Stakeholder perspectives on climate change and adaptation in expedition cruise tourism in Nunavut

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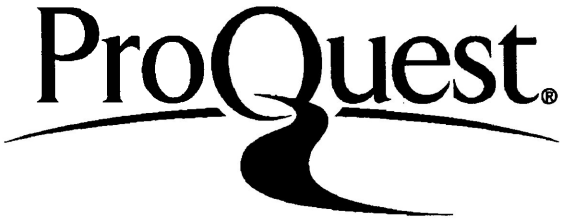

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Abbreviations

ACUNS: Association of Canadian Universities for Northern Studies

CACIA: Canadian Arctic Cruise Industry Association

CANNor: Canadian Northern Economic Development Agency

CAS: Current Adaptive Strategies

CES: Current Exposures and Sensitivities

DMRs: Decision Makers and Regulators

FAS: Future Adaptive Strategies

FES: Future Exposures and Sensitivities

FYI: First Year Ice

GN: Government of Nunavut

LUREB: Lakehead University Research Ethics Board

MYI: Multi Year Ice

NORDREG: Vessel Traffic Reporting Arctic Canada Traffic Zone

NRI: Nunavut Research Institute

NLCA: Nunavut Land Claim Agreement

NTI: Nunavut Tunngavik Incorporation

TVRA: Tourism Vulnerability and Resilience in the Arctic

Operational Definitions

Arctic Tourism: travel within the Arctic Region that is conducted for pleasure, but does not include government, research, business or logistical trips (Hall & Saarinen, 2010).

Expedition Cruise Ship Tourism: a form of cruise ship tourism that combines historical and environmental education with excursions to shore via an inflatable rubber boat commonly referred to as a zodiac.

Federal Government Decision Maker and Regulator: an individual employed by the Federal Government of Canada who plays a role in the decision making process and assists with the management of marine/shipping regulations.

Government of Nunavut Decision Maker and Regulator: an individual employed by the Government of Nunavut who plays a role in the decision making process and assist with the management of marine/ship tourism regulations.

Nunavut Expedition Cruise Ship Tourism Industry Stakeholder: a group or individual who can affect or is affected by Nunavut's expedition cruise ship tourism industry.

Private Industry Decision Maker and Regulator: an individual who is not employed by the Federal Government of Canada nor the Government of Nunavut, but who plays a role in the management of marine/shipping regulations related to the expedition cruise ship tourism industry. An example of a private industry decision maker and regulator is the Director of Nunavut Tourism.

Vulnerability: " ...the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity and its adaptive capacity" (IPCC, 2007b, p.21).

Adaptation: adjustments in social and natural systems in response to broad and local stresses, which moderate challenges and/or exploit opportunities (Klein, et al., 2007; Smit & Wandel, 2006).

Chapter One: Introduction

Climate change and tourism change are global phenomena (Keskitalo, 2008; Page, 2003). As climate change becomes more pronounced and the tourism industry continues to be susceptible to changes in climate (Coombes, Jones, & Sutherland, 2009), understanding the tourism industry's vulnerabilities and potential adaptive strategies become imperative (Keskitalo, 2008). This dynamic relationship between the tourism industry and climate change is important as the changes occurring are interpreted and responded to in various ways depending on the emphasis put on change by the broad decision making networks that are characteristic of multi-level governing systems (Keskitalo, 2008). One of the jurisdictions where the tourism industry is likely to be vulnerable and require adaptation to the climate change-tourism relationship is in the Territory of Nunavut in Canada's Arctic.

Nunavut's tourism industry is influenced by vulnerabilities and opportunities that are particular to the Arctic (Loverseed, 2008; Milne, 2006); these influences require Arctic specific responses, innovations and adaptations. Arctic specific adaptations are facilitated by the stakeholders involved in the management of Nunavut's tourism industry. On an ongoing basis, Arctic stakeholders have to address current and predicted vulnerabilities and opportunities; these need to be addressed in such a way that the political, economic, social, and ecological systems of the region are able to cope with and recover from various stresses. Through coping with and recovering from stress the Territory can maintain or enhance its capabilities and assets, and ensure that opportunities are available for future generations (Armitage, 2007).

In order to understand tourism change within these larger processes, it is necessary to consider the views of stakeholders, who are defined as "...any group or individual who can effect or is affected by the achievement of an organization's objectives" (Freeman, 1984, p. 46); this definition is also supported by Keskitalo (2004) and Jürgen (2002). Hardy (2005) proposes that stakeholders consist of visitors, operators, local communities, and regulators. In this study, the stakeholder group of interest includes policy makers and regulators, i.e. the Canadian Government, Government of Nunavut and local agencies that have a role to play in Nunavut's expedition cruise ship tourism industry. For the purpose of this study, these stakeholders are referred to throughout as decision makers and regulators (DMRs). Understanding this multi-level governance tourism relationship assists with the identification of necessary tourism industry adaptations (Hardy, et al., 2002).

In Nunavut the tourism industry provides opportunities for visitors, such as hunting, fishing, dog sledding, cultural touring, wildlife viewing and photography, and cruising (Loverseed, 2008). Arctic expedition cruising "...is style[d] on early cruises to Antarctica where, during the 1960s, cruising first combined brief shore visits by zodiacs (small inflatable craft) with environmental and historical education" (Stewart, Howell, Draper, Yackel & Tivy, 2010, p. 134). For the expedition cruise tourist, the adverse and challenging components, alongside the sensitivity and resiliency of a sublime Arctic landscape/seascape are attractions (Loverseed, 2008; Milne, 2006). Tourism in Nunavut provides visitors an opportunity to explore the unique and exciting history of the area and to experience the Inuit way of life (Loverseed, 2008; Milne, 2006). In managing the interaction of tourism with the attractions, communities and industry, Nunavut tourism

stakeholders face social, environmental and political vulnerabilities and opportunities that influence the decisions and policies developed.

Like other economic sectors, Nunavut's expedition cruise ship tourism industry needs to respond to the positive and negative effects of climate change (Marsh & Staple, 1995; Stewart, Howell, Draper, Yackel, & Tivy, 2007). The vulnerabilities and opportunities presented by climate change for Nunavut's expedition cruise ship tourism industry have made it increasingly important to the views of decision makers and regulators. This study presents a case study of views that DMRs have regarding climate change and the changes occurring in Nunavut's expedition cruise ship tourism industry. Its purpose is to explore the perspectives that stakeholders have on change and adaptation within the context of Nunavut's expedition cruise ship tourism industry. The end goal of this project is to suggest adaptive strategies DMRs may utilize in Nunavut's expedition cruise ship tourism industry when managing the effects of climate change within the context of ongoing change in social, environmental, and economic realms.

Tourism and climate change research has been conducted within the Arctic context by a number of authors in recent years (e.g. Belanger, 2008; Marisol, 2008; Saarinen & Tervo, 2006; 2008). Additionally, Arctic community and climate change research has been conducted (Ford, Smit, Wandel, Allurut, Shappa, Ittusarjuat, & Qrunnut, 2008; Ford, Pearce, Smit, Wandel, Allurut, Shappa, Ittusujurat, Qrunnut, 2007; Berman, Nicolson, Kofinas, Tetlichi, & Martin, 2004). While relevant to community and industry vulnerabilities and adaptations, this research has revealed a plethora of negative issues related to the impacts of climate change, and there has not been much examination of the opportunities presented by climate change outcomes.

Only recently have the opportunities for Arctic tourism presented by climate change been examined by researchers (e.g. Maher, 2010; Stewart, et al., 2005; Saarinen & Tervo, 2006; 2008; Stewart & Draper, 2008; Stewart, et al., 2007). Some specific recent work has focused on cruise tourism and communities in the Arctic, and the implications that climate change has for the development of an economically prosperous expedition cruise ship tourism industry (Stewart, et al., 2007; Stewart, et al., 2010). The impact of climate change and Arctic cruise tourism from a regulatory perspective is an area of less examination (Marquez & Eagles, 2007). Marquez and Eagles (2007) examined the potential policies required for cruise ships in Nunavut parks and protected areas; however, no further exploration has been completed which examines Nunavut's expedition cruise ship tourism industry DMRs in relation to their perspectives on climate change and tourism change.

Examining climate change implications from the perspectives of these stakeholders allows for a needed exploration of the industry and its place in the social and economic development of Nunavut. This examination leads to the identification of potential industry adaptation strategies to climate change and tourism changes being experienced in the region, as well as for those that are predicted.

To examine the views of Nunavut's expedition cruise ship tourism industry DMRs regarding climate change and tourism, this study focuses on the following research questions:

- What are the views held by decision makers and regulators about tourism and its interaction with climate change in the Arctic?

- To what extent do decision makers and regulators believe cruise tourists to Nunavut are motivated to visit due to climate change?
- What are the strategies identified by decision makers and regulators to ensure that cruise tourism in Nunavut is managed effectively in light of climate change?

To explore these questions, 31 semi-structured interviews were conducted with key DMRs who have a role in tourism, particularly in Nunavut's expedition cruise tourism industry. Interviews were sought with stakeholders in three categories: government, non-government, and industry. The data collected were examined within Smit's and Wandel's (2006) *Conceptual Framework for Vulnerability Assessment and Mainstreaming*. This study was conducted as part of a larger project assessing community vulnerability and adaptation in Nunavut, northern Quebec and Labrador and exploring interactions between climate change and tourism change (see Tourism Change and Adaptation in Northern Communities, 2010. Retrieved from http://www.arctictourismandclimate.lakeheadu.ca/Welcome.html on July 20, 2011). This larger project is called Tourism Vulnerability and Resilience in the Arctic (TVRA).

To provide the context for understanding climate change and its impact on the expedition cruise ship industry, the following chapter reviews literature that explores climate change, tourism changes, the relationship between climate change and tourism change, and governance within an Arctic context. Chapter Three explains the research approach, the data collection method and the analysis strategy used. Chapter Four provides the findings of the data analysis, and Chapter Five discusses the research

findings in relation to the research framework and research questions. This thesis concludes with Chapter Six, a summary of the research.

Chapter 2: Literature Review

Arctic tourism is defined as travel within the Arctic Region that is conducted for pleasure; this does not include government, research, business or logistical trips (Hall & Saarinen, 2010). Arctic tourism has demonstrated steady increases from 500,000 in the 1970s to over two million in the 21st century (Belanger, 2008; Hall & Saarinen, 2010; Hall & Johnston, 1995; Loverseed, 2008; Mason, Johnston & Twynam, 2000; Marquez & Eagles, 2007; Stonehouse & Snyder, 2010). Changes in the Arctic climate have been suggested as contributing to increasing tourist numbers in Arctic and northern communities (Anisimov, et al., 2007; Becken, 2007; Coombes, Jones, & Sutherland, 2009; Hall & Saarinen, 2010; Saarinen & Tervo, 2006; 2008); this possible link suggests the need to understand the relationship between climate change, the tourism industry, and industry governance. Adaptive approaches being used by communities and organizations can be examined by reviewing the views DMRs have on tourism and how climate change is a part of the tourism industry, their views of climate change and tourists, and what actions or adaptations DMRs believe need to be taken as a result of the ways in which climate change is influencing the industry and the Arctic experience that can be offered to tourists.

This literature review is composed of an examination of the Canadian Arctic tourism industry, with a focus on expedition cruising, an overview of climate change and tourism changes to provide an understanding of the changes occurring in the Arctic, and an overview of the vulnerability and adaptation literature. The literature review concludes with an examination of adaptive governance, a governance system that has been

suggested as appropriate for resource management industries and the Arctic (Armitage, Marschke, & Plummer, 2008; Chapin et al., 2006).

2.1 Arctic Tourism

The Arctic, as outlined by Stewart, Draper and Johnston (2005), is "...an area of study to compromise Alaska, northern Canada (Labrador, northern Quebec, northern Manitoba, Nunavut, Northwest Territories, and Yukon Territory), Greenland, Iceland, northern Fennoscandia (Norway, Sweden, and Finland), and northern Russia" (p. 384). It is important to note that the Arctic region can be defined in a variety of ways that relate to biophysical and cultural attributes; the definition above attempts to be inclusive in respecting those attributes.

The Arctic landmass and surrounding marine environments have significant variability and are warmer than what many people believe (Hall & Saarinen, 2010); however, the Arctic is typically portrayed as "...being white and cold, with extreme climates" (Hall & Saarinen, 2010, p. 5). Stonehouse and Snyder (2010) suggest that individuals expect cold temperatures and blizzards; however, upon arrival find mild temperature, minimal wind, and the need for sunscreen. Medvedev explain that the traditional perception of the Arctic "...is more often communicated than experienced, imagined rather than embodied" (Medvedev, 2000, 1, cited in Hall & Saarinen, 2010, p.11). The socially constructed meaning of the Arctic has contributed towards the development of the region's tourism industry.

The Arctic can be visited through three avenues: land, air and sea. A common form of exploring the Arctic is through expedition cruising. Expedition cruises are geared

towards tourists who are environmentally aware (Landau & Splettstoesser, 2007; Loverseed, 2008), interested in history, and have a particular focus on the preservation of the environment (Landau & Splettstoesser 2007; Maher & Meade, 2008; Maher, 2010).

Table 2.1 provides a summary of cruise tourists' demographics. Loverseed (2008), Maher (2010) and Thomson and Thomson (2006) explain that tourists who participate in an expedition cruise are generally well educated, ecologically aware, and feel as though they have seen the world's scenic sights and beauties; this supports the earlier work of Marsh and Staple (1995) who suggested that the expedition cruise tourist is likely to belong to a variety of conservation and wildlife societies. Johnston (1997) explains that visitors to the Arctic are generally seen as advocates for conservation, and as having "a strong interest in tourism that is educational and oriented towards protection of natural and cultural heritage…[which] suggest[s] that tourists are increasingly concerned with impacts" (p. 15). However, Johnston (1997) warns that not all Arctic tourists are concerned with environmental impacts on the Arctic, and that tourists may not be willing to act in accordance with conservation or preservation guidelines.

Arctic cruises have been conducted over the past century when the Arctic first experienced a form of expedition cruise tourism in 1892 in the Svalbard archipelago (Barthelmess, 2007). However, it was not until 1984, when the *MS Explorer* sailed the Arctic waterways, that there has been growth of cruise ships visiting the Canadian Arctic (Belanger, 2008; Hall & Johnston, 1995; Dawson, Maher, and Slocombe, 2007; Maher, 2010; Marsh & Staple, 1995; Marquez & Eagles, 2007; Stewart et al., 2007; Stewart, et al., 2010b).

Demographic & Other Tourist Characteristics	Description of Arctic Cruise Tourists	Description of Nunavut Cruise Tourists
Age	20 to 60 years old (Marsh & Staple, 1995)	40 to 60+ years old (Belanger, 2008; Grenier, 2004; Maher & Meade, 2008; Maher, 2010)
Gender	51% Female; 48% Male; 1% did not indicate gender (Hubner, 2009)	50% Female; 47% Male; 3% did not indicate gender (Maher & Meade, 2008; Maher, 2010)
Country of Origin	75% USA; 15% Canada; 10% International (Dawson, et al., 2007)	Canada, Denmark, USA, France, Germany and Australia (Belanger, 2008; Loverseed, 2008; Maher & Meade, 2008; Maher, 2010; Marsh & Staples, 1995)
Education	Well- educated (Loverseed, 2008; Thomson & Thomson, 2006)	Well-educated (Maher, 2010)
Learning about Opportunity	Newspaper (62.9%), Television (86.6%) (Hubner, 2009)	Newspaper & Internet; Word of Mouth, Cruise Company (Belanger, 2008; Maher & Meade, 2008; Maher, 2010)
Travel Group	51% Family; 30% Independent; 8% Friends (Belanger, 2008)	
Income	Wealthy (Loverseed, 2008)	High disposable income (Grenier, 2004; Jones, 1999; Maher, 2010)

Table 2.1: Demographic information for Arctic and Nunavut cruise tourists.

The Canadian Arctic expedition cruise tourism industry grew sporadically between the mid 1980s to the early 1990s (Stewart, et al., 2010b); however, after 1992 the industry demonstrated consistent growth as the result of the increased availability of inexpensive icebreakers (Grenier, 2004; Stewart, et al., 2010b). This growth was particularly noticeable in Antarctica, but also in the Arctic where the development of the industry has been slower (Maher, Steel & McIntosh, 2003). From 1992 to 2005 successful voyages of the Northwest Passage were conducted yearly, and cruise tourism around Baffin Island, Ellesmere Island, and Hudson Bay developed (Stewart, et al., 2010b). Since 2006, expedition cruise ships travelling to the Eastern Arctic have clearly increased in numbers (Maher, 2010; Stewart, et al., 2010b); however, Arctic cruise activity does not compare in the number of itineraries available globally for cruise destinations such as the Mediterranean and the Caribbean (Maher, 2010; Stewart, Howell, Draper, Yackel, & Tivy, 2010). In 2006, the Canadian Eastern Arctic experienced a doubling of the number of cruises visiting; cruise numbers increased from 11 in 2005 to 22 in 2006 (Stewart, et al., 2010b). However, the 2007 cruise season numbers did not increase substantially, representing a stabilization of the industry with 23 cruises being planned to the Arctic (Maher & Meade, 2008). During the 2008 season, six ships carried passengers on 26 cruises (Stewart et al., 2010b). The 2009 season numbers showed a slight decrease due to some cruises being cancelled as a result of low bookings, with 25 cruises being conducted (Stewart, et al., 2010b); this was likely the result of the 2008 economic recession. The summer of 2010 continued to demonstrate stabilization in the industry with 25 cruises being conducted in the Canadian Arctic region.

Currently the Baffin region of Nunavut receives a significant portion of the Canadian Arctic cruises (Maher, 2010; Stewart, et al., 2010b); however, cruises of the Northwest Passage and international cruises between Canada and Greenland are also occurring (Stewart, et al., 2010). The Baffin Bay/ Greenland region is an Arctic cruise destination that offers the potential for excellent wildlife viewing opportunities, favourable ice conditions, and spectacular scenery (Loverseed, 2008; Stewart, et al., 2010a). The accessibility of the tourist attractions described above is typically limited to the summer season. The busiest time for cruise ships in the Canadian Arctic is between the last weeks of July and the third or fourth week of August (Maher, 2010). However, Stewart's (2010b) research of operators' websites suggests that cruises are currently being planned for entry into the Baffin/Greenland area as earlier as the first week of July and continuing until late September. This suggests steady growth in the industry and is of interest to DMRs, especially regarding environmental, community engagement, transport and safety policies and regulations (Maher, 2010; Marquez & Eagles, 2007; Stewart, et al., 2010; Stewart & Draper, 2006), and has the potential to contribute positively to the development of Nunavut (Notzke, 1994).

In order to understand these developments and their potential, it is necessary to examine climate change and adaptation further. The following section will provide an understanding of how climate change is contributing to landscape/seascape changes observed by Inuit, non-Inuit residents, governments, and researchers.

2.2 Climate Change and Adaptation in the Arctic

Earth's climate has changed, and change is expected to continue; this is particularly evident in polar and alpine regions (ACIA, 2004; Coombes, et al., 2009; Davos Summary Report, 2004; IPCC, 2007; Moreno & Becken, 2009; Moritz, Bitz & Steig, 2002; Science Brief, 2008). Given the nature and extent of climate change in the Arctic compared to the rest of the world, communities and people in the Arctic are particularly vulnerable to the outcomes of changing conditions (Barber, et al., 2008; Dawson et al., 2008; IPCC, 2007). Therefore, it is critical to understand how climate change is being experienced, community response options, and how climate change and its outcomes will influence the tourism industry.

The Arctic plays a critical role in Earth's overall climate patterns (Barber, et al, 2008) and the region has been affected by increasing average surface temperatures at twice the rate of the global average (ACIA, 2004; Science Brief, 2008). ACIA (2004), Barber et al. (2008) and Science Brief (2008) explain that the increase in global surface temperature is the result of natural and human processes. Examples of natural processes include volcanic activity and radiation absorption; examples of human processes include the release of various atmospheric gases through the enhanced greenhouse effect (Barber, et al., 2008; Science Brief, 2008). The regional increase in temperature has decreased the amount of sea ice evident in the Arctic (Figure 2.1).

The reduction in sea ice allows cruise ships easier access to previously inaccessible destinations and facilitates a lengthening of the cruising season. This trend has also been observed in the Northwest Passage (Figure 2.2).

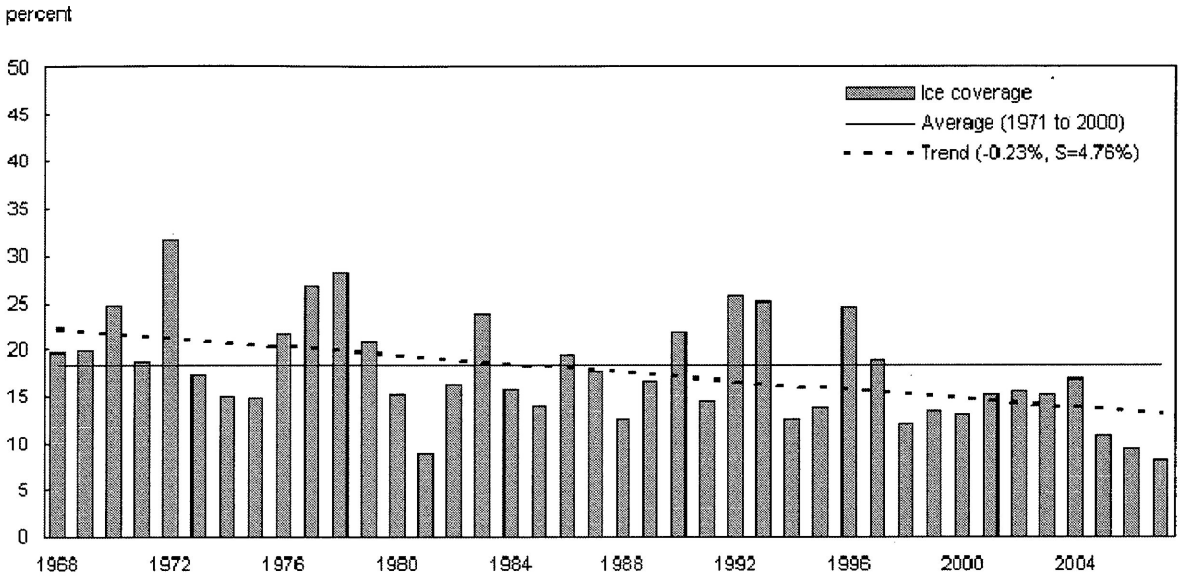

Figure 2.1: Canadian Arctic sea ice coverage from 1968 to 2004 (Canadian Ice Services, 2008).

