share and consume information and opinions of fracking at private meetings, a public symposium, and in personal conversations. Opponents of fracking include a suite of networking individuals and groups that coalesce against fracking development along the west coast. The umbrella organization is NL-Fracking Awareness Network, which is comprised of over 20 organizations from various environmental and non-environmental sectors. They build and maintain communication ties via personal conversations, emails, listservs, and conferences over Skype. Many anti-fracking coalitions, such as the Port au Port/Bay St. George Fracking Awareness Group, Save Gros Morne and Our West Coast, and the East Coast Fracking Awareness Group have public groups on Facebook, a social media site that members of the group contribute news articles and commentary to. The

Save Gros Morne and Our West Coast campaign has also generated a blog using Wordpress.

Unlike opponents, fracking proponents do not host public movie screenings followed by discussions about fracking development in western Newfoundland. Organizing by supporters is more likely to be in formal events, such as the 9th International Symposium on Oil and Gas Resource in Western Newfoundland. Or, the events are private. My data suggest that fracking proponents are not mobilizing in the public sphere out of concern of backlash by opponents. Opponents, conversely, often organize public "Global Frackdown" events involving screening films about fracking, and discussing various tactics for how to stop development from occurring along the western coastline. Like proponents, private meetings are held as well. Opponents also participate in letter-writing campaigns, and many have signed numerous petitions.

Those holding both supportive and oppositional positions on fracking found volunteering their efforts to inform and stay informed was time-consuming. Opponents suggested this dedication and involvement resulted in a strain on some personal relationships, and strengthened others. Opponents use communication and mobilization strategies to frame the issue as one that requires a precautionary principle approach. As well, they use various strategies to notify industry and government that a social license must be obtained from local residents. And a minority of opponents link the local fracking issue to regional concerns around oil and gas development in the Gulf of St. Lawrence or even more broadly link to international campaigns like the fossil fuels divestment movement. Proponents make no such connections.

As the sociological literatures on place demonstrate, attachment to place and the desire to protect it contribute to reasons for collective action. For those who oppose fracking development, and the social, cultural, and physical landscape changes that may be perceived to accompany it, mobilizing in defense of the land may be deemed an appropriate course of action. As well, place is the physical grounds on which collective action, in the form of fora, meetings, or public screenings of fracking films, can occur. Place therefore is constructed through supportive and oppositional actions and talks, and takes on different uses and meanings depending on one's position on fracking.

In the next and final chapter I summarize my research findings, and discuss their implications, including applied and theoretical significance of my project. I address my methodological limitations and demonstrate reflexivity before ending with recommendations for future research based on my findings.

Chapter Eight: Discussion and Conclusion

Throughout my project, I used concepts like place, rurality, and community to investigate how people living in western Newfoundland's Bonne Bay region respond to fracking. I used environmental justice theory to consider the socio-cultural power of oppositional and supportive positions on fracking and to help understand the ways in which local knowledge and processes are undermined by expert, scientific knowledge and bureaucratic approaches. In this final chapter of my thesis, I end with a summary and discussion of my findings. I then outline ethical and reflexivity considerations, and limitations of my chosen methods before proposing recommendations for future research.

Summary and Discussion of Findings

With environmental justice theory as my lens, I analyze community interpretations and responses to proposed energy development in Atlantic Canada. Using Bonne Bay, Newfoundland as the specific field site, this study sought to answer three questions:

1. How are community members in the Gros Morne region interpreting proposed fracking projects on the west coast of Newfoundland?

2. What tensions exist among community members in this region around the issue of fracking, and how are these potential tensions expressed?

3. In what ways, if at all, are people acting in support of, and in resistance to, fracking in Newfoundland?

Based on data generated from interviews, field observation and content analysis of texts, my findings suggest that how community members relate to the physical landscape as well as social and cultural aspects of place is highly significant in influencing one's supportive or oppositional position on fracking. Project proponents picture rural place as a landscape to be used for resource extraction and leisure purposes. Supporters stress the social networks that constitute place, and view the potential economic impacts of fracking through that lens. Opponents understand place and rurality as serene spaces of leisure and tourism that should be protected, and hold more social-ecological notions of community that incorporate stronger pro-environmental values. Both supporters and adversaries of fracking development assume a place-protector identity, where their (in-)actions and discourses seek to protect their notions of place, the rural, and community. Those in favour of fracking view rural place as in economic and population decline, arguing that fracking will contribute positively to these social/community ails as they believe it will stimulate the local economy and create jobs. Fracking opponents view rural place as peaceful, quaint, and in need of conservation and protection from industrialization through a buffer zone around Gros Morne, for example. For opponents, the solution to protecting the region is to reject local fracking development. Both arguments have a place-protector mind-set at their core, but because these place-protector identities construct different definitions of place and rurality, disparate positions on fracking are achieved: different constructions of place and rurality influence diverse stances on fracking. The fracking controversy in western Newfoundland, therefore, is in part a struggle over (re-)defining rurality, place, and community.

Here I want to draw attention to the framing of rural place as peaceful, restorative, and unindustrialized. After the collapse of the Newfoundland cod fishery, there was a push towards developing a tourism-based economy in the province (Overton, 1996). This led to rural places such as what is now Gros Morne National Park to be re-conceptualized as a place for leisure and relaxation. During this transition, nature and Newfoundland culture were manufactured and commodified; they became the new resources (Overton, 1996). The "real" Newfoundland was promoted as romantic, peaceful, and pristine despite realities of unemployment and rural decay due to people leaving to find work (Overton, 1996). The rural was (re-)framed as largely removed from industrial forces or influences of "modernity"; however, paradoxically, it was only through industrial development of infrastructure that tourists were able to access the remote rural areas (e.g. completion of Deer Lake airport and the TransCanada highway across the province) (Overton, 1996). Rural Newfoundland is framed as a place for "escaping" the fast-paced nature of modernist urban living. However, this "myth of rural innocence" neglects the interconnectedness of rural and urban areas (Overton, 1996); for example, many Bonne Bay residents buy their groceries from large supermarket chains in Corner Brook, the nearest larger city. Further, the promotion of Gros Morne National Park as part of a nature-based, environmentally benign tourism economy masks that the industry is profit-driven and dependent on transportation systems that rely heavily on oil and gas (e.g. boat tours; tourists commuting to the park via car or plane).

Other research findings, based on my data, suggest those both for and against fracking understand socio-cultural approaches to risk as technical and expert. Proponents, however, trust in the institutional processes in place to both identify risks and develop regulations to mitigate the risks. They view environmental risks as manageable using regulations, and community risks of economic and population decline as reasons to support fracking. Opponents believe environmental risks cannot be managed, and the presence of risks provide sufficient enough reason to reject fracking development, according to opponents. Those opposing the development are less trusting of institutional processes (such as the provincially-appointed fracking review board), and identify risks outside of those acknowledged by the panel. Taken together, nobody in the debate denies there are risks to fracking, but consideration of the risks are manifested differently depending on one's position on fracking (or perhaps one's position on fracking influences one's socio-cultural approach to understanding risk).