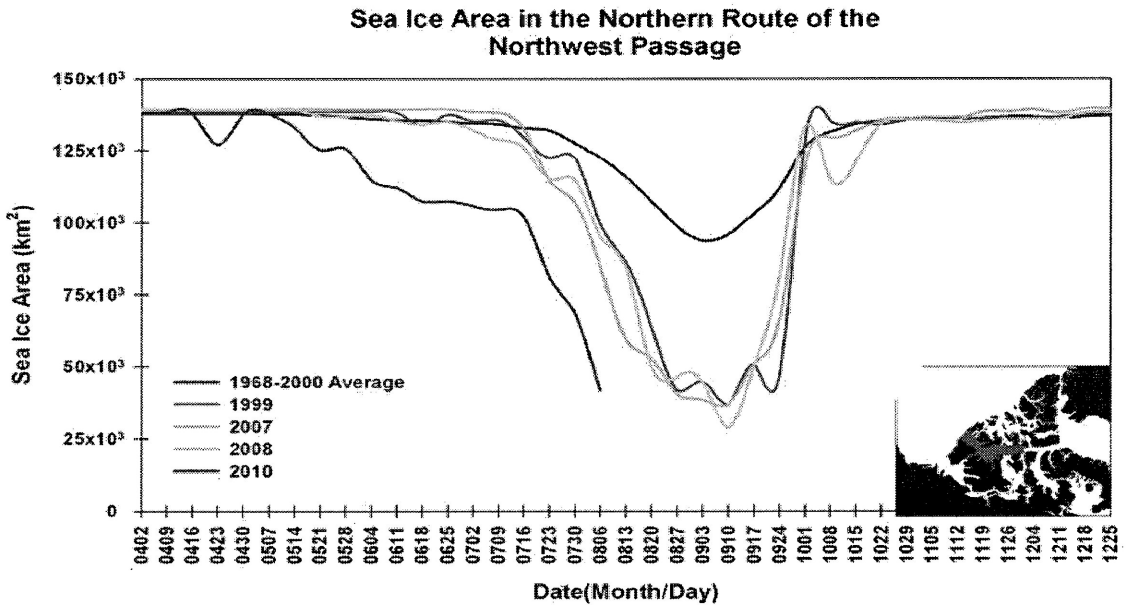

Figure 2.2: Sea ice area in northern route of Northwest Passage (Sundt, 2010).

The outcomes of climate change have been documented through interviews with Inuit and through scientific observations (ACIA, 2004; Ashford & Castleden, 2001; Berkes & Jolly, 2001; International Panel on Climate Change (IPCC), 2007; Inuit Tapiriit Kanatami, 2005; Loverseed, 2008). Reported Inuit observations of climate change include warmer weather during the summer, slumping of the coastline and along the banks of lakes and rivers, shifting building foundations, and the appearance of new animal species (Ashford & Castleden, 2001; Inuit Tapiriit Kanatami, 2005). Other Inuit observations reported include changing sea ice, and increased difficulties in predicting the weather based on traditional methods (Inuit Tapiriit Kanatami, 2005). Inuit have found that outcomes of changes in climate have made it difficult to pursue traditional activities such as hunting and trapping (Ashford & Castleden, 2001; Inuit Tapiriit Kanatami, 2005). The reality of climate change indicates that effective climate change response strategies need to be examined at local, national, and international levels (Duerden, 2004; Einarsson, 2009; Ford, et al., 2010; Ford, et al., 2008; Ford, et al, 2006; Ford & Smit, 2004; Pearce, et al., 2009; Richardson & Loomis, 2004; Schneider, et al., 2007).

There are two generally agreed upon approaches in dealing with climate change: adaptation and mitigation. Smit and Wandel (2006) describe climate change adaptation as "a process, action, or outcome in a system (a household, community, group, sector, region, country) in order for the system to better cope with, manage, or adjust to some changing condition, stress, hazard, risk, or opportunity"(p. 282). Klein, Huq, Denton, Downing, Richels, Robinson and Toth (2007) have described climate change mitigation

as "an anthropogenic intervention to reduce sources or enhance the sinks of greenhouse gases" (p. 750).

A method of examining society's climate change responses is to examine the "degree to which modeled impacts of climate change scenarios could be moderated or offset (or "mitigated") by "adaptations to the impacts" (Smit & Wandel, 2006, p. 284); this is the standard approach, and typically is not conducted at the community level (Ford & Smit, 2004). The standard approach is a broad non-community based examination that is particularly ineffective for northern regions as adaptation models are short term (40-90 years) and treated hypothetically (Ford & Smit, 2004; Smit & Wandel, 2006). An alternative is to focus on specific community or industry adaptation options in response to climate change (Smit & Wandel, 2006). Focusing on specific adaptation options is "...useful for a broad study of change targeting multiple impacts and their relative weights in the eyes of stakeholders" (Keskitalo, 2008, p. 9). The literature suggests two additional alternatives: examine current adaptation implementation processes and the adaptive capacity (vulnerability) of the community or industry (Keskitalo, 2004; 2008; Smit & Wandel, 2006).

The adaptive capacity approach allows for the involvement of stakeholders who can propose and/or develop strategies (Keskitalo, 2004; 2008; Keskitalo & Kulyasova, 2009). Further, examining the adaptive capacity of Nunavut's expedition cruise tourism industry provides a critical understanding of how an industry can "...decrease its vulnerability by learning and applying new economic, social, or political approaches to limit risk" (Keskitalo, 2008, p. 10). To examine the adaptive capacity of an industry an

understanding of the industry's vulnerabilities must be achieved (Keskitalo, 2008; Schneider, et al., 2007).

Vulnerability has been defined as "...the degree to which geophysical, biological, and socio-economic systems are susceptible to and unable to cope with, adverse impacts of climate change [and tourism changes]" (Anisimov, et al., 2007; Schneider, et al., 2007, p. 783) or as "... a measure of the sensitivity of systems to exposure to change, minus the capacity of those systems to adapt to change" (Keskitalo, 2008, p. 10). The vulnerability approach is a community level assessment that examines the degree of vulnerability, to what communities or industries are vulnerable, who is vulnerable, and the capacity to adapt (Ford & Smit, 2004).

Keskitalo (2008) suggest that vulnerability is related to an industry's systems sensitivity and the industry's adaptive capacity. Community/industry vulnerability to climate change is a function of climate change exposure and sensitivity and the adaptive capacity to adapt, cope, or recover from the effects of climate change (Ford & Smit, 2004; Smit & Wandel, 2006); this is represented as

$$V_{ist} = \int(E_{ist}A_{ist})$$

V_{ist} is the vulnerability of the community (i) to the stimulus (s) in a certain amount of time (t) (Ford & Smit, 2004). E_{ist} is the exposure of the community (i) to the stimulus (s) in a specified amount of time (t) (Ford & Smit, 2004). A_{ist} is the adaptive capacity of the community (i) to deal with a stimulus (s) in a specified amount of time (t) (Ford & Smit, 2004). Smit and Wandel (2006) further developed Ford and Smit's (2004) framework with the Nested Hierarchy Model of Vulnerability (Figure 2.3).

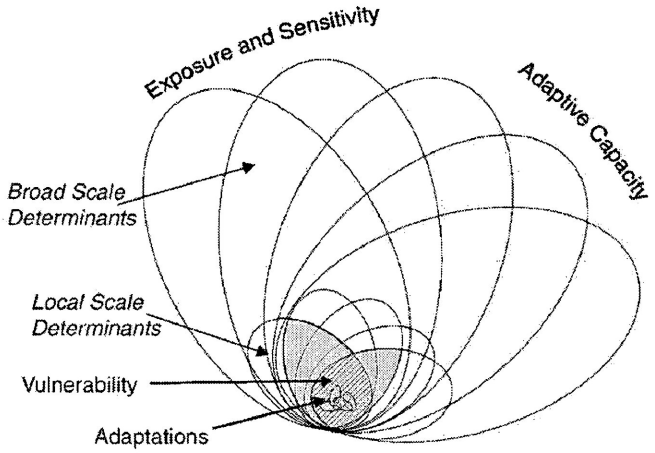

Figure 2.3: Nested Hierarchy Model of Vulnerability (Smit & Wandel, 2006).

The larger circles represent broad stresses and forces that determine the community's exposure and sensitivity, which shapes the community's adaptive capacity (Smit & Wandel, 2006). The smaller circles represent the community's local exposure and sensitivity and adaptive capacity (Smit & Wandel, 2006). Smit and Wandel (2006) state that broad and local community exposure and sensitivity is the interaction between environmental and social factors. The broad and local community adaptive capacity results from the relationship between social, cultural, political, and economic forces (Ford et al., 2008; Schneider, et al., 2007; Smit & Wandel, 2006). Keskitalo (2008) suggests that the broad exposure and sensitivity factors and adaptive strategies may have a greater overall impact than the community based impact due to concurrent challenges such as the global economy. The interaction of broad and local exposure and sensitivity factors and adaptive capacity produces the community's vulnerability and adaptability (Smit & Wandel, 2006).

Ford and Smit's (2004) basic framework for vulnerability assessment was expanded by Smit and Wandel (2006) who proposed the *Conceptual Framework for*

Vulnerability Assessment and Mainstreaming (Figure 2.4) as a way of identifying community adaptive strategies.

In Smit and Wandel's (2006) framework, the community is the system of interest; however, the flow chart is concerned with broader systems that influence the community (such as social, political and economic features and the global response to climate change). Smit and Wandel (2006) and Pearce, et al., (2009) suggest that researchers should also be examining local and regional decision makers, scientists, and resource managers. The *Conceptual Framework for Vulnerability Assessment and Mainstreaming* allows for identifying suitable climate change strategies for a particular community.

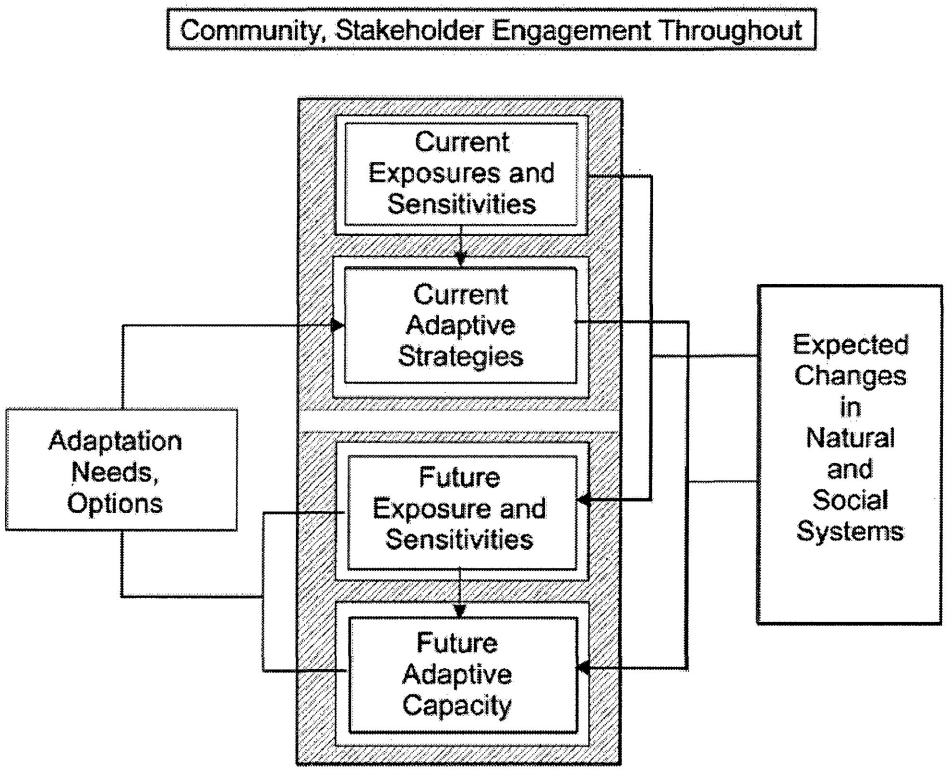

Figure 2.4: *Conceptual Framework for Vulnerability Assessment and Mainstreaming* (Smit & Wandel, 2006).

Adaptation strategies allow communities to ameliorate climate change induced challenges and opportunities (Yohe et al., 2007). Adaptation is thought to occur in a cyclic fashion; the pace and type of development affects a community's adaptive capacity and vice versa (Yohe, et al., 2007). Community adaptation influences community exposure and sensitivity and the capacity of other systems, such as economics, governance, and social systems, to adapt (Ford and Smit, 2004; Smit & Wandel, 2006; Yohe, et al., 2007).

Ford (2008b) states that climate change is not a problem that can be dealt with in isolation; climate change is influenced by, and is part of, local and global social, political, economic, and technological systems. Johnston (2006) suggests that the tourism industry "will be affected by how much climate change and related environmental changes affect local and regional resource use and also by unrelated stresses on the system"(p.43). However, the success of the Arctic tourism industry is heavily dependent upon the "... traditional perceptions of the Arctic environment and expectations about the experience that relate to ice and snow, mountain and tundra, and wildlife. As the Arctic changes, general perceptions used to sell tourist travel will change" (Johnston, 2006, p. 49).

Stewart, et al. (2007) suggest that industries able to adapt to changing climate will be successful; however, industries unable to adapt will decline or relocate, or will no longer be operational. The Arctic region is the most susceptible to the changes brought on by climate change, yet, in the short term, the Arctic expedition cruise tourism industry is in a position to be a beneficiary of climatic changes (Stewart, et al., 2007). This situation arises because of the interplay of temperature change and sea ice characteristics.

The past 30 years have presented the greatest rate of Arctic warming, at 1°C/decade (McBean et al., 2005). This increase in temperature has resulted in a reduction in sea ice abundance and thickness, along with a weakening of first year sea ice (Barber, et al., 2008; Howell, et al., 2009; Johnston & Timco, 2009; Stewart, Howell, Draper, Yackel & Tivy, 2007; Reidlinger, 2001). Barber, et al., (2008) predict that the decrease will continue; by 2090, it is predicted that there will be 75% less ice than there is today (Figure 2.5).

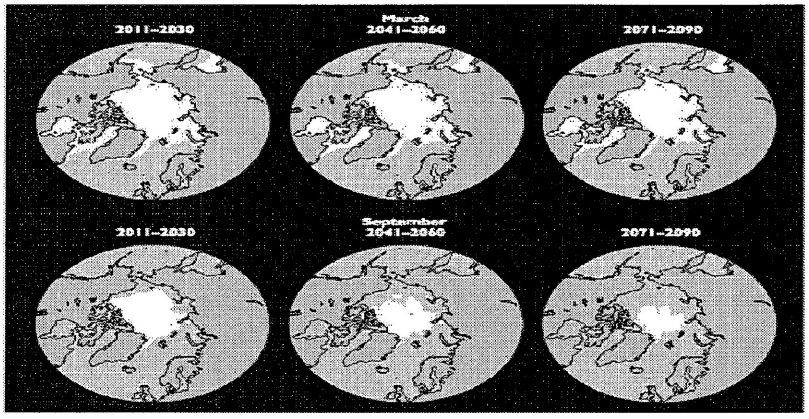

Figure 2.5: Predicted decrease in sea ice from 2011 to 2090, with the sea ice represented by the white sections in the figure (ACIA, 2004).

Reduction in sea ice between 2011 and 2090 potentially may result in a longer cruise season; this results from easier access to Arctic shipping corridors (Figure 6) (ACIA, 2004; Stewart, et al., 2007). By the mid 21st century (approximately 2041-2060), it is predicted that the Northwest Passage, and other shipping corridors (i.e. Northern Sea Route) will be open for approximately 125 days a year and will be covered by 75% less ice (ACIA, 2004).

Easier route access and a longer cruise season are a function of sea ice changes. The Arctic consists of first year ice (FYI) and multi-year ice (MYI). First year ice is a

seasonal ice formation that is typically 2m thick or less and easier for vessels to break through (Johnston & Timco, 2009; Stewart, Howell, Draper, Yackel & Tivy, 2010a). In comparison, MYI is ice that has been through at least one melting season, and whose thickness is generally more than 2m; MYI is stronger than FYI and harder for vessels to break through (Johnston & Timco, 2009). The abundance of FYI and MYI varies from eastern to western Canadian Arctic waterways (Stewart, et al., 2010a). In the western Canadian Arctic there is a significant amount of MYI due to the influx of ice from the Canadian basin (Stewart, et al., 2010a). In comparison, the eastern Canadian Arctic consists mainly of FYI (Falkingham, Chagnon, & McCourt, 2001). The movement of the sea ice as observed in the western Arctic has been observed to occur in the eastern Arctic as well (Howell, et al., 2009; Stewart, et al., 2010. Increased sea ice movement is a trend expected to continue (ACIA, 2004; Baber, et al., 2008; Howell, et al., 2009; IPCC, 2007); this presents navigational dangers for the industry.

In addition to sea ice movement hazards, reduction in sea ice will likely result in increased storms and coastal erosion, which has significant implications for northern communities on the coast, such as Kimmirut, Pond Inlet, and Arctic Bay, NU, and for the tourism industry generally (Barber, et al., 2008; Dawson, et al., 2008; Hall, 2008; Johnston, 2006). The evident changes that contribute to coastal erosion include the reduction in sea ice levels and the duration of sea ice, an accelerated thawing of the permafrost, and a rise in open sea area, resulting in a greater number of severe storms (ACIA, 2004). The result of coastal erosion is a loss of cultural and archeological sites, which are important to community members and the tourism industry (Maher, 2010; Maher & Meade, 2008; Roura, 2009).

New Arctic cruise corridors and a longer season are beneficial to the industry (ACIA, 2004; Hall, 2008; Stewart, et al., 2007); however, there are disadvantages to changes in sea ice. One disadvantage is the unpredictability of the open waters (Riedlinger, 2001); dynamic ice in open waters presents navigational hazards (Howell, et al., 2009) and potentially could lead to environmental and community disasters; the potential for environmental disaster was demonstrated when the *MS Explorer* sank in the Antarctica (Stewart & Draper, 2008). The sinking of the *MS Explorer* raised environmental protection concerns (e.g. presence of toxins from lube oil and plastics) and the potential for oil spills (Stewart & Draper, 2008). In fact, a one square nautical mile oil spill was reported within the vicinity of the sinking one day after the incident (Stewart & Draper, 2008). In addition to the potential for dynamic ice, an increase in storms also has resulted from a warming Arctic (ACIA, 2004), presenting safety hazards to vessels. Dynamic ice and severe storms may prevent cruises from visiting a community that was on the cruise itinerary.

The reduction in sea ice and a changing landscape (i.e. reduced snow quality and river levels, changes to vegetation and fauna) affect the tourism industry (Dawson, et al., 2008). Examining the relationship between a changing Arctic and the tourism industry impact is necessary for the development of planning policies in Nunavut (Wilson, 2006); these planning policies can be broad, in that they apply to a range of sectors in the region, or can be narrow, in that they specifically apply to Nunavut's tourism industry. Future policies and plans need to address the questions: Are tourists travelling to the Arctic because of climate change and its impacts on the region? Are tourists interested in viewing the new Arctic and the opportunities that are being presented to them? Are

tourists, residents, communities, governments, and the tourism industry able to adapt to the new Arctic and these opportunities? The answers to these questions are dependent not only on the impacts that climate change may or may not have on the Arctic, but also on changes occurring within the tourism industry. Researchers such as Belanger (2008), Maher and Meade (2008), Maher (2010) and Saarinen and Tervo (2006; 2008) have begun answering these questions from operators' and visitors' perspectives.

Saarinen and Tervo (2006) found that half of the interviewed tourist operators in Finland did not believe that climate change was occurring and that the tourism industry could continue on as normal. Yet, by 2007, Saarinen and Tervo (2008) found that tourist operators in Finland believed that climate change was occurring and expected that it was a result of human activity. Belanger (2008) found that one motivation for tourists travelling to the Arctic was the Arctic landscape before it was changed dramatically by climate change. Saarinen and Tervo (2006; 2008), Belanger (2008), Maher and Meade (2008), and Maher (2010) have provided a basis for understanding tourists' perspectives and have demonstrated that the perspectives of operators and tourists are influenced by larger changes within the tourism industry.

The ways that government agencies, non-government organizations, and industry stakeholders view climate change influences the adaptation decisions that are made. If industry stakeholders understand the relationship between climate change and tourism, effective planning and implementation can be used to adapt strategically to climate change (Marquez & Eagles, 2007). Researchers have suggested that effective planning and implementation is important as northern communities and industries are vulnerable to broad external and internal forces (Marquez & Eagles, 2007; Turner et al., 2003).

Understanding the impact of climate change on the tourism industry from the perspectives of DMRs is critical, as organizations are not able to swiftly adapt to climate change challenges and opportunities (Gossling & Scott, 2009).

The response of the industry's decision makers and regulators will shape the future of Arctic tourism through governance strategies. Section 2.5 will provide an understanding of the adaptive governance system, an appropriate Arctic governance strategy, and its connection to a community's vulnerability and resilience.

2.3 Adaptive Governance

Arctic environmental changes have been strongly influenced by humans (ACIA, 2004; Dowsley, 2009; Ebbesson, 2010; Folke, 2006; IPCC, 2007; Turner, et al., 2003). These changes require a governance style that incorporates flexibility in order to create rules, institutions, and incentives that are dynamic and allows for an improved understanding of community vulnerability and resilience (Armitage et al., 2009; Turner, et al., 2003; Young, 2009). It is through this unique governance strategy that a sustainable industry can be developed (Armitage, 2007). Armitage (2007) explains that a resilient industry is one that is able to cope with and recover from broad and local stresses, that enhances and maintains the adaptive capacity of the industry, and that ensures the adaptation options are future oriented.

Adaptive governance encourages multiple vertical and horizontal perspectives (public and private) that focus on learning and assists parties with adapting to and coping with uncertainty through communication, collaboration, and coordination (Armitage, et al., 2009; Armitage, 2008). This governance strategy is in stark contrast to the traditional

"top-down" strategy where decisions are made from a central location, and multiple perspectives are not taken into consideration (Folke, 2006). Adaptive governance encourages decision makers and regulators to take advantage of opportunities that disturbances (such as climate change) may present (Armitage, 2008; Folke, 2006).

Adaptive management emphasizes "...group decision making that accommodates diverse views, shared learning, and the social sources of adaptability, renewal and transformation [of information and ideas]" (Armitage, et al., 2009, p. 96). Resulting from this group effort is a governance system that is flexible and tailored to specific contexts (Armitage, et al., 2009; Buk, Geisler, Schelhas, & Wollenberg, 2001). An example of how adaptive management can be applied to specific contexts can be seen with the application of the governance strategy to the fishing industry in western Arctic (Ayles, Bell & Hoyt, 2007) and climate change observations across the Arctic (Berkes, 2009; Moller, Berkes, O'Brian-Lyver, Kislalioqlu, 2004).

The adaptive governance style is appropriate for the Arctic region. This governance style is developed through trust building amongst stakeholders, institutional development, and learning from experience (Armitage, et al., 2009; Berkes, 2007). In using an adaptive management governing style the community's or industry's resilience and vulnerability need to be examined (Folke, 2006).

Resilience has been described as "...the potential of a system to remain in a particular configuration, and maintain feedbacks, functions, and an ability to reorganize following disturbance-drive change' (Armitage, 2008, p. 15). The definition for resilience incorporates the ability of a system to absorb a disturbance, such as climate change, while maintaining the key attributes of the industry, the ability to self-organize, and the

capacity of the industry to learn and adapt (Armitage, 2008; Folke, 2006). Adger (2000) and Folke (2006) further expand this definition to social resilience: "...the ability of human communities to withstand external shocks to their social infrastructure, such as environmental variability or social, economic, and political upheaval" (Folke, 2006, p. 259). Resilience indicates adaptive capacity; this allows for a continual development of the industry through addressing change (such as climate change) (Folke, 2006).

Smit and Wandel (2006) indicate that the vulnerability and adaptive capacity assessment shifts the focus from controlling change to managing the ability of the industry and/or community to adapt to changes occurring within the social and ecological environments. The governance shift provided by the flexibility of adaptive management improves the likelihood of maintaining the desired pathways and encourages tailoring of strategies to specific organizations and contexts (Armitage, 2008; Folke, 2006). An adaptive strategy is attractive in northern communities as it allows for resource managers, governments, and other stakeholders to be involved in collaborative problem solving process (Armitage, 2008; Caulfield, 2004).

For communities that use adaptive management, there are several potential positive outcomes. Positive outcomes of using adaptive management include a recognition of different organizational/industry needs, an emphasis on stakeholder involvement, incorporation of formal and informal cultural norms and rules, encouragement of the development of horizontal and vertical networks, and an increase in the capacity that organizations/industries have to respond proactively to broad and local stresses (Armitage, et al., 2008; Borrini-Feyerabend, Pimbert, Farrar, Kothari & Rendard, 2004; Kendrick, 2003; Pahl-Wostl & Hare, 2004). It is through the adaptive

governance style that tourism stakeholders can be proactive in developing an expedition cruise ship tourism industry provided the uncertainty presented by changes in Nunavut's social and natural systems.

2.4 Literature Review Summary

The literature reviewed provides an outline of climate change, how it relates to the Arctic specifically and how it is affecting the tourism industry. Within the Arctic context there are two major strategies that can be used to adapt to the changes occurring within climate and the tourism changes: mitigation and adaptation (Ansimov, et al., 2007; Klein, et al, 2007). The vulnerability assessment framework presented by Ford and Smit (2004) and Smit and Wandel (2006) is used to examine the current exposures and sensitivities of the community and the adaptive capacity of the communities; it is this vulnerability assessment framework that supports this research project. This literature review provided an introduction to a key governance strategy, adaptive governance, which is community based and allows for multiple perspectives to be taken into account.

Chapter 3: Research Approach

3.1 Strategy of Inquiry

The research problem was approached from a qualitative perspective, and involved gaining an understanding of the major components of Nunavut's expedition cruise tourism industry and the way industry DMRs view the changes brought about by climate change. A qualitative approach allows for an in-depth understanding about an area of interest to be developed (Berg, 1998; Marshall & Rossman, 2006; Patton, 1990).

In qualitative research, researchers have a role in the data collection process and the researcher's personal experiences cannot be removed from the analysis and interpretation of the data (Fine, Weis, Weseen, & Wong, 2000; Marshall & Rossman, 2006). Indeed, my background and experiences have influenced the development of the research approach and results of this project; it could be argued that the results of the study are socially constructed (see Schwandt, 2000). This study was approached from a social constructivist paradigm as "the mind [is] active in the construction of knowledge" (Schwandt, 2000, p.197).

The research project is a case study designed to understand the views that Nunavut's expedition cruise tourism industry DMRs have regarding industry based vulnerabilities and opportunities that are influenced by the relationship between climate change and tourism. Additionally, the research aimed to identify adaptive strategies that can be utilized to adapt to present and future vulnerabilities and opportunities; to understand these, the research project utilized the vulnerability and adaptability model proposed by Ford and Smit (2004) and Smit and Wandel (2006).

3.2 Setting

This qualitative case study centred on Nunavut, Canada; however, telephone interviews were conducted in Prince George, British Columbia (from July 15, 2010 to August 5, 2010) and in Thunder Bay, Ontario (on August 17, 2010 and from September 11 to September 30, 2010); in person interviews were conducted in Nunavut (Figure 3.1) between August 18, 2010 and September 10, 2010.

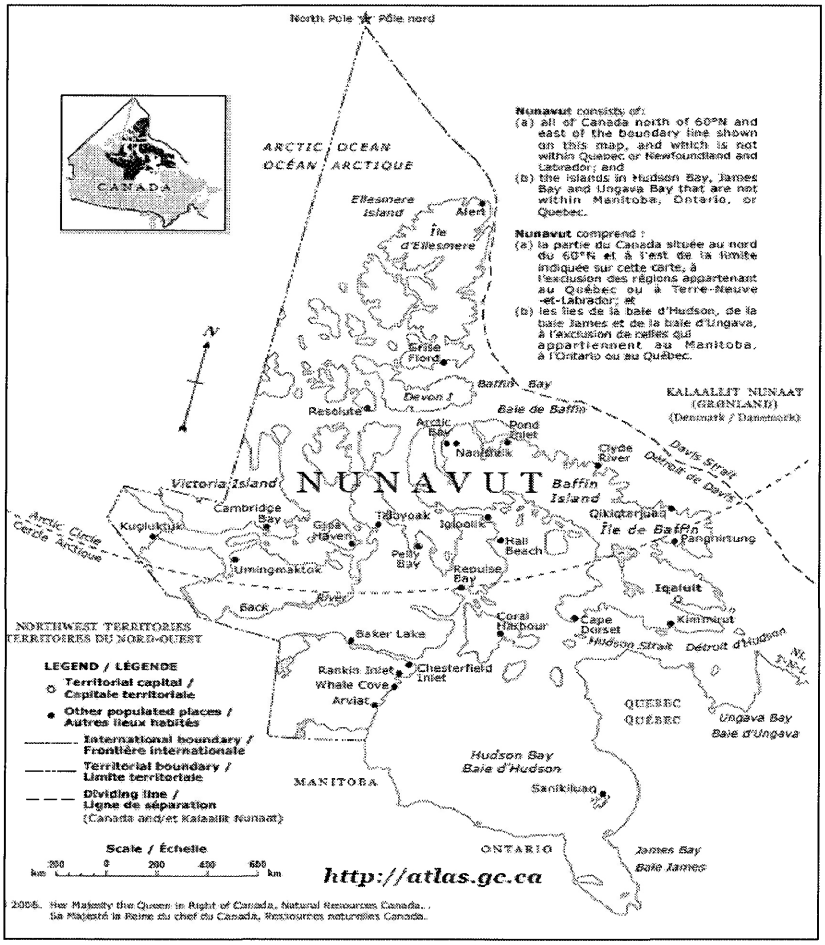

Figure 3.1: Map of Nunavut (Natural Resources Canada, 2006).

Nunavut, meaning "our land" in Inuktitut, was created as a separate Territory on April 1, 1999 after three decades of negotiations and planning by the Central and Eastern Inuit (Government of Nunavut, 2008). The land claim settlement, one of the most innovative

and comprehensive land claims in Canadian history, gave Inuit control over their economic, political and cultural futures (Légaré, 1996).

Nunavut, with a population of 33, 220 as of July 2010 (Nunavut Bureau of Statistics, n.d.), has sources of vulnerabilities related to the high cost of goods and services, high unemployment, a young population, low education levels, limited household incomes and potential for economic growth (Ford, Pearce, Duerden, Furgal & Smit, 2010; Government of Nunavut, 2008; Loverseed, 2008; Nunavut Bureau of Statistics, n.d.). These aspects of the territory are dimensions that tourism industry DMRs take into consideration when making industry based decisions and developing policies.

Currently, the territory's land is primarily tundra and is covered by snow for half of the year; however, as described in spring to fall 2010 articles in *Nunatsiaq News*, the local Nunavut newspaper, this may be changing. The snow covered and frozen tundra has traditionally dictated the economic development opportunities that have been pursued; however, changes to the tundra and increased global resource demands are facilitating the development of the economy in Nunavut (Vail & Clinton, 2001). Nunavut's economy was initially a land based economy, an economy that is not wage based and includes hunting, trapping, and fishing whose activity yields could be used to barter with (Vail & Clinton, 2001). Currently, Nunavut's economy is experiencing growth through industrial development and is working towards further economic growth through the development of new industries; this has yielded a mixed economy ("...land based" economy and a wage economy" (Vail & Clinton, 2001, p. ii)) in Nunavut (Vail & Clinton, 2001).

A component of this industrial growth is the extraction of minerals, such as copper, lead, silver and zinc (Mayer, 2007). However, the future growth of the mining

industry may be difficult due to the requirement for infrastructure, human capital, technology, along with appropriate government regulations and social policies (Vail & Clinton, 2001; Caulfield, 2004; Mayer, 2007). The Conference Board of Canada (2010) and Vail and Clinton (2001) suggests that Nunavut is working continually to meet this need, and towards developing a stronger economy to balance the requirement for goods and service with the need to maintain the Inuit heritage culture.

The Conference Board of Canada (2010) and Vail and Clinton (2001) explains that Nunavut's developing economy will most likely be a mixed economy of mineral extraction, construction, public service, hunting, trapping, fishing, and tourism. The economic contribution of tourism, although it is a growing industry in Nunavut, is difficult to measure (Vail & Clinton, 2001) because the GDP figures used draw from more than one industry, such as transportation, construction, and commercial businesses (The Conference Board of Canada, 2010; Vail & Clinton, 2001). However, it has been estimated that tourism in Nunavut in 2001 contributed $ 35.7 million to Nunavut's GDP (4.8% of the GDP) (Vail & Clinton, 2001). In 2010, tourism contribution to Nunavut's GDP was only approximately 3.5% (Impact Economics, 2010).

From August 18 to September 10, 2010, I spent time in the Baffin region. From August 19, 2010 to August 24, 2010, time was spent in Pond Inlet, a community located on the northern tip of the Baffin Region. While I was in Pond Inlet, I did not undertake any interviews, as my Nunavut Scientific Research License was only applicable to Iqaluit, NU. However, in Pond Inlet I was able to observe several cruise ships that arrived in the community and the social interactions that took place between the community and the cruise ship passengers; this proved to be beneficial to my time in Iqaluit, where I was

able to relate to participants about experiences with the expedition cruise ship tourism industry.

During the time period of August 24, 2010 to September 10, 2010 I was in Iqaluit, the capital of Nunavut, located in southern Baffin Island on the shores of Frobisher Bay. Iqaluit is important as the city is the centre of government for the territory. Iqaluit has a population of 6,184 (Statistics Canada, 2006).

3.3 Researcher Position

A pragmatic qualitative approach was selected to examine the research questions as "research on climate change impacts, vulnerability, and adaptation... requires [the] active involvement and collaboration with community members and local, regional and national organizations..." (Pearce, et al., 2009, p. 10). Before undertaking this work, I lacked the specific northern experiences that could provide me with a foundation for understanding Nunavut, the expedition cruise ship tourism industry and the stakeholders. Although, I lacked Nunavut specific experience, I did have experience in Yukon Territory. In Yukon Territory I worked with youth from across the three territories, with the majority of the youth being from Nunavut; this exposed me to some of the challenges Nunavut faces.

To increase my knowledge and understanding of Nunavut and the expedition cruise ship tourism industry I researched Government of Nunavut websites, tourism websites, and the websites of local newspapers and operators, as well as related academic literature. I was not able to physically immerse myself in the Territory for a significant period of time due to logistical limitations; however, I immersed myself in some of the

issues of Nunavut through the Internet (i.e. Nunatsiaq Online and Nunavut's Territorial Government's website).

3.4 Ethics

Permission to conduct the study was sought from the Lakehead University Research Ethics Board (LUREB); this research adheres to its ethical standards for completing research involving human subjects. In addition, I obtained a science license through the Nunavut Research Institute (NRI). I read the Association of Canadian Universities for Northern Studies *Ethical Principles for the Conduct of Research in the North* (2003), and other documents available on the NRI site. I periodically re-read the above documents during the field season to ensure that I worked within expectations. Potential participants were made aware of the purpose of the study, the interview procedure that would be utilized, and the estimated time required to complete the interviews; however, the interview time varied from participant to participant (i.e. some participants had an interview time of 30 minutes while others had an interview time of 2.5 hours; average interview length was 45 minutes). Each participant was provided with a cover letter that contained information regarding the research project and contact information for me, the principal investigator of the overall project, and my thesis supervisor (Appendix A). In addition to the cover letter, each participant had to complete an informed consent form (Appendix B) prior to providing any data. The consent form was used to inform potential participants that they were to participate of their own free will (meaning that there were no elements of fraud, deceit, duress, or manipulation)

(Berg, 1998). Further, I stressed that I would attempt to maintain the anonymity and confidentiality of the participants in compliance with LUREB and NRI requirements.

Confidentiality, "an active attempt to remove from the research records any elements that might indicate the subjects' identities" (Berg, 1998, p. 48), was achieved by removing identifying factors from any material that may be accessible publicly. Confidentiality was maintained through the use of participant research codes in notes, transcripts, and the assignment of pseudonyms for Chapter Four and Five of this thesis. The Nunavut expedition cruise ship industry is relatively small in terms of industry decision makers and regulators who are involved with the development of cruising regulations and policy. It is possible that a participant's identity could be guessed by a local regulator through the quotes used based on the way the individual speaks or his/her choice of words; though I have attempted to remove this possibility, it does exist. To ensure that confidentiality is maintained, records are being kept for the required five years; this allows for the research files to be secured and prevents the research transcripts becoming public. In the fall of 2015 the records will be destroyed. Anonymity, meaning that the subjects will remain unnamed (Berg, 1998; Lofland & Lofland, 1984), was achieved through the assignment of a pre-determined code to the participant (Table 3.1, located on p. 50) that was randomly assigned.

I stored the research records securely during the fieldwork timeline. The records were then stored in a locked box within a secure filing cabinet at Lakehead University. As this research project is a small component of larger research project, the research team members are the only individuals to have access to the filing cabinet and to the locked box.

3.5 Study Framework

The project used the vulnerability framework described by Ford and Smit (2004) and Smit and Wandel (2006) (Figure 2.3; p. 27 & Figure 2.4; p.28). The conceptual framework proposed by Smit and Wandel (2006) was used to identify the broad and local exposures and sensitivities that Nunavut's expedition cruise ship tourism DMRs have to contend with that influence their adaptive capacity to climate change and tourism change. Although this framework initially was developed to explore vulnerability in communities, it is useful in a number of contexts and I was easily able to apply the framework to Nunavut's expedition cruise ship tourism industry.

Researchers begin by identifying the current exposures, sensitivities and the adaptive capacity of the community; this is carried out through the use of qualitative methods such as semi-structured interviews, participant observations and focus groups (Smit & Wandel, 2006), and was achieved in this study by asking participants what were the challenges being experienced in relation to the cruise ship industry, and how these challenges are currently being or not being met. The majority of participants responded with social and natural system challenges that were then discussed or probed. The aim of this first analysis is to determine the current conditions with which industry DMRs have to contend with.

The next step is to identify potential future exposures and sensitivity, and the future adaptive capacity of the industry (Ford & Smit, 2004; Smit & Wandel, 2006). During this process, ways to reduce industry vulnerability are examined (Smit & Wandel, 2006), along with ways to include opportunities as a result of changes at a global, regional, or local level. This was achieved by asking participants to imagine that they

were looking into a glass ball and to describe what the future challenges might be, and, if there were any, potential solutions.

The community vulnerability framework generally utilizes a qualitative methodology. Based upon the framework proposed by Ford and Smit (2004) and Smit and Wandel (2006), and the advice of other community vulnerability researchers, such as Pearce, et al., (2009), the research project used semi-structured interviews to obtain the data. The following section will describe the sampling and data collection strategies.

3.6 Data Collection Procedures

3.6.1 Sampling Strategy

Researchers are able to gain access to participants in a variety of ways (Patton, 1990; Seidman, 2006). Due to my lack of existing contacts in Nunavut's expedition cruise ship tourism industry, I used gatekeepers to connect me with potential participants (see Rossman & Rallis, 2003; Seidman, 2006). My gatekeepers included the TVRA team members (see Chapter 1, p. 14), as they had developed the strong researcher-community relationship necessary to gain access to potential participants, and key stakeholders in the Federal Government of Canada (see Berg, 1998; Duerden, 2004; Gearheard & Shirley, 2006; Rossman & Rallis, 2003; Seidman, 2006). I was able to make contact with potential participants once I arrived in Nunavut; this assisted in developing the interviewing relationship (see Berg, 1998; Duerden, 2004; Marshall & Rossman, 2006; Seidman, 2006).

I used a purposive sampling strategy described by Patton (1990) and Seidman (2006). According to Patton (1990), Seidman (2006) and Rossman and Rallis (2003), purposive sampling focuses on gaining in-depth information from a small sample size. Purposive sampling was the overarching strategy for this project and I also used maximum variation and snowball sampling strategies to recruit participants.

Maximum variation sampling attempts to capture and describe key themes amongst participants (Patton, 1990; Seidman, 2006), who for this project included individuals employed by the Federal Government of Canada, the Government of Nunavut and private industry stakeholders. According to Patton (1990), the logic of the maximum variation sampling strategy is that "...any common patterns that emerge from great variation are of particular interest and value in capturing the core experiences and central, shared aspects or impacts..." (p. 172). With the use of the maximum variation sampling strategy, findings should provide: 1) detailed description of the participant's views, and 2) a demonstration of shared patterns amongst participants (Patton, 1990; Seidman, 2006). The limitation to using maximum variation sampling is that this strategy yields findings that cannot be generalized to other settings; this is a general disadvantage of qualitative research. Further, it is possible that not all of Nunavut's expedition cruise ship tourism DMRs are represented in the sampling strategy.

The third sampling strategy I used is snowball sampling as elucidated by Burgess (1984), Marshall and Rossman (2006), Rossman and Rallis (2003), Patton (1990) and Seidman (2006). This strategy involves a small sample of potential participants who suggest other individuals in whom the researcher may be interested (Burgess, 1984; Patton, 1990; Seidman, 2006). I decided to use snowball sampling as an additional

sampling strategy because I was not fully immersed into the governance of Arctic waterways and I was not able to identify all potential participants through the gatekeepers or an inspection of the Nunavut Tourism, the Nunavut Territorial government and Federal Government websites.

The sampling strategies resulted in 87 participants being sent a letter of invitation (Appendix A) explaining the project, including confidentiality, anonymity and consent, and inviting them to participate. Thirty one individuals agreed to participate in the study; this resulted in a 36.7% response rate for the study (see Table 3.1).

In total nine private industry DMRs, six Government of Nunavut DMRs, a community government DMR, an Inuit Government DMR, and 14 Federal Government DMRs were interviewed. Of these respondents, 11 participated in telephone interviews and 20 participated in-person. One interview was conducted as a conference interview at the request of the participants; one of the participants completed the conference in-person and the second by telephone. An Inuit Government DMR who had participated in the study withdrew because the participant did not feel that anonymity was adequately protected, even though all measures required by the NRI and LUREB for ethics, confidentiality and anonymity had been followed.

Data were collected until the self-imposed deadline of October 15, 2010 had been met. October 15, 2010 was selected as the date after which no interviews would be collected to ensure that the thesis would be completed within the timeline required for completion of my degree. I believe that saturation has been reached since recurring themes within the interview were present prior to September 15, 2010.