Those for and against fracking use, or call for the use of expert, scientific forms of knowledge to better understand associated risks and benefits of fracking. Science is used to make authoritative truth claims about fracking to support people's respective positions on the issue. Opponents draw on local ecological forms of knowledge as well as technical expertise to make their arguments, whereas proponents rely only on expert forms of knowledge. Due to Bonne Bay being an area of highly educated people (in comparison with other rural Newfoundland communities), there are local experts who use their highly technical set of knowledge to support their claims (e.g. Edwin Bezzina). This serves to

blur the boundaries between local place-based forms of knowledge and technical expertise.

Tensions around fracking are expressed using various communication and mobilization strategies. Opponents frame fracking as an issue that requires a precautionary principle approach and community consent while linking the local project to broader social concerns (e.g. oil development in the Gulf of St. Lawrence) and broader social movements (e.g. the global fossil fuel divestment campaign). Those for and against share information and ideas about fracking in public and private settings, but only opponents use Facebook or Wordpress blogs as communication platforms. Proponents argue traditional media overemphasizes the anti-fracking perspective. Those against fracking tend to have a greater public presence; some supporters indicate unease with speaking out in favour of fracking, but stating their supportive positions publicly may not be necessary insofar as their position is shared by the provincial government.

The characterization of community as "mythic" (homogenous, peaceful) (Agrawal & Gibson, 1999, p. 640) is not what my data has demonstrated to me about community. I adopt an understanding of community that allows for a focus on the different interests and ideas of multiple actors at play in the fracking debate in Bonne Bay. As was found by George et al. in their work on rural tourism development (2009), oil development is a case study for ways in which communities converse, converge, and clash over ideas of what they think is appropriate development and an appropriate direction for their community – as people see it individually and collectively – to be heading. Based on my research exploring the dynamics of potential resource extraction in a rural place, I define

community as a social construction composed of multiple actors with various values, interests, and perceptions that overlap and compete. It is place-based, but connected to global flows of oil and capital. Place and the meaning people invest in it fosters emotional bonds between human and non-human entities, and shapes how people think about community (e.g. as social-ecological or as social networks) in relation to their sense of place. When faced with an opportunity to embrace oil development, opinions formed by community members are based, at least in part, on how people individually and collectively perceive place and their relationships to it. Gaining insight into how community members think about and engage with rural places creates possibilities for place to be viewed as a way to bridge polarizing positions on divisive issues that plague rural communities. Understanding the nuances and contextual complexities that characterize community-place relationships could be a step towards local residents finding some semblance of common ground in the midst of polarizing debates.

Minimal scholarly focus has been dedicated to community interpretations of and responses to perceived harms and benefits of fracking development in Canada. Research on energy development in Atlantic Canada has been particularly marginalized. In conducting a qualitative, multi-method study on how local community members navigate and negotiate the potential for oil development on the boundary of Gros Morne National Park, Newfoundland, I contribute to a small but growing body of social scientific research on unconventional energy development in Canada. Most of the recent literature considers unconventional energy using a neoliberal framework. I move beyond that by framing the issue of proposed fracking in Bonne Bay from an environmental justice

standpoint, which is the notion that social and environmental harms and privileges are disproportionately distributed. I also address methodological gaps in the literature, as a lot of the research on resource development and community in North America is quantitative in focus, but is recently trending towards the use of qualitative methods. My research contributes to this trend, as my findings are based on data generated from qualitative semi-structured interviews, qualitative content analysis of various texts, and field observation. My work also adds to the small body of literature on fracking in Canada, by providing one of the first projects of its kind on unconventional energy development in Canada's Atlantic region.

As I outlined in my results chapters, an undertone of "beggers can't be choosers" logic pervades the discourse of some proponents. This neoliberal slogan of "there is not alternative" (or TINA), was made (in)famous by former British Prime Minister Margaret Thatcher in the early 1980s (Heynen et al., 2007). An example is when David Murrell, an economics professor at the University of New Brunswick uses this line of thinking when he says Newfoundland can't afford to be extremely selective in determining which industries to support and which to stifle. Adopting this perspective has numerous implications, including dismissing the current economic benefits of the province's tourism industry. It also assumes a "develop at all costs" mentality, despite the province not having an adequate plan for wastewater disposal, as Nova Scotia is refusing to handle fracking waste from other provinces (Sierra Club Atlantic, 2013). The TINA approach is also challenged in New Brunswick, in the form of anti-shale gas protests by Elsipogtog First Nations and Canadian allies (Howe, 2015). Nova Scotia's refusal to take on

Newfoundland's potential fracking waste and New Brunswick's anti-shale demonstrations illustrate how other Atlantic provinces negotiate the tensions arising from prospective fracking development. That there is demonstrated resistance to fracking within these provinces upholds the notion that there are, indeed, other alternatives.

Limitations

One of the limitations of my research design was the time of year I was in Bonne Bay. In retrospect, my first field research trip in particular (August 2014) was not the most ideal time to try to connect with local residents. The main reason for this was because it was a busy time of year for many residents. Summer time represents the peak season for the local tourism industry, which made it very challenging for tourism owners and operators to find spare time to speak with me. If I was to conduct research in Bonne Bay again, I would learn more about the local ebbs and flows of the region, including peak tourism season, and the rhythms of the fisheries (harvesting times, etc.). If using radio interviews as a way to recruit participants, I would arrange for those interviews to take place prior to arriving in Bonne Bay, so that I could have some interviews scheduled upon arrival. A glaring gap in my sample composition is the perspective of local fish harvesters and processors. This is a weakness in my sample composition, as I did not formally interview any local fish harvesters or fish plant workers. This was not for want of trying, however. By way of sampling through social networks, one of my research participants contacted a local fish harvester that they knew, explaining the details of my project and asking if he would be interested in speaking with me. He respectfully declined, and I was told then it was a busy time of year for them. I did, however, speak

briefly with a mackerel fish harvester from the west coast on my second field research trip to the area in October 2014. During my first field research trip, it was also tricky to coordinate interviews with local tourism owners, operators and promoters, although I was eventually more successful. Again, this was due to the short and intense tourism season in Gros Morne, and local tourism businessfolk were working and did not having a lot of spare time during the short summer months to chat with curious students. These lessons taught me the importance of knowing the demographics and social, cultural, and economic ebbs and flows of the community I am about to enter to conduct research. Further, I spent much of my time during my first field research trip in August 2014 getting to know my way around the numerous communities that comprise Bonne Bay, and building networks and rapport with local residents. I learned that in the future it would be wise (resources of time and money notwithstanding) to visit my research location prior to have a better understanding of what I'm diving into. As well, to minimize the time I spend in the communities recruiting participants (therefore leaving more time to speak with people), I would benefit from conducting interviews via local radio stations as a recruitment strategy prior to physically entering the field.

Although enabling many opportunities to learn first-hand about community perspectives of and responses to the fracking proposal, my affiliation with Memorial University of Newfoundland (MUN) and the Bonne Bay Marine Station (BBMS), a MUN research facility, also had its limitations. In one instance that I am aware of my MUN/BBMS affiliation stifled contact with a local Bonne Bay resident. The resident refused to speak with me because they had approached the Marine Station previously,

asking for the facility's support in opposing fracking in the region. Because the BBMS is affiliated with MUN, the organization is not permitted to publicly take a stand on the issue. The resident who would not speak with me interpreted my stay at the BBMS, and the facility's support for my research, as taking a "side" on the fracking issue. Perhaps, in the eyes of some local residents, I would have achieved greater "insider" status if I attended MUN at Grenfell as opposed to St. John's because of the animosity that some residents expressed to me about St. John's, and because I may have been perceived as "more of a local" because Grenfell is located on Newfoundland's west coast.