Participant Code/Pseudonym	Stakeholder Group	Descriptive Notes
ACPC (Bob)	Government of Nunavut	Male; Life time Nunavut resident; Inuit
ADAC (John)	Private Industry	Male; International resident focused on tourism research
ADFZ (Greg)	Government of Nunavut	Male
AOPA (Matthew)	Private Industry	Male; 10+ years in Nunavut
ARTS (Fred)	Private Industry	Male; 10 + years in Nunavut
DEWI (Sue)	Private Industry	Female; Employment history has been within tourism
DEWZ (Anne)	Private Industry	20 years experience in the expedition cruise ship tourism industry
DVFR (Mark)	Community Government	Male
EFAS (Dan)	Government of Nunavut	Male
ELSA (Don)	Private Industry	Male; 20+ years in Nunavut
FARS (Lucy)	Federal Government	Female; Long time northern Canada resident
HVOR (Tessa)	Federal Government	Female; Long time northern Canada resident
INRE (Kyle)	Federal Government	Male; Worked in the Arctic
LIRL (Charles)	Private Industry	Male; Extensive work with Inuit governments
MEFA	Inuit Government	Withdrew from Study
MVFR (James)	Federal Government	Male; Worked in the Arctic
NASA (George)	Government of Nunavut	Male; less than five years in Nunavut
NFCT (Kevin)	Government of Nunavut	Male; 20+ years in Nunavut
NOAA (Jason)	Federal Government	Male; 5 years in Nunavut
NOTA (Mary)	Private Industry	Female: 5+ years in Nunavut
NOTM (Kenneth)	Federal Government	Male
PAPI (Scott)	Federal Government	Male
PATW (Joseph)	Federal Government	Male
PATS (Frank)	Private Industry	Male; 20+years in Nunavut; Inuit
RARE (Jerry)	Government of Nunavut	Male
RNAV (Dennis)	Federal Government	Male; Less than 5 years in Nunavut
SLSA (Peter)	Federal Government	Male; 20 + years worked in Arctic
SVFR (Linda)	Federal Government	Female; 5 + years in Nunavut
SWSL (Henry)	Federal Government	Male; 10+ years in Nunavut
TACA (Carl)	Federal Government	Male: 20+ years of employment in Arctic
TACI (Ryan)	Federal Government	Male; 10+ years in Nunavut

Table 3.1:Participant Codes, Pseudonyms and Stakeholder Group

3.6.2 Interview Strategy

Interviewing is one of the most powerful ways of learning about a social construct, and can be used to understand the perspective of the group or individual (Fontana & Frey, 2000; Perakyla, 2005). Fontana and Frey (2000), Marshall and Rossman (2006) and Seidman (2006) say that the qualitative interview is like a conversation, where the researcher has a few general topics that assist in uncovering the participant's view; however, from this general starting point, the interview is based upon the responses provided by the participants. This idea is based upon the basic idea of qualitative research: that the "participant's perspective on the phenomena of interest should unfold as the participant views it..." (Marshall & Rossman, 2006, p. 101). The interview technique has been used in Arctic vulnerability and adaptability research (Ford, et al., 2010; Pearce, et al., 2009; Smit & Wandel, 2006), where the views of the Inuit have unfolded throughout the course of the interviews.

The use of interviews in Arctic research has been demonstrated to be a useful, and the preferred data collection technique (DeSantis, 2008; Fleming, 2009; Ford, et al. 2010). Therefore, interviewing was the most appropriate method for this study. There are three interview styles: structured, semi-structured and unstructured (Marshall & Rossman, 2006). The structured interview is highly organized and does not allow for flexibility, while the unstructured interview is unfocused (Berg, 1998; Burgess, 1984; Marshall & Rossman, 2006). The semi structured interview allows for an interview schedule and the flexibility to explore probes that go beyond the questions (see Appendix C); this allows for a truly in-depth understanding of DMRs views on climate change and tourism, that is not constricted by the researcher (Berg,

1998; Patton, 1990). In addition to the semi-structured advantages, the approach was selected as I did not have a strong familiarity with interviewing and the approach provided a guide to follow. To overcome my lack of experience, I conducted mock semi-structured interviews with experienced interviewers (see Berg, 1998; Fontana & Frey, 2000; Patton, 1990). I also had discussions with committee members about how to ask interview questions, which were standardized by the research team, in a manner appropriate for the context.

At the beginning of the field season I relied heavily on my semi-structured interview schedule. However, as I gained experience conducting interviews, I relied less on the interview schedule, and was able to probe more comfortably; a technique that was suggested by a committee member when I expressed my concerns about my lack of interviewing experience. I believe this was reflected in increased comfort displayed by participants who were interviewed later in the field season. The disadvantage of using the experience I gained during the field season is that the participants were not asked the interview questions in the exact same order; I had allowed for flexibility in the interview questions to ensure that a level of comfort was developed between the participant and me. This was expected to influence the findings of this study as each participant responded differently to the questions. However, the advantages of the semi-structured interview outweighed the disadvantages.

During the interviews there was the possibility for a language barrier to arise between participants and me. I do not speak Inuktitut and Inuktitut is the working language in Nunavut. During the interviews, two Inuit individuals were interviewed. These two individuals spoke fluent English and a translator was not required. I did not

offer to do the interview in Inuktitut as it did not occur to me at the time of the interview that these individuals might be more comfortable speaking Inuktitut. The two individuals, when approached about their participation in the study, responded to me in English. Having conducted the interviews in English may have influenced the findings of this research as the individuals may not have been able to clearly express their perspectives due to the potential lack in their vocabulary. Further, if I did not understand something that these two participants were saying, I asked for clarification. During an interview with one of these participants, I had to reword a question to help the participant understand what I was asking.

3.6.3 Memoing and Field Note Strategy

Memos and field notes were utilized as a way of putting the transcripts into context during the analysis process (Saladana, 2009; Glesne & Peshkin, 1992). Specifically, the memos and field notes described the interview setting, activities that occurred, and described the participants (see Patton, 1990). Four factors were observed: space, the individuals involved with the research (i.e. names, appearance, cultural background, interaction with research, researcher's attitudes towards the participant, and the role of the researcher and the participant), season interview was conducted in and the emotions and feelings that the participants and I expressed in association with the interview (see Berg, 1998; Burgess, 1984; Saladana, 2009; Fontana & Frey, 2000; Patton, 1990).

Saladana (2009) explains that by continually reflecting on the memos and field notes, the research questions, the research codes and operational definitions a stronger

analysis occurs. The notes assisted with answering questions such as "What are people doing? ....How do members talk about, characterize and understand what is going on? What assumptions are they making?" (Saladana, 2009, p.18). Memos and field notes were written in journal format, with the research team members having access to them.

3.7 Data Collection

To record the interviews, I used a digital tape recorder that was placed between the participant and me so as not to provide a distraction to the participant or me. For interviews conducted by telephone, I used a phone receiver/recorder. In addition to the digital tape recorder and the telephone receiver/recorder, I made field notes leading up, during, and after the interviews. At the end of each interview, I wrote a 'reflection journal' that described how the interview went from my perspective.

Once the interviews were completed, I transcribed them; this allowed me to emerge myself into the data (see Auerbach and Silverstein, 2003) and was critical to the coding process (see Saladana, 2009). When the interview transcripts were completed, a copy of the transcripts was forward to participants; participants were informed that I specifically wanted them to ensure that the context of what was transcribed was correct; this assists to ensure findings are reliable, valid and provided participants with an opportunity to clarify any misunderstandings (see Duerden, 2004; Gearheard & Shirley, 2006; Pearce, et al., 2009; Stewart & Draper, 2009). Participants were provided with a two-week period to return their transcripts to me. Participants changed the flow of the transcripts (that is word tenses, pauses, and deleted 'ums'); however, prior to and at the end of the interviews, I informed the participants that I was transcribing exactly what was

said, in order to ensure that what they were trying to say was captured. The two week time limit assisted in ensuring that the projected stayed on track. One participant returned a transcript after three weeks; this returned transcript was used for the analysis. The transcripts were forwarded to the participants in English as none of the participants requested an Inuktitut transcript; this may be a limitation to the analysis of the data. Transcript analysis commenced when participants returned the transcripts.

3.8 Data Analysis

3.8.1 Coding

The coding analysis for this study used the methods as explained by Auerbach and Silverstein (2003) and Saladana (2009). Coding, the process of organizing the transcripts texts and examining emerging patterns (Auerbach & Silverstein, 2003; Glesne & Peshkin, 1992; Saladana, 2009), allows for the researcher to gain an insight into the data collected. There are generally two stages of coding, the first and second cycle; within these cycles the data is continually coded and recoded until the researcher feels that he/she has accurately captured the data (Auerbach & Silverstein, 2004; Saladana, 2009).

There are seven subcategories within the first cycle; however, I used three subcategories: attribute, descriptive and initial coding (Auerbach & Silverstein, 2003; Saladana, 2009) as these subcategories were suggested to be useful for researchers new to the coding process and because these subcategories applied to second cycle coding (Glaser, 1978; Glesne & Peshkin, 1992; Saladana, 2009; Wolcott, 1994). First cycle

coding began with the initial coding of field notes and memos and interview transcripts and commenced during the data collection process (Saladana, 2009).

Attribute coding consists of descriptive information that is considered useful in understanding the data; this strategy is useful when working with multiple participants and sites and as a form of data management (Glesne & Peshkin, 1992; Saladana, 2009). Attribute coding was specifically done during the field season and was applied to field notes and memos.

Initial coding allows for data to be examined and compared with the goal of looking for similarities and differences; this allows for an exploration of potential leads so the study's direction can be determined (Glaser, 1978; Saladana, 2009). The initial coding took place while transcribing field notes and interviews. Field notes were transcribed on a daily basis and the majority of the interviews were transcribed within two months of the field season ending. Attempts were made to transcribe the interviews as they were completed; however, this only worked for the first two interviews. This could be considered as a limitation to the study; it may be argued that themes or key concepts brought up in one interview were not followed through or further examined in future interviews.

An example of how initial coding of field notes proved to be beneficial was with the number of informal conversations that I had with members of the Canadian Coast Guard. These conversations provided me with a significant number of leads that proved to be very beneficial during the actual interview with a high-ranking Canadian Coast Guard official. Further, these discussions assisted with understanding the context of Nunavut's expedition cruise ship tourism industry. This was a context that I had observed

and read about through a southern perspective; however, I did not truly understand the context until I had arrived in Nunavut and was provided with an opportunity to observe the industry in full action. The initial coding provided a way of understanding the data in greater depth and a basis for the descriptive coding to be conducted.

Descriptive coding allows for data to be summarized through the assignment of a noun or brief statement about the subject (Glesne & Peshkin, 1978; Saladana, 2009; Silvermen, 2000; Tesch, 1990). Descriptive coding was used extensively in the analysis; whereas, initial and attribute coding was useful in the field and memo notes. Transcripts were coded as I was transcribing and twice again after the transcripts had been received back from the participants.

Pattern codes further identify emerging themes and codes developed from the first cycle coding process (Miles & Huberman, 1994; Saladana, 2009). Pattern codes were used in the research project to group together smaller codes and were developed based on the application of a noun or brief statement applied to a set of smaller codes. To assist with reducing the number of pattern codes to a manageable size, focused coding was used (see Charmaz, 2006; Saladana, 2009).

Focused coding assisted with the development of themes (Charmaz, 2006; Saladana, 2009), and was selected as a strategy to assist with the development of overarching research themes based upon the first cycle coding strategies. One disadvantage of focused coding is that there are no clear boundaries between the codes (Dey, 1999); however, the advantage is that data comparison can be made, which, assists with improving the transferability of the results (Charmaz, 2006; Saladana, 2009).

3.8.2 Explanation of Coding Constructs

The coding process yielded over 400 codes; these codes were developed during the first cycle coding process and made the data initially unmanageable. Codes were grouped together to make the data manageable. Pattern and focused coding was done through the creation of mind maps; this allowed for connections to be made between the codes.

The connections made allow for an easier understanding of how climate change is affecting Nunavut's expedition cruise ship tourism industry from the perspective of the DMRs. To ensure that the coding was logically conducted, other possible explanations, based on the interview transcripts, were sought; however, no other explanation was found that would influence the connections between the first cycle second cycle codes.

3.9 Summary of Research Approach

This case study examines Nunavut's expedition cruise ship tourism industry DMRs and their views on the current and expected vulnerabilities and opportunities that have arisen from the relationship between climate change and tourism through the application of the *Conceptual Framework for Vulnerability Assessment and Mainstreaming* (Smit & Wandel, 2006). The DMRs for Nunavut's expedition cruise ship tourism industry present a niche sample; therefore, this case study utilized three sampling strategies. The sampling strategies yielded 87 DMRs being sent a letter of invitation. Thirty two DMRs agreed to participate in the study from across three levels of governments (Federal, Territorial, and Local). Participants participated in semi-structured interviews. Interview transcripts were coded using five coding strategies, which provided

the basis of the transcript analysis. The result of the coding process will be discussed in detail in Chapter 4.

Chapter 4: Findings

This chapter outlines the thematic categorizes revealed through analysis of interview transcripts. Interviews were analyzed thematically; themes were grouped to develop representative categories and to demonstrate the breadth and variation of the perspectives of decision makers and regulators on Nunavut's expedition cruise ship tourism industry and climate change. Findings are presented through three broad themes: 1) *Context of Nunavut Territory, 2) Expedition Cruise Ship Tourism in Nunavut, and 3) Governance of Nunavut's Expedition Cruise Ship Tourism Industry.* Each theme has sub themes and composite themes that are related to one another. The chapter summarizes the results by drawing out the climate change and tourism sources of vulnerability and opportunity. A more detailed examination of how the thematic results relate to my three research questions is provided in Chapter 5. This chapter begins with the broad theme of *Context of Nunavut Territory*; this theme provides a base understanding of the DMRs views and of the context in which DMRs are working.

4.1 Context of Nunavut Territory

The *Context of Nunavut Territory* was an overarching theme that has a significant role in how Nunavut's expedition cruise ship tourism industry is developed and governed. During the analysis, it became apparent that content in this theme could be grouped around four sub-themes: *the development of Nunavut, economic development opportunities, the image of Nunavut, perceived government problems, and a generational change.*

Federal Government, Government of Nunavut (GN) and private industry DMRs discussed two economic development opportunities: mining and tourism industries. Two Federal Government employees and a private industry employee, currently economic development opportunities are focused on mining; however, this was not always the case, according to a private industry employee:

> The whole industry was waiting for the land claim to be settled, so that the Inuit (land claim) bodies would gain control over their resources and then begin to foster [the] mineral development we certainly have seen in spades. So that has resulted in all this mineral development, which makes it look like...that tourism is [a] less important part of the economy, but it's not that tourism has changed, it's just that mineral development has increased dramatically (Don).

According to two private industry DMRs, tourism does not present a strong economic development opportunity for the territory. Federal, GN, and private industry employees provided several explanations for the weak tourism development. One private industry employee suggested that "...from Nunavut's perspective ...[there is] an uncertainty about whether tourism really offers ... the economic stability they are looking for- a lot of people in leadership roles don't see tourism as much of an economic opportunity" (Don). The economic disinterest regarding the tourism industry was described by two GN employees, one of whom explained that "... the economic impact of arts and crafts...is a greater [economic] contributor than tourism" (Greg). Participants attributed this economic uncertainty regarding tourism to the fact that the majority of Nunavut's tourism is ship based.

Though mainly ship based tourism, a private industry employee explained that Nunavut's tourism and supportive tourism industries (e.g. boat and quad rentals and land-based guiding) are underdeveloped: "...we have noticed for several years that the tourism sector in addition to a few others [are] really underdeveloped, and certainly we would like to see more loans going to the businesses that are supported by tourism than there are now" (Mary). Tourism, noted by participants, is not an economic development focus; however, there is evidence that cruise ship tourism in Nunavut is developing. One way this development is occurring is through Nunavut branding to potential southern clients; this has been developed through Nunavut Tourism and Nunavut Terrestrial Parks and Special Places and demonstrates recognition by DMRs, who understand that Nunavut is influenced by globalization.

Study participants stated that Nunavut's mining and tourism industries cannot act in isolation of each other nor of the other global sectors. A Federal employee demonstrated that Nunavut's tourism economic development opportunities are influenced by global destination competition.

> So the challenge has always been we are not competing with each other here in the North we are competing against Australia, Greenland, Norway, [and] South Africa. We are competing against that kind of product, and it is cheaper, for a higher level of service than what we can provide here (Tessa).

The impact of economic fluctuations was demonstrated by an Environment Canada employee who explained that Nunavut's expedition cruise ship tourism industry ... is a curious sort of business ...because it really is a business of flex; it has been hit very hard...by the economic downturn a few years ago..." (Henry). The impact of global

financial markets, which in 2009 had a significant impact on the industry, was explained by a Parks Canada participant "...last year a lot of cruise ships because of the economy cancelled..." (Linda). Nonetheless economic development opportunities, although influenced in negative ways by global forces, arise as industry in Nunavut continues to diversify.

A GN employee described Nunavut as a developing tourism destination and region.

> ...Nunavut was more, I hate using the word, behind the west [Northwest Territories]. It was mainly because...we are operating more within the developmental context. This is still a developing region as opposed to the West, which has moved from being a developing region to a more developed region (Dan).

A Parks Canada employee described Nunavut as a developing tourism destination "...they are coming into a culture that probably, by third world standards, is behind the times. Even in countries in Africa, you have people going on safaris; they have had that for generations. Here it is [a] fairly new phenomenon" (Dennis). However, the developments or changes have not only occurred in the tourism industry, but also in the way of life and has been difficult for some individuals to accept, according to Henry.

> ....there are a lot of people up here who are unwilling to accept the fact that change is coming, change is underway, change is coming be it global environmental change or be it simply economic change, the reality is that we live in a global society.

The development of Nunavut as a territory has affected the economic development opportunities available and the opportunities that the GN is willing to pursue; however, the image held of Nunavut by visitors and other 'outsiders' is also changing and developing.

The image of Nunavut held by many outsiders, according to a private industry DMR is that of a romantic North. The romantic ideals have flourished through media attention given to the North and from historical events and tales that have been passed from one generation to the next.

> There is a fascination [with] the environment and living in the Arctic...like everyone else in Canada we learned about [Nunavut and the Arctic] in school...but obviously you get a really filtered view of the north through books and the reality here is different, romantic sort of views of life and the way we live here (Matt).

The differences between the romantic views and the actuality of Nunavut influence the development of Nunavut, especially when southerners are involved with Northern development. A Territorial Parks and Special Places participant explained that a person "...can't really have the concept until [they] come up and experience it" (George). Nunavut's global image, the state of development of the territory, and its economic development opportunities face GN based obstacles.

Federal Government participants and one GN participant discussed challenges presented by the GN that have affected the economic development opportunities, the image of Nunavut, and the development of Nunavut and the expedition cruise ship tourism industry. Dan explained that since 1999 bureaucracy has increased in Nunavut.

> .. you know there is a lot of parties, and some would say that in fact there are too many parties to consult with; you can't breathe or sneeze without having someone say you can't do that without consulting with me. I have noticed that. There are no two ways about [it] things have changed in Nunavut, I view that from a very positive stand point, I view it as being somewhat more bureaucratic [then] what used to be with the NWT, which was somewhat simpler (Dan).

Bureaucratic changes were not the only changes that were described by participants. Nunavut has significant demographic differences as noted in Chapter Three.

An Environment Canada employee reported changes in the social demography of Nunavut. This demographic shift, according to a Federal Government participant, has influenced the social support network within the communities, which has an effect on community health, education, and well being (Henry). The social demographic and cultural changes have influenced the younger generations' views of tourism, reported Tessa who stated that a tourism generational shift occurred: "...the next generation did not want to work that hard. The next generation did not see the value of [tourism]".

This section has described the overarching theme *Context of Nunavut Territory* and its four sub themes that included the global image of Nunavut, the continual development of Nunavut, the economic development opportunities, problems associated with governance in Nunavut, and the generational change that has occurred.

4. 2 The Expedition Cruise Ship Tourism Industry in Nunavut

This section will present the views that DMRs have of the expedition cruise ship tourism industry in four sub-themes: *the perceived tourist profile, the perceived desired*

cruise experience, the cruise tourism stakeholders, and the developing nature of the expedition cruise ship tourism industry in Nunavut.

Participants described Nunavut expedition cruise tourists as consisting of individuals in an older demographic with relatively high social economic status who are not affected by economic recessions or fluctuations. Participants generally held the belief cruise tourists spend upwards of $50,000 (this includes their airfare, cost of their cruise, souvenirs, etc.) on their Nunavut cruise; however, two Federal Government employees had the opinion that the expedition cruise tourists are not spending as much as they used to.

Nunavut's expedition cruise tourists were portrayed as 'sponges': very interested in learning and understanding destinations and have given quite a bit of thought to the north. This apparent characteristic of the cruise tourist facilitates interest in cruise programs; however, a Parks Canada employee reported that such programs are lacking. Expedition cruise ship tourists are viewed as having a strong code of ethics and environmentally aware, although this aspect has been reflected poorly in tourist behavior within communities, according to Environment Canada employees. The expedition cruise ship tourist profile is related to tourist motivations for travelling to Nunavut.

During interviews, DMRs explained from their perspectives why expedition cruise tourists were attracted to Nunavut. Interviews demonstrated three broad tourist motivation categories: ongoing media awareness, historical romanticism, and geography. Table 4.1 demonstrates the components of these three categories.

Ongoing Media Awareness	Historical Romanticism	Geography
• Climate Change Story • Creation of Nunavut in 1999 • Exoticness of Nunavut • Last Chance Tourism • Last Frontier	• Sense of Adventure • Explorer's Complex • Northwest Passage • "Bite of the North" • Feelings of Being Special • The History of the North • Mystique	• Natural Beauty • Climate Change • Remote Location • Unique Destination • Pristine Protected Areas • Unchanged Inuit Culture

Table 4.1 DMRs views of expedition cruise ship tourists' motivations.

Although three distinct motivational categories appeared in the transcripts, components of each category could be seen within the other categories; an example is climate change. Participants explained that the media awareness has facilitated the use of the term *last chance tourism or last frontier* to be applied to Nunavut. This motivational inter-connection was reported by a private industry participant.

> ... again with that in the media so much that it is sort of peaking people's interest before the climate does really change, polar bears decline, wildlife...people are thinking about it that way when they make choices ..., it's obviously [one] of the big draws of coming up here it's rarely seen and unaffected by people (Matt).

A private industry participant described the climate change attraction in this way.

> ... Just in general ... there are a number of people ... [that] have said I have to do this now before it disappears, with a lot of stuff in media and things people are getting that perception [that] if I don't see it now it's not going to be what it is 10 years from now it won't be the same (Susy).

Further, in the interviews, participants suggested that the changes in the Arctic climate have help to increase the historical romantic interest in the Arctic. A private industry employee stated this as:

> .. but now that with the global warming and less ice in the area, especially in the passage, ... I think that means sometimes more people are sort of ... attracted to the lure of the challenge of getting though the Northwest Passage, sort of like climbing Mt. Everest. [It is] one of those old Arctic adventure stories that people have heard and it's a challenge you know and people want to try (Mark).

Decision makers and regulators described how tourists and other users of the Arctic waterways have the belief that the Arctic, and Nunavut, is now accessible (Scott; Kyle). This perception of accessibility is the result of reduced sea ice and has led to the belief that the Arctic is safe for ship travel, even though navigation can be hazardous.

> The reality is that there is no doubt about it, the Arctic is warming up, the Arctic [has] less ice, no doubt about it. That doesn't necessarily make it easier to navigate. Sometimes that can actually make it more difficult to navigate. When you have a six by [six piece] of ice that is basically frozen to the land you know where it is, it's easier to navigate [around] that unlike if it were moving...I think there is the perception that since the Arctic is having less ice coverage that it is easier to navigate...but if anything, a static piece of ice is easier to navigate around than a dynamic piece of ice (Carl).

A Parks Canada employee explained that the safe ice belief has led to opportunities for ships and cruises: "With a longer season, with less ice of course it opens up, possibility of ships arriving earlier and leaving later, it also opens up parts of the territory that you[r] average ship hasn't ventured into that they can now explore with less risk" (Dennis). Federal Government and GN DMRs recognize the presence of hazards; however, they do not believe that sea ice changes have diminished the expectations tourists have.

Decision makers and regulators reported that tourists expected to view Inuit as a museum exhibit. Three phrases were used to describe the reported museum exhibit expectation of tourists. A private industry employee described this expectation as *a living museum.*

> In the past there have been some huge challenges to overcome. Back in the mid 1990s when boats were first starting to come there was a boat that went into Broughton Island...and before they got there, somebody told the people on the boat that this was a living museum like Upper Canada Village or something that you just sort of wondered through.... (Susy).

A Parks Canada employee described the expectation of a living museum as a *zoo atmosphere*: "...it can be a bit like a zoo atmosphere like people coming around and taking pictures of things your like 'why are you taking a picture of that' and you know just having some inappropriate behaviour" (Jason).

Another private industry employee described the need for outsiders to *Pickle the Inuit* to develop what was described as a *sustainable preservation.*

> .. sometimes anthropologist[s] and outsiders want to pickle the Inuit, they want to put them into some kind of cultural jar of formaldehyde and preserve the culture as some sort of romantic north ... (Charles).

Greg, a GN employee, described Nunavut's expedition cruise ship tourism industry as being immature, with the opportunity to continue to mature. The industry was described as being behind the times, with the tourism industry in Africa being more developed than the cruise ship tourism industry in Nunavut by a Parks Canada employee. The interviews suggest that a few DMRs have the impression that Nunavut's cruise ship

industry has matured; however, interviews also indicated that several participants had the view that Nunavut's cruise ship industry was still developing in terms of growth. "Tourism has definitely grown a lot since I've been here. And also the amount of cruise ships that to begin with...but in recent years there has been a lot more; it has really grown" (Matt). The developing nature of the industry and concerns with the development can be seen in an interview with a Federal Government employee:

> I was concerned about the growth without the community having benefit, I was concerned about the growth with the impact on the environment because my opinion was that [the] Nunavut Government did not have in place the necessary legislation to protect Nunavut from all kinds of things, and the tourism legislation was totally inadequate to deal with [the] cruise industry as it was developing at incredible speed (Lucy).

This industry development was acknowledged by a GN employee:

> ...there certainly is an increase in activity. I don't know if it is a climate change related increase because it started quite some time ago, it has been building, and I think it is a higher interest in the Arctic that [has] started and the creation of Nunavut [that] really got people's attention (Jerry).

Industry development was suggested to be a function of the increase in itineraries and route development: "...they might add new routes that may or may not have been accessible before and go into certain areas that they may not have been able to" (Kevin). The increase in route development has led to an industry that "...is moving and has moved from our area of Nunavut and will move from other areas of Nunavut soon enough; it does that... it finds the new hotspot and goes there" (Fred). Greg suggested

that the relationship between climate change and the developing nature of the cruise industry has created challenges for the GN.

> I think the main issue with climate change is that there is going to be more traffic- that is an obvious one. There is going to be more people coming, they are going to have to [go] further north to have a very unique experience, so that is a huge issue. As we saw last week there is an issue of mapping. What is accessible over the next few years isn't necessarily mapped; so how dangerous is it for those ships? I mean it is a huge issue, and it affect[s] nearly every facet of tourism in Nunavut. It deals with quantity, quality, accessibility, longer seasons which is good, and then we need to make sure that we have the infrastructure to deal with the longer season and more people (Greg).

The development of the industry has led the GN to focus on the industry from a sustainable perspective according to Government of Nunavut participants: "That is really the division mandate for the next couple of years because we need to put ourselves in a firm foothold which will allow us to either sustain the tourism activity that we have at present or look to grow it responsibly" (Greg). The requirement for development of the expedition cruise ship tourism industry was recognized by a Federal Government employee, who stated that the industry's goal is "to encourage, support, and help to develop the product that exists in it's very basic, primitive, not primitive, but static form" (Tessa). The developing nature of the expedition cruise ship tourism industry and the need for industry growth lead to a discussion of the desired experiences of tourists by DMRs.

The expedition cruise ship tourism industry has, according to a Government of Nunavut participant, received presence recognition. This presence recognition has been acknowledged through the need to sustainably develop the industry as reported by DMRs in the previous section. Ways of achieving this goal include promoting Nunavut as one of the last undisturbed places (Susy) and bringing people to the Arctic who otherwise would not travel to the Arctic (Henry & Rob). The goals of the industry contribute to the industry's characteristics.

The characteristics of Nunavut's expedition cruise ship industry were not specifically discussed; however, the characteristics emerged in the analysis of transcripts. Henry described the industry as a business of flex that is heavily influenced by local and global stresses. Anne suggests that this flex business style has enabled the operators to utilize environmentally friendly vessels and to concentrate on passage safety. Though environmentally friendly vessels have been developed, the industry still has a significant climate footprint, explains John, a private industry employee in a discussion of industry challenges.

> ...the big climate footprint in some of the smaller areas, running into an accident, an oil spill, there are also social [challenges] with ships going into small communities that are not really prepared for massive amounts of people, altogether there is the size of the cruise ships, cruise ships are increasing, there are less opportunities to really guide in the proper way (John).

Challenges described by John were reiterated by Sue (a private industry employee), who explained that her organization "...had cruise ships this summer [the summer of 2010]

change their itinerary at the last minute. Communities were planning for them and they did not show up."

Though the expedition cruise ship tourism industry has a large climate footprint and is a business of flex, some DMRs recognized that the industry is valuable. For Parks Canada employees, the industry represents legitimate visitors who participate in multi-day park experience. "They are legitimate visitors, they are getting an experience, it just may not be as long as if they were staying in the same place overnight, but they are still getting in their multiple day trip, they are seeing more of the area that is represented [by the park]" (Linda). This visitor experience is starting to be standardized in Territorial Parks and Special Places, according to George, through the development of park infrastructure "...The focus again has been to get all the parks consistent so that they all have entrance signs, they all have interpretive signs, they all have flag poles and washrooms ...". The standardization of the Territorial parks experience and the recognition of the legitimacy of expedition cruise ship tourists underscores the belief that stakeholders have about the cruise experience in Nunavut having to be positive; this was described by Linda who said that Parks Canada delivers programs to tourists and

> ....[has] always ... tried to make it has positive as an experience for the people coming to the parks, to give them as good as an experience as possible. It's moved from being based on people's activities in the park to looking at the type of people they are and what type of experience they are wanting (Linda).

George stressed that the positive experience needs to be a unique one that "...they'll really remember... and that is the key to ensure that when they get off the boat

[that] the experience is something that they didn't expect, but is orchestrated and ran as efficiently as possible" (George).

Visitors and communities participating in the expedition cruise ship tourism industry, according to a private industry participant and Federal Government participants, need the cruise experience to be positive. Henry stated "something as simple as that should be a positive experience, it should be positive for the community, it should be positive from the economic development point of view to communities…". One way of ensuring a positive experience for the community, according to a private industry participant, is for the industry to acknowledge that the arrival of a cruise ship is not a unique event.

Don explained this: "…cruise ships [have] to remember that they aren't the only cruise[s], they aren't the only group of tourists landing on the beach of the community, and to expect the community to …roll out its red carpet every time a cruise ship shows up off the shore, it's not a unique event to the community" (Don). Don further stated that communities provide a service to the cruise ships and that operators need to view communities as service providers.

> So it basically means they have to start thinking of what services they want from the communities, they have to think of them as that- they are services. ….You can't expect the community to lay on some grand spectacle without paying for it. They are not doing it just because they are excited to see you, it may have been the case the first time a cruise ship arrived, but it doesn't happen anymore, and there is no reason to expect it to (Don).

Though the experiences geared towards expedition cruise tourists are designed to meet the expectations and desires of cruise tourists, Tessa stated that the industry needs to "promote appropriately, phrase appropriately, [and] present appropriately" in order to ensure that expedition cruise ship tourists are satisfied with their experience and that their expectations are met.

Analysis of the transcripts revealed that industry DMRs played a role in the industry through the interaction of stakeholders' views and feelings and generational and cultural differences. This sub section will present the social aspects of the expedition cruise ship tourism industry stakeholders, and includes the views that DMRs have on the industry.

The expedition cruise ship tourism industry although, viewed as positive by some DMRs, has also been viewed as having a negative impact on communities and Nunavut as reported by a Federal participant, a GN participant and a private industry participant. The negative impact that the industry has on communities and Nunavut was described with several key adjectives. Decision makers and regulators described the expedition cruise ship tourism industry as being *invasive* (a Federal Government participant) and communities as being *'raped and pillaged'* when cruise ships arrive in the communities (Federal and GN participants).

> It is unfortunate as a lot of times these communities are 'raped and pillaged'. These people come in, flashing pictures, and buying stuff, they can clean out a carving gallery in 30 minutes, that's fantastic; however, what are you learning about the community? Nothing! Because they just came in … swoosh and they are off again (George).

Lucy explained that the National Parks visited by cruise ships "…. are not part of the equation; [but] the attraction that the cruise industry is selling around Pond Inlet in a big way…" (Lucy). For Lucy, being a selling attraction for the industry has created a sense of being used. Jason demonstrated how shore visits by cruise ships are invasive.

> .. Cruise ships are kind of funny in that it is this big group of people who often may or may not speak English and they are …drop[ped] in town and they cruise around. I think sometimes that people feel like it is an invasion sometimes because it is so in your face and people are dressed alike and its pretty funny and people get a few chuckles out of that… (Jason).

Fred explained that some communities feel obligated to provide services to the expedition cruise ship tourism industry: " …a lot of communities are just doing this as a service hoping to [get] a few little arts and craft sales because they feel obligated to entertain these sophisticated foreigners." However, if the communities are not prepared for this obligation, then everyone is short changed, as explained by George: "…It is the community that gets short changed, the territory is short changed [and] the visitors are short changed…." A GN participant explained that there was no community service association that could act as liaison for the expedition cruise ship tourism industry. Henry stated:

> …the disservice is to the communities because the communities, some communities, not all, but some could be really benefiting now by a much more coordinated process of dealing with cruise ships up here and I think there is inherent [feelings], people just don't understand it all this inherent feeling that the

> cruise ships are just rich people and they try to ignore the rules and that is definitely not the case in my experience.

Over time, according to a Parks Canada participant, the attitude of residents in Nunavut has changed:

> I think that people generally don't mind the cruise ships coming to town. I think that there is an idea that there is a big financial benefit from it, but I think that attitude has kind of changed over time. I think...like when I first arrived people would always speak about the financial benefit of having the cruise ships and you don't hear that so much anymore. And maybe that is because people are realizing that the financial benefits are not as great as what they had thought. (Jason).

An Environment Canada employee described a negative attitude that communities have developed towards cruise ships in this way: "...the impression is that somehow they aren't doing good things, they are sneaking into places up here, people don't want them, etc and quite frankly that is just not my experience of working with the company I have worked for" (Henry). He further noted that

> there is this impression that communities have about cruise ships scaring away their wildlife, which is malarkey, and the territorial and federal government has this impression that somehow they (the cruise ships) are poking around places that they should not be, which is something in my experience that is just not true (Henry).

This section has presented thematic findings of the overarching theme *Expedition Cruise Ship Tourism Industry in Nunavut*. This overarching theme is complex and

includes the stakeholders in the industry, the tourist profile from the DMRs perspective, the cruise experience and the developing nature of the industry. The following section will present thematic findings based upon the governance of the industry, another dimension of the expedition cruise ship tourism industry.

4.3 Governance of Nunavut's Expedition Cruise Ship Tourism Industry

During the analysis, four themes emerged with regard to governing Nunavut's expedition cruise ship tourism industry: *Sovereignty, Legislation and Regulation, Responsibility, and Governing Styles*. This section will present the industry governing styles described by the participants: collaborative and adaptive governance, a demonstration of stakeholder perceived responsibilities, the legislation and regulation applicable to the expedition cruise ship tourism industry, and the influence of sovereignty from the participants' perspective.

4.3.1 Governing Styles

Federal and GN participants described a governing style as being *collaborative*. For the GN, collaboration was described in conjunction with visitor centers and territorial parks in a south Baffin Island community.

> They have a few cruise ships come in every year, and we operate the Katimavik Park Visitor Center, which is sort of the focal point or the first stop for visitors when they arrive in the community. So…our role would be through our visitor center manager...he would orchestrate the activities and the entertainment of

> visitors and ensure that people are cooking traditional food, ...as well as cultural displays, throat signing and jewelry making [and] carving displays... (George).

A Federal Government participant identified the need for collaboration in the business permitting process as follows:

> If it had transparency and was able to have good working relationship with the federal [and] territorial governments, and hamlets ....I think this is the key....[in] ensuring good collaborative communication activities between all agencies, especially focusing on where the cruise ships are going to land with their passengers so that there is no misunderstanding between the operators.....that coordination is critical (Dennis).

Collaboration was recognized by participants to have multi-scale linkages: Community to Community, Government of Nunavut to Community, Government of Nunavut to the Private Expedition Cruise Ship Tourism Industry, Government of Nunavut to the Inuit Government, Government of Nunavut to the Federal Government of Canada, Federal Government of Canada to the Communities, Community to the Expedition Cruise Ship Tourism Industry, and the Expedition Cruise Ship Tourism Industry to the Federal Government of Canada.

According to a Federal Government participant, "...people in the community need to be involved, need to provide a connection to the changes occurring in their lives and around them" (Tessa). Cruise ship tourism, according to Lucy (a Parks Canada employee), is projected to continue to develop, and according to a second Parks Canada participant, communities need to collaborate with one another to develop a cruise tourism

product that is different from one community to the next that can be offered to cruise tourists (Dennis).

George, a GN employee, described how in some cruise locations there is a collaborative relationship between the GN and local community; an example of this, according to a Territorial Parks and Special Places participant, is the Hamlet of Kimmirut. The employee at the Katimavik Centre is a GN employee who organizes activities and entertainment for visitors. Within the Hamlet of Kimmirut, "...we operate it as a gallery in conjunction with the arts and crafts society in Kimmirut, so we serve both an interpretive aspect as well as an outlet for local artists to show case and sell their artwork through this center which is right on our site in Kimmirut" (George). This example of GN- community collaboration shows how governments can work with communities; however, some participants also explained that community- industry- government collaboration is required at all levels of government.

A Parks Canada employee explained that "...coordination between all levels of government and the cruise ship industry and all the different cruise ship operators [is necessary] to ensure that we don't have all forty ships landing in Qikqtarjuaq in the space of ten days, but that we have these ships ... at different ports of call along the way" (Dennis). The level of coordination described by Dennis as desirable was also suggested as a potential collaborative relationship between Territorial Parks and Nunavut Tourism, and also between communities and the expedition cruise ship tourism industry.

George suggested that there is the potential for Territorial Parks and Nunavut Tourism to work together; however, "... right now... from a parks perspective its [a] human resource capacity we don't have" (George). Though Territorial Parks and Nunavut

Tourism are separate organizations, they do "...have a really strong relationship with Nunavut Tourism. A lot of time[s] we help one another out, where people may call us thinking that we have tourism related information..." (George). The collaboration between Territorial Parks and Nunavut Tourism was further demonstrated with: "A lot of times at the start of the year we exchange print material so that we have copies of one another's brochures and stuff so when one does call I may put, if they are looking for just general information, the Nunavut Tourism brochure in an envelope along with our information" (George). Nunavut Tourism allows Territorial Park visitors to "...view all of the safety videos at the Nunavut Tourism visitor center and our staff goes over and does the paper copies of the registrations" (George).

A private industry stakeholder indicated that for the industry and communities to effectively partner together that the industry and communities need to "...understand each other needs, and respect them..." (Don). Don explained that the cruise operators "...have to start thinking of what services they want from the communities, [and] then they have think of them as that - services."

Collaborative communication between the community (and some government organizations) and the cruise ship tourism industry is difficult, particularly in terms of an itinerary, according to a GN employee. This difficulty was expressed by DMRs through a discussion of the frustrations felt.

Transport Canada was described as having a collaborative relationship with northern communities, especially when looking at regulatory developments: "We do consultation through our Canadian Marine Advisory council; we do consultation through different clients and communities when we look at regulatory development" (Carl). He

continued: "...we do take a more of a consultative approach than probably other areas/departments just because we have ... everything from industry users [that] our acts/regulations apply to ..." (Carl).

A Parks Canada employee explained how Parks Canada is starting "...to explore a partnership with the cruise industry...so that Park Canada's message can start to get to cruise passengers ..." (Lucy). However, this desire for a collaborative partnership with the cruise ship industry has been met with some resistance from a few operators as reported by Lucy:

> ...they aren't making any effort to endear themselves to the community... they are totally inflexible. In fact they weren't willing to translate any programs that we were willing to do with them, they didn't want to have a translator talk about whatever we were saying, they were pretty hard asses and didn't seem to be interested in making an attempt to involve the community...

For Parks Canada to have a successful collaborative relationship with the industry, cruise tourists "...have to [have] a shore [visit] in the park, we have to have some relationship with them where there is an actual park experience on shore when we have that we have to charge them/their passengers a park fee..." (Lucy). The success of the industry also requires that there is a collaborative relationship between the Inuit government and other stakeholders.

A private industry employee explained "...there has certainly been a concerted effort to ...try very hard to collaborate on as many things as possible" (Charles). He explained that collaboration between the GN and the Inuit government can be difficult at times because of the Nunavut Land Claim Agreement (NLCA). Charles described two

functions of the NLCA; the first function is to"...set up a new territorial government, which is to organize the public government with a constituency that includes Inuit and non-Inuit ..." and the second function is "... to [create] a whole set of special rights in regards to land and hunting" (Charles). Due to the way that the NLCA is written "...both the GN and NTI [Nunavut Tunngavik Incorporation] have to find ways to work together, but they also have to find ways to respect that each has a different roles and different lines of accountability" (Charles).

In summary, according to Federal Government employees there needs to be collaboration between all levels of government, the cruise ship tourism industry, and various associations that have a role in Nunavut's expedition cruise ship tourism; however, according Lucy, decision makers and regulators in high corporate and organizational structures need to realize "...that the cruise industry in Nunavut [is] worthy of discussion, and they need to work together and have regulations in place, and that group needs to work with Nunavut to make sure that all of those things are in place..." (Lucy).

"All cultures adapt, languages adapt, everything adapts. Things that don't adapt don't survive...there is a tradeoff between continuity and flexibility" (Charles). The expedition cruise ship tourism industry requires adaptation, participants explained. Don explained that "...the cruise ship industry needs to be able to adapt to change because it's not just environmental change, the nature of travelling in the north is that it requires adaptability" (Don). According to another private industry participant, adaptation will be a challenge faced by the industry; however, the required adaptations to climate change may also be the greatest opportunity.

> ....the cruise industry will just generally adapt to climate change. If climate change has [an] influence on the ice situation....we will be looking at ...new opportunities...with this we will see new opportunities, and not so many problems. There will still be problems...[but]....I'm not sure the problems will be the largest part...perhaps the opportunities will be larger (Anne).

For a Transport Canada participant, these opportunity potentials require that "...our regulations are adapted to the times" (James). However from a private industry participant perspective, "...we have [to] just learn to adapt and prepare" (Matt)

The ability to learn how to adapt from a governing perspective was discussed by Federal and Territorial Government participants. The Federal Government has, according to a Transport Canada participant "....an adaptive management process" (Carl). It was explained that Transport Canada takes a more consultative- adaptive management strategy due to a broad range of users (i.e. communities, operators, and industry). This adaptive management, according Dan (a GN employee), occurs through establishing a base line and then making improvements to operational plans as necessary.