In January 2014, The Leslie Harris Centre of Regional Policy and Development, also affiliated with MUN, hosted a public forum in Corner Brook entitled "The Facts About Fracking: An Engineering Perspective" (Harris Centre, 2014). Dr. Dusseault, University of Waterloo Engineering Professor and now member of NL's fracking external review panel, lectured about the technical aspects of fracking. The event was deemed extremely controversial, and Dr. Dusseault was criticized for not considering the entire life-cycle of the fracking process, thus eliminating social and environmental impacts such as road construction and maintenance, and possible well leakages after wells are abandoned. Due to my MUN affiliation, this may have made some residents skeptical of my project, creating barriers to recruiting people with a broader range of opinions. However, I was not openly informed or confronted about my indirect affiliation with Memorial University's Harris Centre and its controversial event.

Other methodological limitations include barriers to interview recruitment, impacting the socioeconomic and educational levels of people that constitute my final

interview sample. In particular, I may have restricted the diversity of my interview sample because of the type of people that the Voice of Bonne Bay and CBC radio attract. I was told informally by a participant that blue collar workers, such as fish harvesters, would be less likely than more formally educated residents to be tuning into the VOBB and CBC radio. Being originally from Ontario may have led people to be disinterested in me and my research as I am not considered a Newfoundlander. To help diminish the possible negative impacts of this, in the radio interviews I emphasize that I was born and raised in a rural farming community in Ontario's Niagara region in an attempt to be viewed as more approachable and diminish some of my "outsider" status (Corbin Dwyer & Buckle, 2009). By being sure to mention and describe my experience of growing up in the country, and the influences these experiences have had on my research, I am consciously engaging in impression management to define my "ethnographic self" (Mason, 2002). Achieving "insider" status while observing in the field has many benefits, such as appearing less threatening or intimidating to participants, encouraging them to share their experiences more openly (Corbin Dwyer & Buckle, 2009; Talbot, 1998-1999). By demonstrating similar backgrounds, this status also facilitates fairly seamless access to the field. However, as argued by Fay (1996), having "outsider" social status can be viewed attractive, as it produces more value-neutral research by the researcher not being intimately tied up in the social complexities of the field. Another downfall of "insider" status is that I may forget to ask basic questions because I share too much assumed knowledge with my participants. I tried to overcome this by asking why I was being shown a particular site and not others, for example.

Some limitations of employing field observation techniques are that physical and social boundaries of a setting may be ephemeral, and difficult to define. I was concerned about having difficulty gaining entry into the field, with status characteristics such as my age or gender creating potential barriers to field site access. However, because I formed relationships with residents quickly, and some community members (particularly anti-fracking folks who appeared to be more vocal) were receptive of me being in the area conducting research on fracking, gaining access to various field sites was not difficult. Perhaps, also, because I am younger than every person I spoke with, people found me more approachable, and were more willing to speak with me.

Recommendations for Future Research

Based on my research findings, additional research might include a longitudinal or follow up study of community interpretations and responses to unconventional energy development in western Newfoundland, if fracking is to occur there, to gage any changes in how people navigate oil development in rural Newfoundland. Future research might focus on how residents perceive physical alterations of landscape, risk and risk assessment, vulnerability, and degrees of acceptability before, during, and after (if approved) the project is underway, and may benefit from teasing out the complexities of the relationship between science, the public, and symbolic capital. Additional research should to be conducted to address the difficulties and complexities of community consent (social license) in the context of Newfoundland and Labrador, and Canada more generally.

My research also raises questions around what characterizes just decision making processes, which should be addressed in the future. As Bavington (2010) notes, what's missing in the top-down "science-first" approach to tackling fracking is a moral engagement with the issue. Future research could explore in what ways – and to what avail – a moral engagement with divisive issues helps local residents arrive at some semblance of community agreement. The provincially-appointed fracking review panel is comprised of five men representing various aspects of the fracking debate, including economic and scientific viewpoints. Reed (2003) posits that "more effective representation on advisory committees might be achieved by using a "values"-based, rather than "interest"-based, model" (p. 212). This means values or viewpoints that local residents identify as important would each hold a position on the review panel, as opposed to representation by various stakeholders or sectors. As a result of my study, further research might well be conducted in order to link the notion of moral engagement with a value-based environmental governance model.

I recommend that social scientists continue the move towards addressing energy development as a social problem. A sociology of energy approach would view energy development, dependence, and disputes using a socio-cultural theoretical lens (which differs from the traditionally technical approach to the topic). As conventional oil and gas reserves deplete, and unconventional extraction techniques become more commonplace, energy transitions and changes become increasingly typical as well. In wake of the recent international climate summit in Paris, countries around the world agreed (at least symbolically) to work towards keeping the average global surface temperature from

rising more than 1.5 degrees Celsius (COP21, 2015), indicating moves away from fossil fuel reliance ought to be imminent. What do or should these energy transitions look like? What does it mean, from a sociological perspective, to de-carbonize? What barriers and incentives are currently in place to help or hinder people to act towards climate change? I would recommend scholarly attention be given to the social and cultural significance of energy transitions ("socio-energetic changes") (JISE, 2015) in the context of the global climate crisis. Socio-cultural changes are required in wealthy countries to reduce fossil fuel dependency, and many believe answers to a rapidly changing climate lie the development of renewable energy sources such as wind, solar, and tidal power. New research could focus on the social acceptability of non-renewable energy projects across Canada and internationally in the context of energy transitions.

With more fracking development comes, eventually, orphan wells and abandoned drilling and extraction sites. From a non-technical or non-practical perspective (i.e. I'm not asking when is the fracking company returning to address the issue), what happens to these abandoned spaces, and how do the spaces become (re-)defined through social interactions with and within them? In what ways, if at all, do these unmaintained structures become incorporated into people's lives? Taking a socio-spatial approach to well abandonment (in the case of fracking) or other energy sites that are past their production prime and no longer in operation, I ask future researchers to consider: what do forgotten energy landscapes mean for how people and societies think about energy? And what can our interactions with, and thoughts about these residual landmarks tell us about our societies? A socio-spatial perspective is usually applied to urban settings, where

theorists ask questions about how societies and built infrastructures interact (Gottdiener & Hutchison, 2011). I recommend building on this idea by transporting it to more spatially remote areas to investigate interactions between forgotten energy landscapes and people who live near or in these areas.

Areas of future research could include a gender analysis of fracking or other oil and gas extraction controversies. Although gender is not a focal point of my study, there are gendered undertones that future research may benefit from analyzing. For example, within environmental justice literature, the motherhood protector identity (or "maternal archetype") (Stearney, 1994) accepts that women are driven to care for and protect their families and communities on the basis of their womanhood (Lameman, 2014). This perspective is deeply problematic. First, it asserts an understanding of gender as binary, excluding those who assume identifies that fall outside of a binary construction of gender (e.g. transgender, genderqueer) (Stearney, 1994). The motherhood protector identity, which is part of environmental justice discourse, "confounds womanhood with motherhood" (Stearney, 1994, p. 146) and reinforces a gendered system that disproportionately burdens (with stress, fatigue, responsibility, etc.) women as caregivers. This seemingly environmentally friendly discourse serves to perpetuate gender inequalities by ignoring the complexities of gender self-identification and understandings of gender and motherhood as social constructions (Stearney, 1994).

Future research could also focus on expanding upon my environmental justice conceptual framework to include the examination of urban privilege, an original theoretical contribution of mine that emerges from environmental justice literature. Urban

privilege is when individuals or social groups residing in, or who have strong affiliations with urban centres benefit disproportionately because of their urban associations. The idea builds specifically off Ali's (2009) work on the social distribution of risk as an environmental injustice by offering a regional perspective to EJ theory. Urban privilege is limited for understanding the data in this study, as I am not analyzing urban residents. However, emerging from this work, urban privilege could be used to explore further the interplay between rural-urban associations and residents. Building on Bill Reimer's work on social inclusion, exclusion, and interdependence of rural-urban societies (2013), future research may trace rural-urban lines of action to identify commonalities, and gain insight into the dynamics of rural-urban interdependence (such as where the benefits and burdens are specifically accruing, and what the nature of these risks and rewards are).

The concept of urban privilege brings to light regional inequalities, and could help to explain the regional misdistribution of environmental justice; in other words, it suggests the targeting of rural communities in Canada as sites of resource extraction. This is largely to the benefit of urban economic and/or political hubs. While rural resource communities often benefit from this relationship structure, harms or risks are localized in the communities as well. Other instances of this exist across the country. For example, although perhaps not instinctively understood as an issue of environmental justice, the siting and implementation of industrial-scale wind turbine farms in rural Ontario communities provides an interesting case study. While not a hydrocarbon-based industry, an overwhelming number of wind farms in rural Ontario have been sited and developed on rural land without the attainment of social license. Seemingly environmentally benign,

due to the industrial-scale of the turbines and the large amount that are constructed in close proximity to people's homes and farms, concerns are raised by residents regarding localized impacts (WLWAG, n.d.). Some of the concerns expressed over industrial wind turbine development include, along with industry not attaining community consent: property value depreciation; concerns about loss of operational farm land and impacts on farm animals; and impacts of the rapid industrialization of rural landscapes (WLWAG, n.d.). Future research could consider energy projects in rural Canadian landscapes using a regionally-focused environmental justice lens. The development of the idea of "regional justice" would be an interesting scholarly direction as it encourages thinking about the issue "in such a way as to encompass the environmental injustices of all those in a similar situation, rather than individualizing the problem to a locality" (Ali, 2009, p. 108); thus, urban privilege could be developed and used as a lens through which to explore structural inequalities entrenched within the political economy of Canada.

Conclusion

In conclusion, my research study offers insights into how a portion of Bonne Bay residents understand and respond to fracking at Sally's Cove in western Newfoundland. Aiming to amplify regionally-specific narratives, my research highlights the influential nature of place, perceptions of community, and rurality as processes contributing to supportive or oppositional positions on fracking. Place is conceived as highly contentious, and as the physical grounds on which collective actions occurs. The Gros Morne fracking controversy generates much conflict because of competing interpretations of place that are guided by social and political relationships and structures. As I hope I've

demonstrated, fracking development debates go far beyond issues of potential economic gain versus environmental loss. In the context of proposed unconventional energy development, the many landscapes of Bonne Bay – social, ecological, economic, cultural, political – are disputed and re-imagined as people occupying various social positions experience places in unique ways. As I highlight the different ways of conceptualizing community enacted by opponents and proponents, the fight over fracking is in many ways a struggle over who has the power to define the meanings and characteristics of rural community in an era of tough oil and significant rural change.

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Appendices

Appendix A:

Informed Consent Form for Key Informants

Title:	When petro-capitalism comes knocking: Rural resilience and the Gros Morne fracking controversy
Researcher:	Jillian Smith, Department of Sociology, Memorial University, email: js7176@mun. ca; phone: 289-442-4381
Supervisors:	Dr. Mark C.J. Stoddart, Department of Sociology, Memorial University, email: mstoddart@mun.ca; phone: 709-864-8862.
	Dr. Nicole Power, Department of Sociology, Memorial University, email: npower@mun.ca 709-864-6914

You are invited to take part in a research project entitled "When petro-capitalism comes knocking: Rural resilience and the Gros Morne fracking controversy."

This project focuses on how Bonne Bay community members are interpreting and responding to the proposed fracking development near Gros Morne National Park. You are asked to participate in a research interview, which will take approximately 1 hour.

This form is part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. It also describes your right to withdraw from the study. In order to decide whether you wish to participate in this research study, you should understand enough about its risks and benefits to be able to make an informed decision. This is the informed consent process. Take time to read this carefully and to understand the information given to you. Please contact the researcher, Jillian Smith, if you have any questions about the study or for more information not included here before you consent.

It is entirely up to you to decide whether to take part in this research. If you choose not to take part in this research or if you decide to withdraw from the research once it has started, there will be no negative consequences for you, now or in the future.

Introduction

I am a Master's student with the Sociology Department at Memorial University. As part of my Master's thesis, I am conducting research under the supervision of Dr. Mark Stoddart and Dr. Nicole Power. In order to better understand how communities are interpreting and responding to the proposed fracking project near Gros Morne National Park, I am conducting interviews with community members about fracking. This research project involves a community partnership with the Bonne Bay Marine Station in Norris Point.

Purpose of study:
Three research questions guide this project:

1. What do people living in the Gros Morne region think about proposed fracking projects on the west coast of Newfoundland in relation to their environmental values?

2. Has proposed fracking in the region created tensions among community members in this region, and if so, how are these tensions expressed?

3. How have community members in the local region responded to fracking in Newfoundland?

Corporate responses to fracking in western Newfoundland will also be examined to compare similarities and differences between corporate and local responses to fracking in the region.

What you will do in this study:
As a participant in this research, you will be asked a series of questions about the perceived benefits and risks of fracking for surrounding communities; and how people are responding to the proposed Sally's Cove project. The interview will be carried out by Jillian Smith.

Length of time:
The interview will last approximately 1 hour.

Withdrawal from the study:
You may withdraw from the study without penalty at any time, up to the point where data are included in my thesis. If you choose to withdraw from the project, your interview recordings, transcripts and related data will be removed from the project.

Possible benefits:
Research respondents will not receive any direct benefits from their participation in the research.

In light of the provincial fracking moratorium, the project will benefit communities of the Bonne Bay region by providing research findings via a written summary report on how residents understand and act in response to proposed fracking development.

Possible risks:
The interview questions do not deal with sensitive topics. However, individual participants may have unanticipated emotional distress. If this is the case, you may skip any questions you do not want to answer. You may also stop the interview at any time, without any penalty.

Confidentiality
Confidentiality is ensuring that identities of participants are accessible only to those

authorized to have access. Interview materials (including digital audio recordings of the interview and typed interview transcripts) will be kept on a password-protected computer. Your name will not appear on the audio file or interview transcript. A separate password-protected file will link participant names with identification numbers. Only Jillian Smith and her supervisors, Dr. Stoddart and Dr. Power, will have access to this file. Once this information is entered, the original interview schedule will be shredded and disposed of. Only this identification number will appear on the interview transcripts or in data analysis files.