The idea of changing plans was articulated by a Parks Canada participant; this individual used the term 'strategy change' to describe the process. For Parks Canada, the strategy change was that Parks Canada does not deal with the changing climate, but with the effects that the changing climate has within a park and on the park management plans. For example, Linda stated "...we don't deal with climate change, we deal with the effects of climate change...it is monitoring the changes that are occurring and what are the effects of things changing". A Parks Canada employee explained that this continual monitoring has an influence on the five year planning cycle that Parks Canada

participates in as part of the NLCA, where according to an employee, "...we build on what we have learned" (Ryan).

The ability for the expedition cruise ship tourism industry, according to a Parks Canada participant, to adapt requires a balancing act between "...providing an experience for the cruise ships and the community" (Linda). In addition to the necessary balancing act, a Transport Canada employee explained that industry adaptation requires that "regulations [adapt] to the times" (James).

4.3.2 Government Responsibility

Government responsibility was a key theme that developed through an analysis of transcripts. Appendix D outlines the responsibilities as viewed by DMRs at Federal, Territorial, and community levels. A GN participant and a CANNor participant indicated that the responsibility for tourism governance has been unclear since 1999. A participant explained that in 1995 the Northwest Territories decision makers and regulators directed the government to get out of the tourism industry; responsibility for tourism had been devolved to the tourism industry. Another participant explained that this government disengagement was achieved when "...the industry received from government all the money...that was associated [with] tourism development, tourism marketing, product development... [,] all of [this money] was dumped into an organization called Nunavut Tourism or Tourism for Nunavut" (Tessa).

The devolution of funds in 1995 resulted in "...no real plan for tourism because even though it was still the responsibility of government as far as the books were concerned, the responsibility for doing it had been mostly transferred to Nunavut

Tourism" (Tessa). Nunavut Tourism then, according to a CANNor participant, became responsible for activities such as tourism marketing, product development and development of the membership base. "The government had forgotten ...that they still had a responsibility for licensing and enforcement...[,] for park development, and that parks [are] ...a very significant part of tourism" (Tessa). The government also "...forgot that there are tourism development responsibilities [and]... marketing responsibilities that [the government probably] should maintain" (Tessa).

According to a participant from CANNor, the GN is responsible for infrastructure, and the community is responsible for facility management. However, two participants from the GN suggested that their responsibilities included licensing, ensuring an economic benefit from the industry and "...coordination between the cruise operators and community...advocacy...and the promotion of Nunavut as a destination...monitoring to make sure that there is adherence to regulations and legislation...[our role is] in gathering information if there is [a] problem or things are [in]consistent" (Kevin).

Contradictory to the opinion of the above two GN participants, another participant suggested that the GN is not ready to have a strong tourism leadership role due to the events that had occurred in the mid-1990s. This participant suggested that the GN first had to develop the capacity (financial, personnel, etc) to take the strong tourism role and that stakeholder roles had to be clearly outlined.

When discussing stakeholder responsibility, two GN participants explained that the regulation and legislation and enforcement of Nunavut's expedition cruise ship tourism industry is the responsibility of the Federal Government and that the Federal Government is also responsible for the required infrastructure.

4.3.3 Legislation and Regulation

The Federal Government of Canada and the Government of Nunavut have legislation and regulation that governs Nunavut's expedition cruise ship tourism industry. This section will demonstrate from an analysis of interview transcripts how the two levels of legislation are different. Table 4. 2 provide a comparison of Federal and Territorial Legislation from the perspectives of DMRs.

Legislation Type	Federal Government	Government of Nunavut
Characteristics	-Preventative measures -Transport Canada management of cruise ship related legislation -Stringent -Continual updates -Dynamic -Leader in marine legislation -Environmental considerations	- Current legislation grandfathered from NWT - Enforcement capacity limited -Inadequate -Reactive

Table 4.2 Federal and Territorial legislation comparison from the perspectives of DMRs.

Two Federal ministries have an interest in the Federal legislation influencing the expedition cruise ship tourism industry in Nunavut: Transport Canada and the Canadian Coast Guard. According to several stakeholders in Transport Canada, the current legislation is preventative and stringent.

Kyle discussed legislation issues in relation to

> ...the possibility of having very large vessels ...going [up] and mainly...into the edges of the Arctic that can carry 2000 and some of them more than 2000 people. And should anything happen to those vessels or....when anything happens to those vessels that is going to be the biggest challenge which is why we are working hard to prevent, to make them prepare, so that we never have to have that kind of situation. The biggest challenge is to bring about prevention measures that

> would avoid a disaster at sea that because of the distances because of the lack of facilities and infrastructure in the north a minor disaster can turn into a major disaster.

During discussions about how to prevent minor/major incidents, it was explained that prevention is achieved through regulations such as the *Arctic Shipping Pollution Prevention Regulation* and regulations regarding construction requirements, which include "....risk management tools for safe navigation" (Kyle). Currently there are two regulatory risk management tools: a zone date system and an ice regime system. These "regulations that we put in place and measures we put in place ...make sure that ships that go there are properly equipped, [that] they have properly trained crews on them, with the proper information and equipment" (James). This stakeholder further stated that Transport Canada policies were robust enough for the future; however, "....safety starts with proper information and when you talk about the Arctic proper information means proper charts..." (James). Canada's preventative legislation is one of the most stringent internationally, as stated by Kyle: "...Our Canadian regulations are now the most stringent in the world," and this has enabled Canada to be a leader in preventative shipping legislation, further "...that has been why we have been educating the rest of the world so that they will adopt more or less the same rules that we have" (Kyle). Canadian shipping legislation is seen as being internationally leading and is continually updated. "...we do have regulatory development, which is an ongoing animal" (Carl). It was highlighted that:

> regulations are never...static. They should be dynamic because what ends up happening is that you set ...regulations in place and then something happens with

> technology ...with travel patterns....so regulations are set, but they have a dynamic component to them that allows us to go into them and....revise them as we progress (Carl).

Two participants suggested that the legislation is continually being updated as there are changes occurring with regards to the vessel size "....the mandatory regulations will come about because any bigger ship that goes into these places presents a danger" (Kyle). This forces Transport Canada

> ...to be a lot more conscious of the increase in traffic... it is getting busier and the way it affects our work is that we need to pay more attention to what is going on there before. Before ice was a barrier in and of itself. You had very little navigation going on up there, now you have ...more traffic than your use to, so we have to make sure that our regulations are adapted to the times (James).

An example of recently adapted Federal Government legislation is the Vessel Traffic Reporting Arctic Canada Traffic Zone (NORDREG) legislation, reported by participants, which became effective July 1, 2010. A private industry stakeholder, in discussing strategies that could be used to address challenges of Arctic cruise tourism, suggested that having "...rules about entering a particular ice area of the Arctic..." (John) would be beneficial; for the Canadian Arctic waterways this is NORDREG. NORDREG is a mandatory reporting process "...[that] is no longer a voluntary system, all the vessels have to report" (Peter). Peter explained that the Coast Guard worked "...for some years to [get a] mandatory or compulsory [regulation]" (Peter). Although NORDREG is mandatory for vessels over 300 tonnes, NORDREG is not mandatory for vessels under 300 tonnes. Peter, a Federal Government employee, demonstrated frustration with the

lack of mandatory reporting for all vessels: "...so you do have all those pleasure craft [users], those cowboys [and] adventurers that are doing the Northwest Passage still not having to report."

The NORDREG regulation, according to a Canadian Coast Guard participant, is a way of expressing Canada's Arctic Sovereignty. Peter explains "...[so] when we talk about sovereignty of Canada over the Arctic of Canada, this is one thing- the vessels have to tell you what they do...". The Canadian Coast Guard has been able to increase the agency's presence within Canada's Arctic with the marine safety net, which is now under Canadian control according to Peter. In addition to the Canadian Coast Guard, two Canadian Border Service Agency employees demonstrated concern over Canada's Arctic; this concern related to agriculture, immigration, and customs.

Territorial legislation was discussed with representatives of Environment Canada, CANNor, Parks Canada, Tourism and Cultural Industries and the Department of Environment. Two themes were present in the analysis of interview transcripts regarding Nunavut's Tourism Legislation: *effectiveness of the legislation and enforcement of the legislation.*

A CANNor representative explained that the Territorial Legislation for tourism "...is still the old one from NWT" (Tessa), and "the current act was grandfathered from NWT..." (Kevin). The CANNor representative further explained that this was "Because no one had a real tourism priority ...with the new legislature to go 'holy crap we need to revise this act- it is wrong. It has problem[s], we need to fix it' because there was no one with that focus on tourism..." (Tessa) This Northwest Territories (NWT) legislation

reflection has influenced the enforceability and effectiveness of Nunavut's Tourism Legislation.

Nunavut's tourism legislation was described as "...not specifically address[ing] the cruise ship sector" (Kevin) and the Department of Economic Development and Transportation is "...still in the process of changing the regulation and legislation" (Greg). A Parks Canada representative felt that "....[the] Nunavut Government did not have in place the necessary legislation to protect Nunavut....and that the tourism legislation was totally inadequate to deal with [the] cruise industry as it was developing at incredible speed" (Lucy).

Currently, the development of Nunavut's tourism legislation is planned to be approached from a consultative perspective; this according to two representatives of Tourism and Cultural Industries will lead into "...a new tourism strategy and eventually a revised tourism act as well which will include more specific legislation and regulation for cruise ships" (Kevin).

Currently, the legislation, according to a CANNor participant does not allow for strong enforcement; this was demonstrated by the CANNor representative stating:

> Enforcing the act is a different issue. They have now established in each region a tourism officer, so in each of the three regions there is some responsible for... tourism development officer my responsibility was enforcement. .... The people added onto their existing responsibility (Tessa).

Decision makers and regulators described the regulation process required for cruise ship tourism in Nunavut as "... a lengthy and convoluted process, but not a particularly difficult process to deal with, but it is just frustrating at times because it takes

so long to do" (Henry). For a private industry stakeholder, the "...licensing and permitting is a huge, ridiculous problem with a government that is trying to increase revenue and promote" (Fred).

For a private industry participant working in the international expedition cruise ship tourism industry, there are specific guidelines that "our members are required to follow....these guidelines are about all sides of the operation: planning, conducting the cruise, including environmental measures as well as safety measures, and how to conduct social and culturally friendly visits..." (Anne). A Parks Canada participant further elaborated on company guidelines and explained that at times the company policies are not in line with regulations that are currently in place for the industry. For some cruise companies, insurance providers require that a crew member carrying a firearm accompany tourists. However, from a Parks Canada regulatory perspective this is not allowed, and has created some safety concerns:

> ...their staff walk[ed] around ...with high caliber rifles. So when you see that....as someone who is tasked with protecting a national park, it doesn't give you a lot of confidence that they actually understand the hazards and then at that point you have to say what if there was an incident with a polar bear, if that is your policy, what would your policy be in [an] actual incident and would it be appropriate? (Jason).

4.4 Summary of Vulnerabilities and Challenges

The chapter thus far has outlined the broad and local context of expedition cruise ship tourism in Nunavut. The results include the vulnerabilities that DMRs believe need

to be ameliorated currently and for the future and the opportunities that are available to the industry. Table 4.3 provides the sources of climate change vulnerability and sources of opportunities.

Sources of Vulnerability Related to Climate Change Outcomes	Sources of Opportunities Related to Climate Change Outcomes
Limited financial capacity	Financial investment
Limited human capacity	Human resource investment
Limited infrastructure capacity	Infrastructural investment
Limited tourism product development	Tourism product development focused on Nunavut's natural and social resources
Limited cruise tourism programs	Cruise tourism programs
Existing attitude of decision makers and regulators towards tourism	Tourism advantages and disadvantages booklet directed towards decision makers and regulators
Existing communication strategy	Communication network for collaboration and coordination of institutional knowledge and resources
Existing tourism legislation	Tourism legislation
Current permitting process	Mainstreaming permit process • Canadian Arctic Cruise Association responsibility? • Source of financial income
Expedition cruise ship tourism growth	Canadian Arctic Cruise Association • Arctic cruise guidelines • Community engagement/coalition • Arts & crafts distribution coordination • Pre-visitation tourist package (to provide visitor education) • 'How to host a cruise ship' Guide
Limited understanding of institutional responsibilities	Institutional collaboration and coordination for clear departmental responsibilities

Table 4.3 Sources of Vulnerabilities and Opportunities for Cruise Ship Tourism Related to Climate Change Outcomes.

Participants discussed a variety of vulnerabilities relating to changing conditions for Arctic cruise tourism. In particular, there are limited financial, human and

infrastructure capacity in Nunavut; however, participants recognized that the limited capacities did provide a source of opportunity for companies and industries outside of Nunavut.

Private Industry and Government of Nunavut participants explained that the lack of tourism and cruise programs/products was a source of vulnerability. However, it was also suggested that Parks Canada could continue working on cruise programs and that Nunavut focuses on tourism developments based on Nunavut's natural and social resources. In relation to the lack of tourism products and cruise programs, participants explained that there was limited communication between DMRs and that the responsibility of each DMR level was not clearly understood. Participants recognized that this may be an opportunity source if a network of could be developed that would provide a communication strategy along with responsibilities.

Participants also recognized that the industry was growing and that further legislation and regulations were required. Participants indicated that this may be the opportunity for DMRs to develop an appropriate Nunavut tourism legislation that may allow for a mainstreaming of the permitting process. Some participants suggested that an association or a government liaison body may be able to assist with the permitting and mainstreaming of the industry through the development of guidelines (developed through DMRs collaboration), cruise guidelines, how to host guides, and other such duties.

4.5 Summary of Results

In summary, this chapter outlined thematic categories, which were *Context of Nunavut, the Governance of Nunavut's Expedition Cruise Ship Tourism Industry, and the*

Expedition Cruise Ship Tourism Industry in Nunavut. These three broad themes appeared to be simple at first; however, this chapter demonstrates that there are complex relationships among the themes (Figure 4.1).

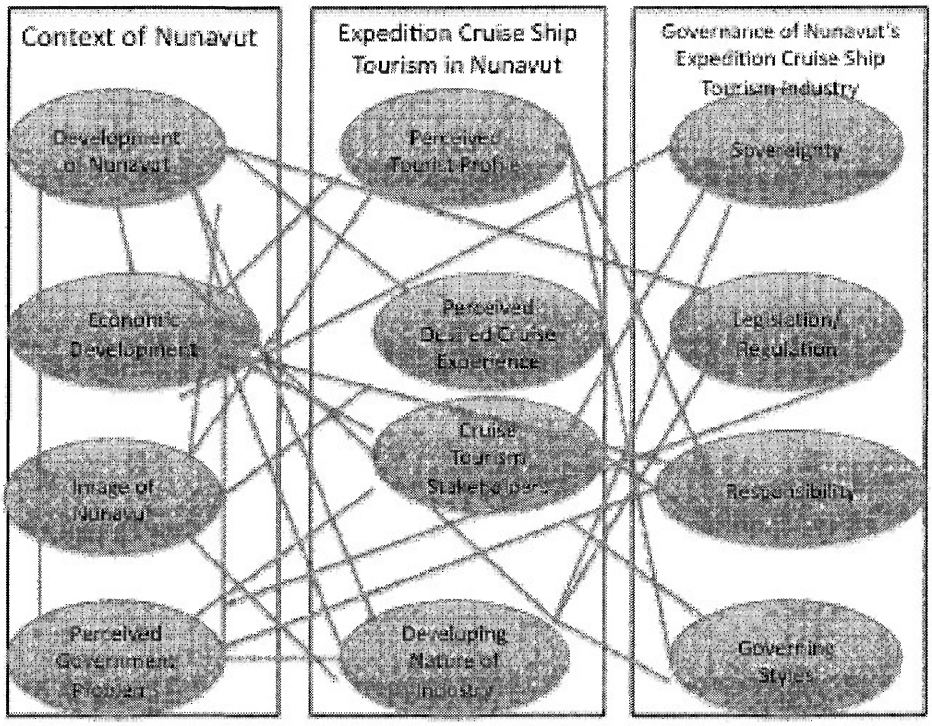

Figure 4.1 Demonstration of how interviews themes and sub-themes are related to one another.

Although the three broad themes interact to create Nunavut's expedition cruise ship tourism industry, there appears to be a very strong connection between the *Context of Nunavut* and the *Expedition Cruise Ship Tourism Industry in Nunavut.* Some of the stronger links between the *Context of Nunavut* and the *Expedition Cruise Ship Tourism Industry in Nunavut* were in the areas of the *Development of Nunavut* and *the Economic*

Opportunities, specifically in connection with the D*eveloping Nature of the Industry* and the *Cruise Tourism Stakeholders.*

There was also a connection between the *Context of Nunavut and the Governance of Nunavut's Expedition Cruise Ship Tourism Industry*. The connection was demonstrated specifically with the *Perceived Government Problems* and required *Legislation and Regulations*. Another link was demonstrated between the *Context of Nunavut* and the G*overning Responsibilities* for the expedition cruise ship tourism industry. However, the strongest linkages between the *Context of Nunavut, Expedition Cruise Ship Tourism in Nunavut, and the Governance of Nunavut's expedition cruise ship tourism industry* appear to be situated around the C*ruise Tourism Stakeholders and the Developing Nature of the Industry*.

A link was also demonstrated between *Nunavut's Expedition Cruise Ship Tourism Industry* and the *Governance of Nunavut's Expedition Cruise Ship Tourism* Industry. The relationship between *Nunavut's Expedition Cruise Ship Tourism Industry* and the *Governance of Nunavut's Expedition Cruise Ship Tourism Industry* were consistent; however, the link does appear to be focused around the themese of *legislation/regulation, sovereignty, governing styles, and responsibility.*

This chapter presented the complexity of these themes through description of the components of each broad theme and how the themes are linked. The results presented the DMRs views on tourist motivation and presented the DMRs views on climate change and tourism change. Based upon the results, sources of vulnerability and opportunities related to climate change outcomes identified by participants were presented in a summarized manner. The results, linkages, and the perceived sources of vulnerability

and opportunities presented in this chapter will be discussed in Chapter Five.

Chapter Five: Discussion

This research provides insight into the relationship between DMRs and the expedition cruise ship tourism industry. This chapter is structured around the discussion of the research questions:

- What are the views held by DMRs about tourism and its interactions with climate change in the Arctic?
- To what extent do DMRs believe that cruise tourists to Nunavut are motivated to visit due to climate change?
- What strategies are identified by DMRs to ensure that cruise tourism in Nunavut is managed effectively in light of climate change?

The discussion commences with the current perspectives of climate change and tourism in the Arctic by DMRs, followed by the views of what DMRs believe tourists are looking for and how climate change is a component of that. The third research question, due to its complexity, is discussed with the guidance of Smit and Wandel's (2006) *Conceptual Framework of Vulnerability Assessment and Mainstreaming*. Utilizing Smit and Wandel's (2006) framework assists in understanding the potential strategies that DMRs may pursue, and allows for potential governance implications to be explored. Though there are multiple ways of focusing on the various aspects of the findings, organizing the discussion this way will help to make sense of the data by concentrating on the vulnerabilities and opportunities that DMRs view as resulting from the relationship between climate change and tourism change in the context of the Arctic and Nunavut and then looking forward to the potential strategies.

5.1 Current Views of Arctic Climate Change and Tourism Held by DMRs

Decision makers and regulators recognized that climate change was occurring and that the changes occurring affected the tourism industry. Specifically, DMRs viewed climate change through discussions regarding changes in the abundance, thickness, and movement of sea ice, changes in wildlife migration patterns, appearance of new wildlife species and vegetation. These observations concur with observations made by researchers (ACIA, 2004; Howell et al., 2009; IPCC, 2007; Loverseed, 2008) and Inuit in Nunavut (Inuit Tapiriit Kanatami, 2005).

Decision makers and regulators recognized that the observed changes had an influence on Nunavut's tourism industry. Specifically, participants explained if operators and tourism businesses that provide services to the expedition cruise ship tourism industry could not provide what tourists were expecting, then dissatisfaction among tourists was likely to occur. This is important because consequences of tourists who are dissatisfied are widespread and could include negative comments about a destination to potential tourists, damage to the industry's reputation, and the loss of return customers (Chen & Chen, 2010; Reisinger & Tuner, 2003). Maintaining and increasing tourist numbers will be important for Nunavut in the continual development of the industry.

The expedition cruise ship tourism industry was described by DMRs as having demonstrated a steady growth over the last decade; an observation made in the literature (Stewart, et al., 2010; Maher, 2010). Decision makers and regulators acknowledged that, although in 2009 there was a slight decline in the number of cruises to Nunavut, overall there has been an upward trend in the number of cruise visits. However, as highlighted by several private industry DMRs, Nunavut's expedition cruise ship tourism industry is

starting to shift. Participants reported that cruise ships are making fewer stops in Iqaluit and are now focused around northern Baffin Island and that a greater number of cruise ships are attempting the Northwest Passage. These attempts present safety issues for the Federal Government of Canada due to gaps in mapping and the nature of dynamic ice; these concerns reinforce points highlighted by Howell, et al. (2009), Stewart, et al., (2007) and Stewart, et al. (2010).

In summary, the research suggests that DMRs are aware of the interactions between climate change and tourism in Nunavut. Decision makers and regulators recognized that the observed changes in climate are changing the very foundation of tourism in Nunavut; further, DMRs recognized that if tourist expectations could not be met there was the potential to see a decrease in the expedition cruise ship tourism industry in the near future. Decision makers and regulators also acknowledged that observed changes, such as decreasing sea ice, present safety concerns that must be mitigated against to ensure the safety of passenger, crews, and vessels traveling in Canada's Arctic.