Recording of Data:
Interview data will be collected using a digital audio recorder and hand-written notes.

Storage of Data:
Interview materials (including digital audio recordings of the interview and typed interview transcripts) will be kept on a password-protected computer. You name will not appear on the audio file or interview transcript. A separate password-protected file will link participant names with identification numbers. Only Jillian Smith and her supervisors, Dr. Stoddart and Dr. Power, will have access to this file. Once this information is entered, the original interview schedule will be shredded and disposed of. Only this identification number will appear on the interview transcripts or in data analysis files.

While at the Bonne Bay Marine Station (BBMS), confidential hand-written documents will be locked in a filing cabinet at the BBMS that only I will have access to. When materials are in my car, the car will be locked and only I will have keys to unlock the vehicle. Research data will be retained for a minimum of five years, in accordance with the Memorial University policy on Integrity in Scholarly Research.

Reporting of Results:
Should you consent (see below), your confidentiality may be waived in the reporting of results. Quotations from interview transcripts may be used as data in a thesis, conference papers, journal articles, books, or research reports.

Sharing of Results with Participants:
The results of the research project will be synthesized in my Master's thesis. I will also share my research results via interviews at the Voice of Bonne Bay, a community radio station in Gros Morne. In addition, being an affiliate with the BBMS provides opportunities to share my research locally through their community partners such as the Gros Morne Cooperating Association and the Centre of Environmental Excellence.

Questions:
You are welcome to ask questions at any time during your participation in this research. If you would like more information about this study, please contact: Jillian Smith, email:

js7176@mun.ca; phone: 289-442-4381; Dr. Mark C.J. Stoddart, email: mstoddart@mun.ca; phone: 709-864-8862; Dr. Nicole Power, email: npower@mun.ca.

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research, such as the way you have been treated or your rights as a participant, you may contact the Chairperson of the ICEHR at icehr@mun.ca or by telephone at 709-864-2861.

Consent:
Your signature on this form means that:

- You have read the information about the research.
- You have been able to ask questions about this study.
- You are satisfied with the answers to all your questions.
- You understand what the study is about and what you will be doing.
- You understand that you are free to withdraw from the study without having to give a reason and that doing so will not affect you now or in the future.
- You understand that any data collected from you up to the point of your withdrawal will be destroyed.

If you sign this form, you do not give up your legal rights and do not release the researchers from their professional responsibilities.

Your signature:

☐ I have read what this study is about and understood the risks and benefits. I have had adequate time to think about this and had the opportunity to ask questions and my questions have been answered.

☐ I agree to participate in the research project understanding the risks and contributions of my participation, that my participation is voluntary, and that I may end my participation.

☐ I agree to be audio-recorded during the interview.

☐ I agree to notes being hand-written during the interview.

☐ I agree to the use of quotations, with the understanding that my name <u>will not</u> be identified in any publications resulting from this study, but that confidentiality cannot be assured.

☐ I agree to the use of quotations, with the understanding that my name <u>may be identified</u> in publications resulting from this study. Choosing this option will waive confidentiality assurances.

☐ I agree to the use of quotations, with the understanding that my affiliation or organization may be identified in any publications resulting from this study.

A copy of this Informed Consent Form has been given to me for my records.

_____ _____

Signature of participant Date

Researcher's Signature:
I have explained this study to the best of my ability. I invited questions and gave answers. I believe that the participant fully understands what is involved in being in the study, any potential risks of the study and that he or she has freely chosen to be in the study.

_____

_____

Signature of Principal Investigator Date

Appendix B:

Informed Consent Form for General Participants

Title:	When petro-capitalism comes knocking: Rural resilience and the Gros Morne fracking controversy
Researcher:	Jillian Smith, Department of Sociology, Memorial University, email: js7176@mun. ca; phone: 289-442-4381
Supervisors:	Dr. Mark C.J. Stoddart, Department of Sociology, Memorial University, email: mstoddart@mun.ca; phone: 709-864-8862.
	Dr. Nicole Power, Department of Sociology, Memorial University, email: npower@mun.ca

You are invited to take part in a research project entitled "When petro-capitalism comes knocking: Rural resilience and the Gros Morne fracking controversy."

This project focuses on how Bonne Bay community members are interpreting and responding to the proposed fracking development near Gros Morne National Park. You are asked to participate in a research interview, which will take approximately 1 hour.

This form is part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. It also describes your right to withdraw from the study. In order to decide whether you wish to participate in this research study, you should understand enough about its risks and benefits to be able to make an informed decision. This is the informed consent process. Take time to read this carefully and to understand the information given to you. Please contact the researcher, Jillian Smith, if you have any questions about the study or for more information not included here before you consent.

It is entirely up to you to decide whether to take part in this research. If you choose not to take part in this research or if you decide to withdraw from the research once it has started, there will be no negative consequences for you, now or in the future.

Introduction

I am a Master's student with the Sociology Department at Memorial University. As part of my Master's thesis, I am conducting research under the supervision of Dr. Mark Stoddart and Dr. Nicole Power. In order to better understand how communities are interpreting and responding to the proposed fracking project near Gros Morne National Park, I am conducting interviews with community members about fracking. This research project involves a community partnership with the Bonne Bay Marine Station in Norris Point.

Purpose of study:
Three research questions guide this project:

1. What do people living in the Gros Morne region think about proposed fracking projects on the west coast of Newfoundland in relation to their environmental values?

2. Has proposed fracking in the region created tensions among community members in this region, and if so, how are these tensions expressed?

3. How have community members in the local region responded to fracking in Newfoundland?

Corporate responses to fracking in western Newfoundland will also be examined to compare similarities and differences between corporate and local responses to fracking in the region.

What you will do in this study:
As a participant in this research, you will be asked a series of questions about the perceived benefits and risks of fracking for surrounding communities; and how people are responding to the proposed Sally's Cove project. The interview will be carried out by Jillian Smith.

Length of time:
The interview will last approximately 1 hour.

Withdrawal from the study:
You may withdraw from the study without penalty at any time, up to the point where data are included in my thesis. If you choose to withdraw from the project, your interview recordings, transcripts and related data will be removed from the project.

Possible benefits:
Research respondents will not receive any direct benefits from their participation in the research.

In light of the provincial fracking moratorium, the project will benefit communities of the Bonne Bay region by providing research findings via a written summary report on how residents understand and act in response to proposed fracking development.

Possible risks:
The interview questions do not deal with sensitive topics. However, individual participants may have unanticipated emotional distress. If this is the case, you may skip any questions you do not want to answer. You may also stop the interview at any time, without any penalty.

Confidentiality
Confidentiality is ensuring that identities of participants are accessible only to those

authorized to have access. Interview materials (including digital audio recordings of the interview and typed interview transcripts) will be kept on a password-protected computer. Your name will not appear on the audio file or interview transcript. A separate password-protected file will link participant names with identification numbers. Only Jillian Smith and her supervisors, Dr. Stoddart and Dr. Power, will have access to this file. Once this information is entered, the original interview schedule will be shredded and disposed of. Only this identification number will appear on the interview transcripts or in data analysis files.

Recording of Data:
Interview data will be collected using a digital audio recorder and hand-written notes.

Storage of Data:
Interview materials (including digital audio recordings of the interview and typed interview transcripts) will be kept on a password-protected computer. You name will not appear on the audio file or interview transcript. A separate password-protected file will link participant names with identification numbers. Only Jillian Smith and her supervisors, Dr. Stoddart and Dr. Power, will have access to this file. Once this information is entered, the original interview schedule will be shredded and disposed of. Only this identification number will appear on the interview transcripts or in data analysis files.

While at the Bonne Bay Marine Station (BBMS), confidential hand-written documents will be locked in a filing cabinet at the BBMS that only I will have access to. When materials are in my car, the car will be locked and only I will have keys to unlock the vehicle. Research data will be retained for a minimum of five years, in accordance with the Memorial University policy on Integrity in Scholarly Research.

Reporting of Results:
Every reasonable effort will be made to ensure your confidentiality in the reporting of research results. Quotations from interview transcripts may be used as data in a thesis, conference papers, journal articles, books, or research reports. Your name will not be attached to these quotations. Pseudonyms will be used for all quotations. Furthermore, quotations will be edited to remove details that could be used to identify participants.

Sharing of Results with Participants:
The results of the research project will be synthesized in my Master's thesis. I will also share my research results via interviews at the Voice of Bonne Bay, a community radio station in Gros Morne. In addition, being an affiliate with the BBMS provides opportunities to share my research locally through their community partners such as the Gros Morne Cooperating Association and the Centre of Environmental Excellence.

Questions:
You are welcome to ask questions at any time during your participation in this research.

If you would like more information about this study, please contact: Jillian Smith, email: js7176@mun.ca; phone: 289-442-4381; Dr. Mark C.J. Stoddart, email: mstoddart@mun.ca; phone: 709-864-8862; Dr. Nicole Power, email: npower@mun.ca.

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research, such as the way you have been treated or your rights as a participant, you may contact the Chairperson of the ICEHR at icehr@mun.ca or by telephone at 709-864-2861.

Consent:
Your signature on this form means that:

- You have read the information about the research.
- You have been able to ask questions about this study.
- You are satisfied with the answers to all your questions.
- You understand what the study is about and what you will be doing.
- You understand that you are free to withdraw from the study without having to give a reason and that doing so will not affect you now or in the future.
- You understand that any data collected from you up to the point of your withdrawal will be destroyed.

If you sign this form, you do not give up your legal rights and do not release the researchers from their professional responsibilities.

Your signature:

☐ I have read what this study is about and understood the risks and benefits. I have had adequate time to think about this and had the opportunity to ask questions and my questions have been answered.

☐ I agree to participate in the research project understanding the risks and contributions of my participation, that my participation is voluntary, and that I may end my participation.

☐ I agree to be audio-recorded during the interview.

☐ I agree to notes being hand-written during the interview.

☐ I agree to the use of quotations, with the understanding that my name will not be identified in any publications resulting from this study.

A copy of this Informed Consent Form has been given to me for my records.

_____ _____

Signature of participant Date

Researcher's Signature:
I have explained this study to the best of my ability. I invited questions and gave answers. I believe that the participant fully understands what is involved in being in the study, any potential risks of the study and that he or she has freely chosen to be in the study.

_____

_____

Signature of Principal Investigator Date

Appendix C:

Recruitment Email

My name is Jillian Smith, and I'm a master's student in the Sociology Department at Memorial University, St. John's campus. I am researching fracking near the boundary of Gros Morne National Park. I plan on writing my thesis on how community members in the Bonne Bay region are interpreting, and responding to, the proposed fracking projects on Newfoundland's west coast, with a particular focus on the Sally's Cove site.

Beginning on August 15th 2014, I will be staying at the Bonne Bay Marine Station for three weeks, where I plan to conduct interviews and attend fracking-related meetings. If you are interested in participating in my research project by being interviewed, please contact me at js7176@mun.ca or by telephone: 289-442-4381. If you have any questions or concerns, please feel free to ask.

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research, such as the way you have been treated or your rights as a participant, you may contact the Chairperson of the ICEHR at icehr@mun.ca or by telephone at 709-864-2861.

Thank you.

Jillian

Appendix D:

Recruitment Poster

Fracking and Your Community

My name is Jill Smith, and I'm a master's student in the Sociology Department of Memorial University. My research topic focuses on how community members in the Bonne Bay region are interpreting—and responding to—the proposed fracking projects on Newfoundland's west coast, particularly Sally's Cove.

I am staying at the Bonne Bay Marine Station until Friday, September 5th and hope to talk to people about their experiences. If you are interested in contributing to my research and are willing to be interviewed, please contact me at js7176@mun.ca or by telephone: 458-2550. Your comments and identity will remain anonymous in accordance with university research protocols.

Thank you.

Jill

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research, such as the way you have been treated or your rights as a participant, you may contact the Chairperson of the ICEHR at icehr@mun.ca or by telephone at 709-864-2861.

Appendix E:

Interview Schedule

Rural resilience and the Gros Morne fracking controversy: Interview Schedule
Jillian Smith

Interview #:
Date interview conducted:
Time and location:

Questions

Section I: Views on fracking

1) How are people around here talking about fracking?
2) Media coverage on fracking suggests that it's a controversial issue here. Is that the case?
    i. **Follow up [if applicable]:** Why do you think so?
3) How did you become interested in fracking in Newfoundland?
4) Where did you learn about fracking? (Where do you get your information?)
5) Do you think there are benefits to fracking?
    i. **Prompt [if applicable]:** What are they?
6) Do you have concerns about risks of fracking?
    i. **Prompt [if applicable]:** What are they?
    ii. **Follow up [if applicable]:** Do you also have concerns about other forms of oil development (e.g. offshore projects, etc.)?
7) A moratorium was announced in NL in November 2013. What do you think about the moratorium?
8) Have you lived here all your life?
    i. **Follow up [if applicable]:** If not, when did you move here, and why?
    ii. **Follow up:** Do you live here seasonally, or all year round?

9) Do you think fracking will impact where you live?
    i. **Prompt:** Please elaborate. Can you give an example?
10) What do you think about the fracking projects being proposed near Gros Morne National Park?

Section II: Responses to fracking

11) How has the municipality responded to fracking?
12) How has the business community responded to fracking?
    i. **Follow up:** Are there any local groups or organizations (outside of business/government) that are joining the debate/conversation around fracking?
    ii. **Follow up:** What about the response of people working in tourism? Schools? Church groups? Fish harvesters? Other community groups?
13) What are some of the barriers communities face in responding to fracking?
14) Fracking awareness groups have been created on both the east and west coast of the province. Have you heard of these? What have you heard about them?
    i. **Follow up:** Do you consider these awareness groups to be part of your community?

Section III: Support and Resistance (Responses, continued)

15) Have you participated in public events or activities (e.g. went to a town council meeting about fracking, attended protests, signed a petition) regarding fracking in Newfoundland?
    i. **Prompt [if have participated]:** Please describe the events, the goals of the events, and how you were involved.
    ii. **Follow up [if applicable]:** Did you think the event(s) were effective in achieving its/their goal(s)?
    iii. **Follow up [if have not participated]:** Why not?