5.2 DMRs' Views of Tourist Motivations and the Relationship to Climate Change

Participants discussed the attractions tourists are looking for when travelling to Nunavut and the Arctic; these attractions are grouped into three motivational categories: the ongoing media awareness of climate change, historical romanticism of the Arctic and Arctic geography. Participants explained that the increase interest in the Arctic (through the growing number of cruise ships travelling to the area) can be attributed to last chance tourism, a tourism niche market where operators promote and tourists seek "...vanishing

landscapes or seascapes, and/or disappearing natural and/or social heritage" (Lemelin, et al., 2010; p. 478). Decision makers and regulators identified the increase tourism growth as being a component of last chance tourism; this concurs with Buhasz (2007), Lemelin, et al. (2010) and Salkin (2007), who suggest that the term has been developed by popular media. Climate tourism, another popular media term to describe tourism that is driven by climatic changes (Lemelin, et al., 2010), was not a term used by participants to describe the increase in tourism due to changes in sea ice and climate.

As highlighted by several participants, the devolution of Nunavut in 1999 also raised media attention towards the north; this observation supports the arguments of Loukacheva (2009) and Légare (1996). However, these perceptions of 21st century devolution driven tourism contradicts Stewart and Draper (2010) who demonstrate that, although there may have been increased media attention due to devolution, tourism's economic contribution in 2006 was significantly less than in mid 1990s. The findings of Stewart and Draper (2010) support the suggestion of Stewart, et al., (2007) that devolution of Nunavut may have facilitated some uneasiness of northern residents toward the economic potential of tourism; this was an issue raised in the interviews by several private industry and GN participants.

Decision makers and regulators believed that the relationship between climate change and the historical romanticism of the North was strong. Federal, GN, and private industry DMRs described that the challenge of travelling through the Northwest Passage was a draw for tourists; this is especially evident because, as they observed, there has been a significant reduction in the amount of sea ice that makes the passage increasingly navigable (see ACIA, 2004; Howell, et al., 2009; IPCC, 2007).

Participants believed that tourists were motivated by the opportunity to see geographical changes that are occurring in the Arctic such as changes to sea ice, vegetation, wildlife and fauna, and the shoreline caused by soil erosion (McRae, et al., 2010). Decision makers and regulators believe that tourists are motivated by the uniqueness and remoteness of Nunavut (Hashimoto & Telfer, 2004; Loverseed, 2008; Maher & Meade, 2008; Maher, 2010); specifically, tourists were viewed by DMRs as drawn to Nunavut because in some way it was untouched.

The three motivation categories (ongoing media awareness of climate change, historical romanticism of the Arctic and Arctic geography) suggest that climate change is a part of the tourist motivation for travelling to the Arctic and has facilitated the growth of the expedition cruise ship tourism industry. The DMRs perspective on the tourist motivations and relationship to climate change facilitate the adaptation needs/options and potential strategies that stakeholders need to address to manage the ways that climate change is affecting the Arctic and Nunavut cruise tourist experience.

5.3 Conceptual Framework for Vulnerability Assessment and Mainstreaming Application

Smit and Wandel's (2006) Conceptual *Framework for Vulnerability Assessment and Mainstreaming* first identifies community vulnerabilities, and then identifies potential adaptive strategies based upon the current and predicted industry exposures and sensitivities given the context of social and natural system changes. Smit and Wandel's (2006) framework was used to frame my final research question. Smit and Wandel (2006) argue that the current exposures and sensitivities (CES) of the industry need to be identified in conjunction with key stakeholders. The CES were determined by asking

participants what were the current sources of vulnerabilities; these were presented in Table 4.1.

Smit and Wandel (2006) also explain that current adaptive strategies (CAS) be considered from a stakeholder perspective. Consideration of CAS is important, as these are what the industry and/or community is currently doing to adapt to the changes in social and natural systems, and are influenced by the CES. Table 4.1 provides a summary of the significant opportunities from the perspective of DMRs. Decision makers and regulators were asked what the opportunities were as the result of the current vulnerabilities because when asked about the current adaptive strategies, very few decision makers and regulators understood what was asked. The following sections discuss DMRs perspectives on the vulnerabilities and opportunities and divide them by stakeholder groupings. It was not the intention of the research design to examine the sub-groupings; however, this was a logical way to manage the information.

5.3.1 Sources of Vulnerabilities and Opportunities Identified by Federal Government Employees

Federal employees identified several sources of vulnerabilities; these are both national and Nunavut specific. Sources of vulnerabilities discussed by participants were identified as the lack of cruise programs and education, the requirement for cruise tourism product development, the attitude that DMRs have towards tourism, and the view that tourism's economic contributing potential has been overstated in Nunavut. Although participants discussed sources of vulnerabilities and opportunities, in many cases, they were discussed together.

Participants discussed the role of education in the expedition cruise ship tourism industry and their views reinforced much of the literature (see Johnston, 1997; Maher, 2010; Marquez & Eagles, 2007, Stewart, et al., 2010a; 2010b), which described expedition cruise ship tourists as sponges that soak up knowledge about the destinations. Employees of Parks Canada, a visitor oriented Federal Government agency, experienced difficulties in the development of cruise specific educational programs. A community cruise specific education program is an opportunity that has been explored by Parks Canada. It was explained that Parks Canada, in previous years, has provided a program that has shown community residents how to host tourists and cruise ships; however, this program is not run on an annual or regular basis. Employees attributed the difficulty of program development (for communities and cruise tourists) to a difference between regional and national priorities. Given that Parks Canada (2011b) suggests that programs should be designed to allow visitors to learn about the park, to develop an appreciation for the park setting, and to making a pledge to protect the park setting, these design goals facilitate the historical and environmental education component of cruises; however, at a regional level participants described these priorities as being difficult to achieve due to the operational constraints (e.g. the need for ongoing consultation of a variety of stakeholders).

Participants identified the development of appropriate and regularly delivered (e.g. a couple times a season) cruise programs as beneficial to all stakeholders (the industry, DMRs, communities, etc). Though not explicitly stated, it could be deduced that appropriately and regularly delivered programs would allow for Parks Canada to provide a visitor experience that would engage tourists in learning and appreciating the

environment, and also provide a financial return for Parks Canada; these outcomes supports Parks Canada's national goals (see Parks Canada, 2011b). Furthermore, the findings indicate that the development of regular cruise programs would provide operators with another educational delivery medium that would provide guests with an opportunity to learn about the local wildlife and fauna and an opportunity to discuss how parks (and the surrounding area) are changing due to climate change; a theme reinforced by the literature (see Maher, 2010; Maher & Meade, 2008; Frew, 2008; Lemelin, et al., 2010). Parks Canada employees viewed the lack of cruise programs as the greatest source of vulnerability when attempting to increase cruise visitor numbers. The development of a regular cruise program would assist in the development of tourism products, a component of the industry that participants felt was lacking.

Participants explained that prior to the late 1990s, tourism provided an economic opportunity with a strong presence in the then Northwest Territories region that is now Nunavut. Although the region once had a strong tourism economic presence, participants regarded Nunavut's tourism industry as underdeveloped. Participants did not acknowledge that there might be the opportunity for the tourism industry to once again become a strong economic contributor, even though research has indicated that tourism can be utilized by under-developed locations as a way to increase the available and potential economic opportunities (Sinclair, 1998). Participants explained that the economic benefits (i.e. increased employment opportunities for residents, increase in personal incomes, etc) were non-existent in Nunavut's post 1999 tourism industry. The lack of visible tourism benefits in Nunavut led some participants to suggest that tourism's potential in Nunavut has been overstated; this may have been a contributing factor to the

unsupportive attitudes that some participants viewed DMRs to have regarding the industry. These views reinforce the difficulty that may be experienced when trying to get community leaders to realize the benefits of tourism and the way that tourism benefits can be realized and/or exploited (see Notzke, 1994). The potential for tourism in Nunavut (i.e. cruise programs and tourism development) is likely to be influenced by climate change, a viewed source of vulnerability and opportunity, as shown in this study.

Climate change was expressed as a vulnerability source by DMRs involved in this research project, and also as presenting new opportunities. Participants recognized that the effects of climate change are generally more pronounced in the Arctic and as having numerous outcomes (as described in section 2.2) that influence communities, tourism products developed (including cruise programs), and the experiences that can be provided to cruise tourists and communities; these outcomes coincide with the suggestions in the literature (see ACIA, 2004; Ford & Smit, 2004; IPCC, 2007). Participants suggested that perhaps the greatest climate change opportunity and, conversely, a source of vulnerability for the industry relates to changes in sea ice abundance and thickness and the movement of the ice in the Arctic. This perspective on the importance of sea ice changes supports the literature (see ACIA, 2004; Barber, et al., 2008; Howell, et al., 2009; IPCC, 2007; Johnston & Timco, 2009; Stewart, et al., 2010a).

The changes in sea ice have created shipping hazards, according to participants. Transport Canada and Canadian Coast Guard participants explained that the primary hazard from changes in sea ice is the navigational challenge presented by dynamic ice. The described sources of vulnerabilities and opportunities presented by changes in sea ice movement and the resulting navigational challenges observed by participants reinforce

the significance of shipping hazards discussed in the current literature (see Howell, et al., 2009; Stewart, et al., 2010a). Despite the navigational challenges, participants noted that the changes to sea ice abundance and thickness as facilitated an increase in the number of observed non-ice strengthened vessels attempting to sail the Northwest Passage; this has facilitated the general belief that the Arctic is safer to travel than might otherwise be the case.

Though participants have observed an increase in commercial and pleasure ships in Arctic waterways (an observation that was predicted by ACIA (2004) and Arctic Council (2009)), participants highlighted the related opportunity for Canada to exert itself as a marine transport regulatory leader. The regulatory role Canada plays in the development of international marine regulations was explained by Federal Government participants as a way in which Canada can exert Arctic sovereignty. However, it was surprising that Federal Government participants did not discuss how tourism may be influencing Canadian Arctic sovereignty even though there have been concerns by the Canadian Government about the increase in Arctic activities and sovereignty (see Dodds, 2010; Prime Minister of Canada, 2008). Further, tourism has been suggested as an economic means of displaying sovereignty and jurisdictional control in the Arctic Region (see Hall & Johnston, 1995; Nuttall & Nuttall 2008; Snyder & Stonehouse, 2007). Nuttall and Nuttall (2008) suggest that one way to increase the jurisdictional control and sovereignty of an area is through the co-operation of various national agencies on regulatory development and enforcement.

In summary, this section discussed the sources of vulnerability and opportunities for tourism in Nunavut as viewed by participants employed by the Federal Government

of Canada. Vulnerabilities and opportunities included the lack of cruise specific education programs, a requirement for cruise tourism product development, the unsupportive attitude DMRs have towards tourism and the overstatement of tourism's potential as an economic contributor to Nunavut's GDP. Though the participants employed in various agencies of the Federal Government outlined vulnerabilities and opportunities that need to be addressed, the sources of vulnerabilities and opportunities from GN employees' perspectives are slightly different.

5.3.2 Sources of Vulnerabilities & Opportunities Identified by Government of Nunavut Employees

The sources of vulnerabilities and opportunities identified by the Government of Nunavut employees are discussed in this section. Similar to the Federal Government participants, GN employees discussed, in many cases, sources of vulnerabilities and opportunities concurrently. The sources of vulnerabilities and opportunities discussed by GN DMRs focused around developing Nunavut's expedition cruise ship tourism industry and the ability to govern the industry.

Government of Nunavut employees recognized that Nunavut offers a unique, high-end tourism product, which is widely acknowledged in the literature (Loverseed, 2008). However, GN employees acknowledged that developing and maintaining this product was a source of vulnerability.

Several GN employees expressed concerns about the viability of the expedition cruise tourism industry and how well shore visits could be orchestrated. Government of Nunavut DMRs recognized that a positive cruise experience was necessary to encourage

the return of visitors and to encourage community members to further develop the tourism products that the community is able to provide. Participants recognized that the capabilities and assets of the Territory should be maintained or enhanced for future generations; this was also a suggestion made by Armitage (2007), as these are positive aspects of an industry's management strategy and may be used to enhance various industry components.

Participants recognized that the tourism opportunities offered to the cruise tourists can not be designed in isolation, and that these opportunities may provide other economic development opportunities that were not previously acknowledged by community members; this is a point also made by Notzke (1994). These other economic opportunities would provide diversification to Nunavut's tourism industry and assist in the ongoing work to develop a Territory that is capable of coping with and recovering from economic stress. This recognition supports the concept that broad and local forces that traditionally may not be seen as affecting an industry can affect other industries, and that one industry may provide support to another industry (see Armitage, 2007; Sinclair, 1998).

Although community product diversification is desired, GN participants recognized that communities are required to restrict the tourism products that can be offered due to the current cruise season length (see Barr, 2009; Stewart, et al., 2010a; 2010b; Maher, 2010). Participants recognized that there is the potential for expansion of the cruise season due to sea ice changes and that this could facilitate the ongoing growth and/or stabilization of the industry and territory; this recognition is also discussed in the literature (see ACIA, 2004; Barber, et al., 2008; Hall, 2008; IPCC, 2007; Stewart, et al., 2010a). The expanding cruise season was seen as potentially providing opportunities to

develop permanent galleries for high-end products and other options for community economic development, as well as to assist overall industry growth; these benefits are similar to those described by Sinclair (1998).

Government of Nunavut employees recognized that to assist with the development of the expedition cruise ship tourism industry and the territory there needs to be the development of financial, employment and infrastructure capacity. This point is also discussed in the literature surrounding Nunavut's developmental strategy (see Fortier & Gauthier-Jones, 1998; Mayer, 2007). Participants explained that currently the ability to train and adjust Nunavut's public service employees, especially those employed in tourism, to changing circumstances has not been met, and perhaps, has played a role in the current capacity crisis. Based upon this explanation, it may be suggested that Nunavut's *Unified Strategy*, a strategy that allows for quick adjustments to meet the requirements of the Territory (Fortier & Gauthier-Jones, 1998), may not be as successful or the most appropriate strategy for Nunavut to pursue currently.

Participants recognized that for the industry, and by extension Nunavut, to be truly successful, capacity is required in relation to finance, infrastructure and employment, and that these capacities can only be realized through collaboration between the Government of Nunavut, the Federal Government of Canada and Nunavut Tunngavik Incorporation (the corporation that represents the Inuit Government). The need for stakeholder collaboration is supported in Nunavut specific literature (see Mayer. 2007) and the general stakeholder literature (see Hardy, 2005). Finance, infrastructure and employment requirements were a significant source of vulnerability faced by GN employees; this creates a reality that must be faced by DMRs and visitors.

Visitor education was a broad vulnerability source that the GN should address. Visitor education, participants explained, includes educating visitors on the appropriate conduct in Territorial Parks and communities, what to expect when in Nunavut and also includes the historical education that visitors desire. Participants explained that visitor education can contribute to the delivery of the high-end tourist product and to the positive experience believed to be desired by communities and tourists.

Communication was expressed as a vulnerability source at multiple levels throughout the research. This finding echoes recent resource governance literature, which suggests that communication channels among multi governance levels may not exist or may be monopolized by particular interests at the various levels (see Keskitalo & Kulyasova, 2009). Participants recognized that there needs to be communication between multi-level decision making networks in order to continue the delivery of the high-end tourism products that tourists expect; a theme expressed in the literature (see Draper, et al., 2006; Hardy, 2005; Keskitalo & Kulyasova, 2009; Marquez & Eagles, 2007). Further to community planning, community and agency communication was perceived by participants to provide an opportunity for potentially effective visitor education through the delivery of information packages. However, this is not currently achieved due to a lack of agreement between the GN DMRs, private industry DMRs and the expedition cruise ship tourism industry. Nunavut, currently, does not have its own tourism legislation although GN employees explained that there have been various attempts to develop Nunavut-specific legislation. Currently, Nunavut's tourism legislation is grandfathered from the Northwest Territories; however, some participants viewed cruise ship tourism in the Northwest Territories as less prevalent than in Nunavut. This

perception supports findings within the formal department of Indian and Northern Affairs Canada (Indian and Northern Affairs Canada, 2007). Indian and Northern Affairs Canada (2007) compared tourist market segments with competitive destinations, such as Alaska, and found that for the NWT cruising was not one of the recognized activities provided by operators to tourists.

Participants viewed the development of Nunavut's tourism legislation as an opportunity for the development of an enforceable legislation with regard to the tourism and expedition cruise ship tourism industries in Nunavut. Participants recognized that not all industry vulnerabilities would be met through legislation development; however, participants explained that the development of the legislation would have a positive effect on reducing the sources of vulnerabilities faced by the GN, and perhaps may enhance the opportunities that the industry presents to the Territory.

The results of this study indicate that this sub-grouping of participants viewed the greatest source of vulnerability currently, and for the future, as being the social, health and educational challenges, and not the tourism specific vulnerabilities; this has also been reflected in the literature (see Mayer, 2007; Tait, 2008; Tester & Irniq, 2008).

5.3.3 Sources of Vulnerabilities & Opportunities Identified by Private Industry Employees

Private industry DMRs identified sources of vulnerabilities and opportunities that should be addressed. Sources of vulnerabilities discussed by private industry DMRs have been grouped into four categories: communication, cruise ship industry service providers, cruise ship business and the growth of the expedition cruise ship tourism industry.

Opportunities discussed by participants were focused around these vulnerabilities as ways to improve Nunavut's expedition cruise ship tourism industry.

The main source of vulnerability to the delivery of services was climate change. Climate change, participants observed, makes the arrival and departure of cruise ships in a community unpredictable due to weather and sea ice changes; this observation supports the literature (see Howell, et al., 2009; Stewart, et al., 2007; Stewart, et al., 2010b; Reidlinger, 2001). According to several private industry DMRs this makes planning for a cruise season very difficult. Although, DMRs have identified climate change as a current vulnerability; there is a general consensus among private industry DMRs that climate change may present more opportunities than sources of vulnerabilities for industry DMRs; one of these opportunities was described as the potential for larger ships travelling in the Arctic, a trend that has already begun according to some participants. Private industry participants explained that these opportunities are beginning to arise mainly due to the reductions in sea ice levels and the availability of previously inaccessible Arctic locations. These participant observations supplement the Inuit observations and literature (see ACIA, 2004; Arctic Council, 2009; Berkes & Jolly, 2001; Inuit Tapiriit Kanatami, 2005; IPCC, 2007; Stewart, et al., 2010a).

Although there is the opportunity for larger ships to travel to the Arctic, there was a concern amongst private industry DMRs about whether Nunavut's expedition cruise ship tourism services, facilities and businesses would have the ability to handle the increase in tourist numbers that is inevitable with larger ships; this is a concern that has also arisen within the literature. For example, Dowling (2006) describes how in Polar regions cruise operators typically have to use inflatable rubber dinghies to transport

passengers to shore due to a lack of berthing and docking facilities. Though increases in tourist numbers would provide a variety of opportunities for the expedition cruise ship tourism industry in Nunavut, industry DMRs also recognized that allowing larger cruises into Nunavut communities may not be the most appropriate opportunity to exploit and that such an approach would provide its own vulnerabilities. However, participants indicated that if predicted industry growth is realized in the future, a trend predicted in the literature (see Stewart, et al., 2010a; Maher & Meade, 2008; Maher 2010), maintaining a professional industry would become of great importance.

The professionalism needed by industry DMRs is a vulnerability source that was recognized by private industry DMRs. The ability of service providers to maintain professionalism may be related to the capacities that the service providers have. Participants suggested that tourism training is a requirement for the expedition cruise ship tourism industry; this suggestion reinforces the need for industry-based education as suggested by the literature (see Fortier & Gauthier-Jones, 1998; Mayer, 2007). Although participants did not indicate that providing tourism education was difficult, Tait (2008) suggests that any recognized and/or formal tourism education may be difficult as only 51% of students in Nunavut graduate from high school. Formal schooling was acknowledged by some participants as being only one way of learning.

Parks Canada provides an opportunity for community members to learn professional tourism skills, such as how to host tourists and cruise ships, as discussed in section 5.3. 1. The use of such training programs reinforces the literature on Inuit education, which concludes that many of the skills that Inuit and Northern residents have are actually taught through experiences on the land and from elders; this allows for the

incorporation of Inuit Qaujimajataqanguit, a requirement of the NCLA (see Tait, 2008; Tester & Irniq, 2008). Unfortunately, as explained by Parks Canada employees, the benefits of the skills based program have not been realized.

Communication was another vulnerability source for private industry DMRs. The communication difficulties reported have an influence on the viewed difficulty of obtaining the necessary permits to operate in Nunavut and within the Canadian Arctic waterways. Participants suggested that there is the opportunity for the development of a liaison that can assist operators and businesses in negotiating and communicating concerns to the GN and Federal Government; however, many Federal and GN employees explained that they have minimized the required paperwork to reduce the administrative difficulties that is often experienced by operators and businesses when operating in Nunavut.

In summary, private industry DMRs identified sources of vulnerabilities that are similar to the Federal and GN DMRs; however, it appears that the potential sources of opportunities for the private industry may be more limited due to their indirect role in regulation and policy development.

5.3.4 Summary of Sources of Vulnerabilities and Opportunities for Decision Makers and Regulators

The sources of vulnerabilities and opportunities discussed above would appear to be prevalent across the three sub-groups of DMRs that were examined in this study. Communication, a significant vulnerability noted by the GN and private industry DMRs, influences the ability to develop education programs. Education programs, whether for

tourists, operators or regulators, was identified as a vulnerability source amongst DMRs. However, the requirement for effective communication and education programs provide an opportunity to develop tourism products (a challenge and opportunity outlined by the Federal Government and the GN participants).

The development of tourism products provides opportunities to develop human, financial and structural capacities in Nunavut. These capacities can be the result of community and/or business partnerships, the development of a Canadian Arctic Cruise Association, or the development of cruise standards for Arctic cruising. Through these interrelated multi-level DMRs vulnerabilities and opportunities a tourism industry can be developed to satisfy the needs of the Federal Government of Canada, the Government of Nunavut and the private expedition cruise ship tourism industry. This research can conclude that the sources of vulnerabilities and opportunities are the results of changes in social and natural systems, an argument seen in the literature (see Smit & Wandel, 2006).