16) Do you discuss fracking with you family (parents, grandparents, children, siblings, spouse, etc.)? Do you share stories/information with neighbours, students, etc.?
    i. **Follow up:** Why do you do this?
    ii. **Follow up:** How else has fracking influenced/changed your daily life?
17) Has fracking changed any of your relationships at home or at work? In your neighbourhood?
    i. **Follow up [if applicable]:** Can you describe these changes?
18) How do you discuss fracking with other people (e.g. word of mouth, social media websites, public meetings, etc.)?
    i. **Follow up:** Did you find this/these communication strategies to be effective?
19) What has been the response from others when you talk about fracking?
    i. **Follow up [if applicable]:** Did you try to reconcile any differences of opinion?
    ii. **Follow up [if applicable]:** How did you attempt to do this (reconcile), and how effective was it?
20) What do you see as the ideal outcome regarding fracking in Newfoundland?
    i. **Follow up:** Why is this ideal? What would this outcome mean for you and for your community?

Section IV: Environmentalism

21) Many people are talking about the environmental impacts of fracking. Are you concerned with environmental issues (in general)?
    i. **Follow up [if applicable]:** What are they?
22) Do you engage in environmentally-friendly behaviour in everyday life (e.g. recycling, biking, short showers, not using paper towels, etc.)?
    i. **Follow up:** Why do you do these things?

23) Have you been involved in public activities (e.g. town council meetings, protests, farmer's market, community gardens) regarding environmental issues?
    i. **Prompt [if applicable]:** Describe your role in these activities.
24) Would you consider yourself an environmentalist?
    i. **Follow up:** Why/why not?

Section V: Demographic Information

25) How old are you?
26) What is the highest level of formal education you have received?
27) What is your occupation?

Section VI: Conclusion

I am finished asking my questions. Thank you for your participation.

28) Is there anything else that you would like to talk about that I did not cover?
29) Would you like to receive a copy of the research results once the project is completed?

Contact information [if applicable]:

Appendix F:

Field Observation Protocol

Rural resilience and the Gros Morne fracking controversy
Jillian Smith
August 2014

1. Observation of physical surrounding (space, setting)
    a. lighting
    b. colour
    c. smell
    d. sounds
    e. music
    f. objects
    g. texts
    h. weather
    i. physical/spatial

2. Observation of members
    a. age
    b. gender
    c. ethnicity
    d. dress
    e. hairstyle
    f. equipment

3. Observation of behaviours
    a. verbal
    b. non-verbal

4. Observe the non-action
    a. negative space, etc.

1) Guiding question for informal interviews with visitors:

    a) Why is this area significant to the fracking debate on the west coast?

Appendix G:

Internet Observation Protocol

Rural resilience and the Gros Morne fracking controversy
Internet Observation Protocol
Jillian Smith
March 2015

List of websites analyzed:

- Shoal Point Energy: http://www.shoalpointenergy.com/
- Black Spruce Exploration Corp., main webpage: http://www.blspexp.com/
- Black Spruce Exploration Corp., Who We Are: http://www.blspexp.com/whoweare.htm
- Save West Coast NL Wordpress: https://savewestcoastnl.wordpress.com/
- Newfoundland and Labrador Fracking Awareness Network (NL-FAN): http://www.nlfan.ca/
- Hospitality Newfoundland and Labrador (HNL) main website > News > Hospitality NL calls for comprehensive analysis into impacts of fracking: http://hnl.ca/news-item/hospitality-nl-calls-for-comprehensive-analysis-into-impacts-of-fracking/
- HNL main website > Advocacy > Policy Priorities > Hydraulic Fracturing (fracking) near Gros Morne National Park: http://hnl.ca/advocacy/policy-priorities/fracking/

1. Name of website

2. url:

3. Which type of organization is the site produced by (e.g. a provincial government; O&G company)?

4. Date accessed:

5. Brief description of website:

6. What dominant themes are used on the site in regards to fracking in NL/ What is being said about fracking?

7. Whose voices are expressed on this website (class, ethnicity, gender, age, job)?

8. How is Gros Morne National Park depicted?

9. Who appears to be the intended audience for the site?

10. What possibilities does the site provide for audience engagement (i.e. posting comments or their own contact, email contact)?

11. What other websites doe this site link to?

12. Does the site link to social media platforms (Twitter feeds, Facebook pages, etc.)?

Appendix H:

Protocol for Offline Documents

Rural resilience and the Gros Morne fracking controversy
Textual Analysis Protocol for Offline Documents
Jillian Smith
March 2015

List of documents analyzed:

- Cow Head Consultation (November 2102) meeting notes
- Black Spruce Exploration Project Magazine, 2013
- The Western Star, November 1 2013 – February 1 2015 (keyword: fracking)
- Article in The Telegram: *Moratorium on fracking announced by Newfoundland government*, November 4 2013

1. Name and date of document:

2. Source of document:

3. Date(s) read:

4. Brief description/overview of document:

5. What dominant themes are used in this document in regards to HF in NL/What is being said about HF?

6. Whose voices are expressed in this document (class, ethnicity, gender, age, job)?

7. How is Gros Morne National Park depicted?

8. Who appears to be the intended audience for the document?

9. What other documents, organizations, etc. does this document refer to?

10. Does the document refer to social media platforms (Twitter feeds, Facebook pages, etc.)?

Appendix I:

Coding Scheme

When petro-capitalism comes knocking: Community interpretations and responses to the Gros Morne Fracking Controversy

Coding Scheme

Jillian Smith

November 2014

BARRIERS

- Some people only anti-fracking for the thrill of activism
- Mistrust_Don't know who to trust
- Misinformation, lack of info, or lack of access to the 'truth' about fracking is a barrier
- Media is not presenting objective information_heavy on anti perspective
- Lack of understanding of science involved_how fracking works
- Lack of transparent information
- Lack of financial resources in local communities
- Information about fracking is biased, unbalanced, and not objective
- I'm pro-fracking and don't feel comfortable speaking out about it
- Getting people to act_think proactively or critically is a barrier
- Feeling helpless to stop fracking development
- Differing fundamental values
- Confirmation bias
- A lot of effort, time to self-educate

CLMATE CHANGE

- Fracking contributes to GCC
- Fracking does not contribute to GCC
- Fracking would help the U. S. reach its Kyoto target (if ratified)
- GCC does not apply to NL right now

ENERGY

- Fracking gets at 'tight' oil
- Need to consider green energy alternatives
- Oil development has benefited prov. of NL
- We need to rethink our petro-based economy; not sustainable
- We're dependent on fossil fuels

ENVIRONMENTALISM

- Discussions_encourage others to be enviro-minded
- Does not act in enviro-consicous way
- Does not self-identify as environmentalist_anti-fracking
- Does not self-identify as environmentalist_pro-fracking, on conditions
- Doesn't drive more than needs to_carpool
- Drive fuel-efficient car
- Enviro research; member of enviro organizations (ENGOs)
- Grow food, compost, hunt, fish, farmer's markets, CSA
- Hunting and fishing need to be done in moderation
- Reasons for acting in enviro-conscious way
- Recycle, reuse
- Self-identifies as environmental_pro-fracking, on conditions
- Self-identifies as environmentalist_anti-fracking
- Tries to cut down on household (or business) energy usage
- Use green chemicals
- Vegetarian-minded diet
- Walk, bike, public transportation when I can
- Went off birth control pills
- Wrote a letter

FISHERY

- Fracking will harm the fishery
- Fracking will not harm the fishery

FRACKING_politics_governance

- CNLOPB not fully tuned-in to offshore to onshore development project
- Concerned about pace of development
- Environmental assessment must be completed before fracking projects begin
- External review is a good thing
- External review needs objective panelists
- External review process needs to be transparent
- External review_problematize
- Fracking has bad press compared to conventional drilling
- I don't trust O&G companies
- O&G company lied_manipulated_misinterpreted region
- O&G company unprepared
- Oil exploration is a game, a gamble

- Provincial gov't doesn't have the social license
- Provincial gov't have their minds made up about fracking
- Public input in process is important
- Rural-urban tensions
- We must trust the prov. gov't and_or ext. review to make the right decisions

FRACKING_risks_safety_mechanics

- Onshore to offshore drilling is risky
- Fracking is safe
- Fracking is not worth the risks
- Fracking is not any more risky than driving car, airplane
- Concerns about well integrity and leakage
- Concerned most about the entire fracking life cycle
- Concerned about human error_we can't regulate human error
- Any risks can be mitigated by proper regulations

GROS MORNE (GM)

- Bridging of pros and cons_different manifestations
- Communities
- Fracking near the Park puts UNESCO World Heritage Site status in jeopardy
- Gros Morne is a pristine environment
- History of oil exploration in GM region
- I am opposed to fracking near Gros Morne
- I'm concerned about fracking in community enclaves
- I'm in favour of fracking near GM, on some conditions
- I'm opposed to fracking IN GM national park
- People negatively impacting enviro now
- Resentment towards GM park
- The geology in the region is complex, unique
- There should be a buffer zone around Gros Morne Nat’l Park

IMPACTS OF FRACKING_ECONOMIC

- Business community in support of fracking
- Business community may benefit from fracking
- Business community on fence about fracking
- Economic benefits are short-term
- Economic benefits are 'undeniable'
- Fracking is cheaper than other forms of oil & gas extraction methods
- Fracking will benefit local communities

- Fracking will benefit O&G companies
- Fracking will benefit the province of NL
- Fracking will create jobs for local communities
- Fracking will not benefit the region
- Fracking would help improve local infrastructure (roads, etc.)
- Fracking would require highway expansion
- Lower, slower development is good trade-off for longer-term sustainability
- Not enough local people trained in O&G to work on fracking rig
- Overestimation of number of jobs to be created
- The local economy_communities is_are not doing well
- We must quantify enviro and social impacts

IMPACTS OF FRACKING_ENVIRONMENTAL

- Concern about fracking contaminating water
- Concern about trucking accidents and spills
- Concern for the scale of development
- Concerns about flaring_contributes to light_air pollution
- Concerns about water supply and wastewater disposal
- Fracking does not cause earthquakes
- Fracking fluids will not migrate to surface
- Fracking will not negatively impact the enviro
- Impacts on wildlife_marine life
- Not concerned about fracking contaminating water or water use
- Risk of general enviro impacts of fracking
- Risk of seismic activity
- Visual impacts_out of sight, mind

IMPACTS OF FRACKING_HEALTH

- Concern about the chemicals
- Concerned with non-disclosure of fracking chemicals
- Uncertainty of long-term health impacts and disposal of chemicals

IMPACTS OF FRACKING_SOCIAL

- Fracking in community would ruin my life_break heart
- Fracking will change community composition
- Fracking will change the character of western NL
- Fracking will increase crime and drug use rates
- Fracking would reunite families_bring sons, fathers home
- HF is controversial, divisive, polarizing, and_or strains local social fabrics, etc.

- Increased truck traffic (transporting O&G & water, chems, sand) strains local infrastructure
- It's an illusion that fracking will bring home sons from out west
- Lack of resilience
- Made new friends because of fracking issue
- O&G companies are trying to downplay the controversy
- O&G companies do not have social license to frack
- O&G in prov. has increased the cost of housing
- Potential for fracking has changed my daily life
- Potential for fracking has not changed my daily life
- Potential for fracking has not changed my personal r'ships
- Potential for fracking may have changed my personal r'ships

KNOWLEDGE

- I learn about fracking by talking to people, experts
- I learn about fracking from documentaries, media
- I learn about fracking from my personal work_projects
- I learn about fracking from other provinces
- I learn about fracking from scholarly sources
- I learn about fracking from various non-academic websites
- We must think about fracking objectively

MORATORIUM

- I am disappointed by moratorium
- I approve of moratorium
- I'm surprised that a moratorium was achieved, given that SPE was issued license to frack
- Moratorium was in response to public pressure

OTHER OIL DEVELOPMENT

- Concerned with rush for O&G in Arctic
- Concerns about drilling in the Gulf of St. Lawrence
- Fracking offshore is okay because it's not visible_out of sight, mind
- Oil sands
- Oil spills and flaring at Hibernia, etc. are impacting sea birds
- There is an underreporting of offshore oil spills and flaring

REPERTOIRE OF TACTICS (for those in favour and opposed)

- Attending public meetings, HC, O&G symposia_observer
- Attending public meetings_participant (presenter, etc.)
- Attending town hall meetings
- Discuss in person
- Discuss via email
- Getting water tested now
- I am opposed to fracking, but did not take action
- Interviewed by media (on radio, in print)
- Letter-writing to politicians (local, provincial, federal)
- Local media use for those in favour of fracking
- Local media use for those opposed to fracking
- Organized public meetings
- Protests, rallies, marches, public gatherings
- Put up posters
- Signed petitions
- Use of Web 2.0 (social networking websites, such as Skype, Facebook, Twitter, blogs)

RESISTANCE

- Anti-fracking groups spout propaghanda
- Arts community and resistance
- GM Co-operating Association
- I do feel a part of the fracking awareness community on west coast
- I do not feel a part of the fracking awareness community
- I want to participate in anti-fracking events, but I was out of area when they happened.
- Involved in Gros Morne Coastal Alliance_networking along w coast
- Involved in NL-FAN
- People can make a difference
- Save Gros Morne campaign
- Those acting in resistance do not feel a particularly strong sense of community
- Those acting in resistance share a strong sense of community

SEASONAL OR YEAR ROUND

- I live here all year round
- I live here seasonally

TOURISM

- Fracking threatens existing local tourism industry

- Fracking will not threaten existing local tourism industry
- Local accommodations sector and Food & Bev workers pro-fracking
- Local tourism operators are opposed to fracking near Gros Morne
- Tourism industry has responded with concern, caution
- Tourists are concerned
- Tourists not concerned

Appendix J:

Song Lyrics and Link

https://drive.google.com/file/d/0Bya56mdhUipYaUg0VzNFYjRocUE/view

Jill Smith on guitar and vocals
Paula Graham on tambourine

Shared Stories

swirling in my mind
are the insides of other minds
each one clawing for precedence
each one winning, each one winning

every nuance can't be known
but based on shared stories
the opposition is homegrown
every nuance can't be known
but based on shared stories
the opposition is homegrown

so don't treat this resistance
like a skeleton you need to hide
in the name of science
in the name of Truth
in the name of progress or
in the name of proof

oh the proof is in the stories oh
oh the truth is in the stories oh