The results of the study demonstrate several social system influences that need to be taken into account when identifying the industry's adaptive capacity and the adaptive needs and options available to DMRs. Participants explained that the Nunavut Land Claim Agreement (NLCA) was a determinant to consider as this agreement affects the way in which industries and resources are managed in Nunavut. Participants explained that the NLCA requires a collaborative approach to be taken when decisions are made regarding the management of natural resources; this approach is outlined in the summaries of Berkes, Berkes, and Fast (2007). Some participants, particularly those employed by Parks Canada, described how the participatory decision making process in the NLCA has affected the development of the expedition cruise ship tourism industry,

especially in the case of the national parks that cruise ships may visit. The influence of the NLCA on the decision making process related to various tourism resources as described by Parks Canada employees demonstrates a dimension of how the NLCA allows for joint legal jurisdiction between Inuit and non-Inuit governments (see Berkes, et al., 2007). In addition to the influence on the decision making process for tourism resources, several participants described the NLCA as being a critical guideline for future tourism economic development opportunities within Nunavut.

Economic development is a social system influence that needs to be considered as part of the social system that is changing. During discussions, some participants explained that subsistence living was the traditional primary economic model in Nunavut; however, participants also recognized that currently there are a variety of economic development opportunities that have emerged. Participants who have lived in Nunavut for the past decade explained that these opportunities have emerged as the result of the NLCA being finalized.

Another influence on the social system changes that affects Nunavut's expedition cruise ship tourism industry is the social and demographic changes that have been observed by participants and described in recent social research, including official censuses conducted by Statistics Canada (see Statistics Canada, 2006; Tait, 2008). The social changes that have occurred, such as changes in population demographics and level of education were identified as capacity challenges by the Federal Government of Canada, the GN, and the Private Industry DMRs. Although not necessarily described as negative, several participants described Nunavut's social changes as the greatest challenge and influence on the industry's ability to adapt to broad and local stress.

The economic opportunities, the social challenges and the requirements of the NLCA are also influenced by changes in the natural systems; natural system changes are also influencing the industry's ability to adapt to changes (see Ford, et al., 2008a; 2008b; Schneider, et al., 2007; Yohe, et al., 2007). The primary natural system change that is occurring in Nunavut affecting the expedition cruise ship tourism industry was seen by participants to be climate change. Not surprisingly, the effects and outcomes described by participants are similar to those found in climate change research (e.g. ACIA, 2004; Arctic Council, 2009; IPCC, 2007).

Smit and Wandel (2006) explain that the CES and CAS in addition to the expected changes in social and natural systems leads to future exposures and sensitivities (FES) and future adaptive capacity (FAC). Participants found predicting future exposures and sensitivities and adaptive strategies to be difficult, and were reluctant to provide suggestions. When asked what the challenges may be in 10 to 20 years, participants identified the social and political systems as challenges that would need to be ameliorated. The identification of social and political systems as the challenges of the future suggests that perhaps the industry's FES will be the capacity that the territory has to host a tourism industry. During the interviews, there were a number of capacity challenges that were identified such as human, financial, educational and infrastructure capacity. The FES of capacity suggests that Nunavut's expedition cruise tourism industry's FAC would be to provide support through program development that assists to increase the capacity of tourism personnel in Nunavut; this training requirement has also been recognized by Mayer (2007) and Fortier and Gauthier-Jones (1998) as a requirement for Nunavut employment.

5.3.5 Adaptive Needs, Options and Potential Strategies

Through understanding the FES, FAC, CES and CAS, and the changes that are occurring in the social and natural systems, adaptive needs and options can be identified. This research presents potential options and strategies that Nunavut's expedition cruise ship tourism industry DMRs may want to employ to adapt to changes that are occurring, such as the rise in cruise tourism since 2000 (see Dawson, et al., 2007; Maher, 2010; Marquez & Eagles, 2007; Stewart, 2010c; Stewart, et al., 2010b; Stewart & Draper, 2006) and the sources of vulnerabilities presented by climate change. Table 5.1 presents an integration of the adaptive needs and options and the potential strategies based on interviews with industry DMRs that may be pursued.

Smit and Wandel (2006) provide a valuable framework for communities and one that decision makers and regulators can utilize to assess their vulnerability and adaptive needs/options; however, the *Conceptual Framework for Vulnerability Assessment and Mainstreaming* appears to be applicable for communities and industries that do not need to continually evaluate vulnerabilities and adaptive capacity. Adaptive management, an appropriate governance strategy for natural resource industries and northern communities (see Plummer & FitzGibbon, 2006), emphasizes that in order to be adaptive, social learning occurs (Armitage, et al., 2009; Armitage, 2008).

Employees from Parks Canada Transport Canada, Environment Canada, the Canadian Coast Guard, Department of Environment (GN) and Territorial Parks and Special Places explained that social learning does occur within their respective agencies. The participants from these agencies explained that they look at what has been done in

the past within their agency and apply those lessons to future decisions, but do not share the agency's experiences with other government (either Federal or GN based) agencies. Social learning within an agency is a positive step; however, the process described by the Federal and GN agencies does not fully embrace the adaptive management strategy.

Adaptive management creates networks that are horizontal and vertical throughout the community (Folke, 2006); therefore, currently a limitation with the social learning process from an agency perspective is that what was learned by Transport Canada is not applied to the decisions made by the Department of Environment (GN), Parks Canada, Environment Canada, the Canadian Coast Guard or any other government agencies; this creates the situation where the same mistake can be made by other agencies involved in the same industry. Participants employed by the Federal Government or the GN recognized that clear communication was a necessity and if used between agencies would prevent similar mistake from re-occurring within the Federal Government and the Government of Nunavut's departments. One way of ensuring that this communication occurs is by having a feedback loop that promotes that what has currently been learned informs the predicted state of the industry, which in returns influences the adaptation options/needs. The social learning that is required also needs to take into consideration the perspectives of horizontal and vertical stakeholders on broad and local scales (see Folke, 2006).

Adaptation Needs	Adaptation Options	Potential Strategies
Capacity- Human, Financial, Infrastructure	Creation of a Tourism/Recreation program at Arctic College or inclusion of tourism an elective class for high school students. Create a GN tourism budget and make the industry accountable.	1) Collaborate and coordinate with Parks Canada's to expand the 'Cruise Host' program currently not offered on an annual basis. 2) Collaborate and coordinate with the Arctic College and Nunavut's School Board and local tourism/recreation businesses to provide students with the opportunities to work and develop interest in the industry and to provide businesses with additional human resources. 3) Collaborate and coordinate with Nunavut Tourism, the Government of Nunavut, and the Federal Government of Canada on an investment program that can be used to promote the industry and provide training to beneficiaries.
Partnerships between the GN, cruise operators, and communities.	Liaison Association Cruise Specific Personnel in the GN.	1) Employ an individual in the GN's department of ED & T or the department of Territorial Parks and Special Places to facilitate and manage the cruise tourism industry in Nunavut. This individual may be employed through Nunavut Tourism or a sub- association of Nunavut Tourism may be created to directly provide liaison assistance to industry stakeholders.
Cruise Tourism Guidelines	Develop community cruise tourism visiting guidelines. Create a price point that cruise operators need to pay in order to travel within Nunavut to cover port fees, community fees, etc. Development of hierarchy for point of contact for operators	1) GN tourism personnel can liaise with communities to develop guidelines that can be used to host cruise ships and that ships can follow when visiting communities. 2) Liaise with communities, the GN, the Federal Government, Nunavut Tourism and other private business to develop fees that cruise ships must pay to visit communities (this is similar to port and landing fees found in the Caribbean). This money could potentially be invested into developing infrastructure and providing to communities tourism training. 3) Community's economic development officers should be the first point of contact. Followed

	(identification of who is responsible).	by Hamlet staff, Nunavut Tourism staff and GN employees. This provides the communities with an opportunity to actively engage in the organization of the industry, and relives some pressure from the GN.
Tourism Legislation	Nunavut specific tourism legislation is required (this includes cruise) tourism)	1) The Government of Nunavut collaborates with the various departments who have a role in the tourism industry to write and pass the tourism legislation. This will make the industry enforceable and accountable.
Nunavut Cruise Tourism Liaison/ Association (NCTA) (This group would have representation from all stakeholders involved, which would include the Federal Government, GN, Private Industry, Operators, etc)	Community cruise tourism product development. Cruise tourism marketing. Facilitator of cruise specific courses. Ensure cruises ships are operated in accordance with environmental stewardship standards. Advisory group for the GN and Federal Government on cruise related developments. Represent the concerns and views of industry stakeholders.	1) The NCTA provides coordination between communities to ensure that each community is able to offer a unique tourism product. 2) Collaborate between the GN, Nunavut Tourism and the NCTA to create marketing strategies for cruise tourism that could be implemented by the association. This would relieve the pressure from the GN and Nunavut Tourism, while maintaining the organization's input. 3) Collaborate with Parks Canada and communities to create cruise specific courses that are based on the needs of the community; this ensures that communities are receiving the training that they required. 4) Partner with the GN and Federal Government to create an association that can assist and/or facilitate the development of a sustainable industry. In particular, one of the responsibilities of this association would be to advise the governments about industry concerns.

Table 5.1 Outline of adaptive needs, adaptive options and potential strategies.

Several stakeholders from the Federal Government, the Government of Nunavut, and the Private Industry stakeholders recognized the influence of global forces on

Nunavut's economic development opportunities. The influence of global forces has also been recognized within the literature (see Ford & Smit, 2004; Keskitalo, 2004; Keskitalo & Kulyasova, 2009; Smit & Wandel, 2006). This recognition of global influences is a critical component for industries that is not addressed by Smit & Wandel's (2006) framework. To address the need for continual social learning within the adaptive management governance style, I propose the revised Conceptual Framework for Vulnerability Assessment and Mainstreaming (Figure 5.1).

This revised *Conceptual Framework for Vulnerability Assessment and Mainstreaming* proposes that a feedback loop be incorporated from the FES and FAC to the CES as the predicted FES are likely to become the CES in addition to the influence of the CAS. Smit and Wandel (2006) have indicated that the FES and CES inform the adaptation needs, options; however, in the community adaptation context the adaptation needs are connected to the CAS, and do not consider the social learning that occurs from the adaptation needs, options that eventually provide the CES, in addition to the CAS.

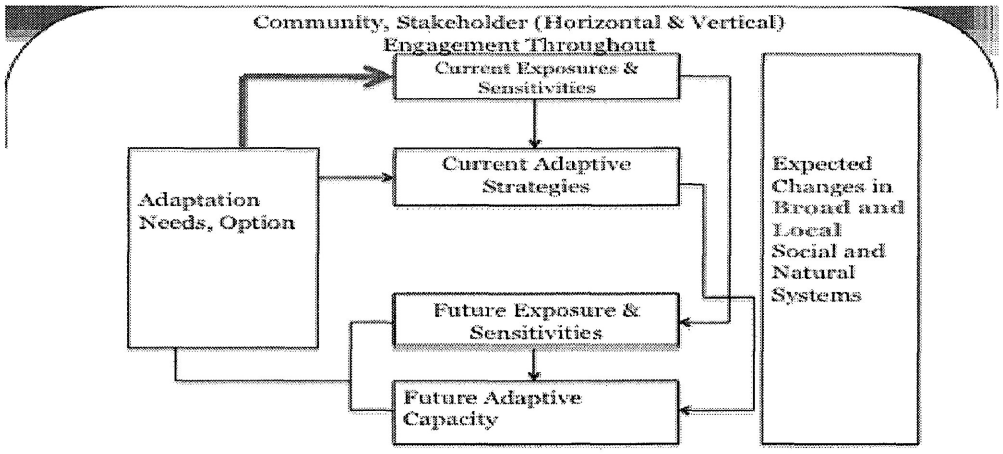

Figure 5.1 Revised *Conceptual Framework for Vulnerability Assessment and Mainstreaming.*

Smit and Wandel's (2006) *Conceptual Framework for Vulnerability Assessment and Mainstreaming* is a valuable tool when assessing Nunavut's expedition cruise ship tourism industry. The application of the framework to the industry, in addition to the industry sources of vulnerability and opportunities, has implications for industry governance; these are presented in the next section.

5.4 Governance Implications of Results

Sources of vulnerabilities and opportunities identified by participants indicate that the expedition cruise ship tourism industry has implications for industry governing bodies. These governance implications will change as expected changes in social and natural systems occur, and will influence the industry's FES and FAS (see Gallopin, 2006).

Participants indicated that the consideration of social and natural systems was important, especially when trying to plan, organize and implement a successful expedition cruise ship tourism strategy, and participants recognized that they and the industry needed to be flexible in their governance approach; this recognition supports recent literature. Young (2009) explains that the consideration of social and natural systems is important, especially in regard to an industry's vulnerability and adaptability because the human environment governance system is dynamic. Therefore, the greatest vulnerability source for the expedition cruise ship tourism industry from a governance perspective is to understand the changes occurring and the potential consequences of the changes in orders to address the vulnerabilities that arise (see Young, 2009).

perspective is to understand the changes occurring and the potential consequences of the changes in orders to address the vulnerabilities that arise (see Young, 2009).

For Nunavut's expedition cruise ship tourism industry, participants explained that Inuit Qaujimajataqanguit will play a role in decision making and guide policy development; an expectation that has been stated within the literature in other contexts (see Henderson, 2007; Johnson, 2009; Wenzel, 2004). However, in the tourism context participants recognized incorporating Inuit Qaujimajataqanguit is easier said than done; a difficulty also noted in the literature (see Tester & Irniq, 2008). A solution to incorporating Inuit Qaujimajataqanguit is through the development of an coordinating public and private DMR body that can answer the needs of DMRs and the expedition cruise ship tourism industry; an opportunity source that was identified by participants.

Participants acknowledged that the Government of Nunavut has to some degree attempted to meet the needs of Inuit DMRs through the incorporation of Inuit Qaujimajataqanguit in park governance, and it is one of the ways in which the Inuit and other private industry DMRs can be involved with the governance process (Johnson, 2009). Participants agreed with academic findings, which suggested that including non-government DMRs is important because the industry's capacity to adapt to climate change is dependent on how well Nunavut based tourism businesses learn from the past (see Ford, et al., 2008).

The results of this study have identified sources of vulnerability that DMRs need to ameliorate and the opportunities that may be pursued. Not all of these can be ameliorated; however, it is the responsibility of DMRs to ensure that the most pressing sources of vulnerabilities and opportunities are met. The results indicate that although the

development of the expedition cruise ship tourism industry is important to the Federal Government and private industry DMRs, the greatest vulnerability source for the industry are social and political; this vulnerability has also been recognized as a significant by Tait (2008), Mayer (2007), Fortier and Gauthier-Jones (1998) and Dacks (2002).

5.5 Summary of Discussion

This section has presented a discussion of the current views of climate change and tourism in the Arctic held by DMRs, the beliefs that DMRs hold in regards to what tourists are looking for and how climate change is a part of that, and the sources of vulnerabilities and opportunities faced by DMRs. These vulnerabilities and opportunities provided the current exposures and sensitivities and current adaptive strategies that enable DMRs to predict the future exposures and sensitivities and adaptive strategies; this was based on the application of Smit and Wandel's (2006) *Conceptual Framework for Vulnerability Assessment and Mainstreaming.*

Chapter 6: Conclusion

The purpose of this research was to explore the perspectives that stakeholders (i.e. Nunavut expedition cruise ship tourism industry DMRs) have on climate change and adaptation within the industry. This research contributes to the current academic literature on the views of Arctic climate change and tourism from a governance perspective, a perspective that prior to this research does not appear to have been explored in great depth. Through understanding DMRs views of climate change and tourism change, this project has demonstrated that Nunavut's expedition cruise ship tourism industry is non-linear, unpredictable and complex. Perhaps it is the complexity of the relationships within Nunavut's expedition cruise ship tourism industry that provides, at least to some degree, the industry's adaptability to broad and local social and natural system changes. Potential adaptive strategies were suggested as the result of the research findings, such as the expansion of the current cruise host program and the creation of a cruise manager position in the GN department of Economic Development and Transportation. However, these strategies are small-scale and not an over-arching tourism strategy that DMRs can apply to the industry. The strategies for Nunavut's expedition cruise ship tourism industry were developed from an application of Smit and Wandel's (2006) *Conceptual Framework for Vulnerability Assessment and Mainstreaming.*

The research found that the *Conceptual Framework for Vulnerability Assessment and Mainstreaming* (Smit & Wandel, 2006) required slight modification when applied in an industry context. The DMRs explained that adaptive governance was utilized in the formation of strategies that potentially would be utilized to govern the expedition cruise ship tourism industry. A critical component of adaptive governance is the social learning

that occurs through feedback on the system (Armitage, et al., 2009; Berkes, 2007). This research suggests that a second feedback loop be added to the *Conceptual Framework for Vulnerability Assessment and Mainstreaming*, when applied to an industry context, so that future exposures and sensitivities become the current exposures and sensitivities based upon the expected changes in social and natural systems. However, further research is needed to investigate to what degree is this feedback loop necessary for industry assessment and whether the predicted exposures and sensitivities become the current exposures and sensitivities in the next decade. Research should also explore the role of traditional ecological knowledge and science in the context of social learning, and what guidelines are necessary for social learning to be successful in Nunavut.

Research is needed to compare the perspectives of operators on policy and regulation development and this study is only one component in understanding Nunavut's expedition cruise ship tourism industry (see Hardy, 2005). This work could help lead to a comprehensive and adaptively managed industry in Nunavut that utilizes broad decision making networks (see Hardy, 2005; Keskitalo & Kulyasova, 2009).

Since the industry is in a constant state of flux, a vulnerability assessment of Nunavut's expedition cruise ship tourism industry, from the perspectives of DMRs, should be conducted regularly, perhaps every five years, to ensure that the strategies being used are still useful and are addressing the needs that they were designed for. Once the operators' perspectives on policy and regulation have been determined, these should be included in the vulnerability assessment to assist with industry development; this would coincide with the management planning process currently employed in Nunavut's national and territorial parks.

In conclusion, this research has presented the views that DMRs have on Nunavut's expedition cruise ship tourism industry and has presented potential adaptive strategies that may be utilized. Nunavut's expedition cruise ship tourism industry is complex and offers an economic development opportunity that can be pursued in conjunction with other industries. This potential has led to several future research questions being asked about how social learning and other stakeholder perspectives could be understood and integrated into a five year vulnerability assessment. This study has suggested that by conducting a five year vulnerability and opportunity assessment that DMRs can monitor and assess how well the current adaptive strategies address the social, environmental and political sources of vulnerabilities presented by broad and local social and natural system changes.

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Appendix A- Letter of Invitation

[Printed on Lakehead University Letterhead]

Participant's Address

Dear Participant,

I am a Master of Environmental Studies student in the School of Outdoor Recreation, Parks and Tourism at Lakehead University. I would like to invite you to participate in a project I am conducting regarding the effects of climate change on the expedition cruise ship tourism industry in Nunavut. This project examines the perspectives of the industry's decision makers and regulators. The research project is entitled *Stakeholder Perspectives on change and adaptation in expedition cruise ship tourism in Nunavut.* This project is a component of a larger project that is being conducted by my supervisor, Dr. Johnston, entitled *Climate Change and Tourism Change in Northern Communities: A Vulnerability and Resilience Assessment.* Four other researchers are working on this project: Dr. Lemelin, Dr. Dawson, Dr. Stewart, and Charlie Mattina.

The intent of my project is to explore how climate change is affecting the expedition cruise ship tourism industry in Nunavut. Of particular interest to me are the views of the decision makers and regulators of the expedition cruise ship industry. The aim of the study is to gain an in-depth understanding of how the effects of climate change are influencing the development of regulations and policies for the expedition cruise ship industry, and to gather ideas about strategies that can be used by the industry and local communities to help adapt to a warming climate.

By participating in this research you will have the opportunity to discuss the expedition cruise ship industry in Nunavut and current regulations and policies for the industry. Your views will not only deepen our understanding of the effects of climate change on the expedition cruise ship industry, but will also help demonstrate the opportunities and challenges that the industry faces. I will use your views to help develop strategies that can be used by the expedition cruise ship tourism industry and local communities. An update of the work will be shared with your organization in late May or early June 2011.

The interview might require approximately 30-60 minutes of your time. Your name will not be identified in the final analysis or in any report produced from this study. Participation in the interview is voluntary and you can withdrawal at any time. You may choose not to answer any question or you may choose to answer only some questions, and not others. The interviews will be conducted in person and will be audio-recorded if you consent to this. If you do not consent to the interview being audio-recorded, I will be taking notes throughout the interview to assist with the data collection process. Transcripts will be sent back to you so that you can confirm that the information is accurate. As per Lakehead University policy, the transcripts, tapes, and any research notes will be stored for a period of five years in a secure

location at Lakehead University; in the fall of 2015, the transcripts, tapes, and notes will be destroyed. As this research study is a component of a larger research project, Dr. Johnston, Dr. Lemelin, Dr. Dawson, Dr. Stewart, Charlie Mattina, and I will be the only individuals to have access to the typed transcripts. Dr. Johnston, Dr. Lemelin, Dr. Dawson, Dr. Stewart, Charlie Mattina, and I may use the data for additional secondary analysis in the future.

If you have any questions or concerns, please do not hesitate to contact me at ajohnst4@lakeheadu.ca or my supervisor, Dr. Johnston at mejohnst@lakeheadu.ca. If you have any ethical concerns regarding this study, please contact the Research Ethics Board- Lakehead University at 1-807-343-8283.

Thank you for your time and cooperation; this letter is yours to keep. If you wish to participate in this project, please contact me at ajohnst4@lakeheadu.ca. If you wish to receive a copy of the research findings (available late May to early June 2011), please send me an email to indicate your interest (ajohnst4@lakeheadu.ca)

Sincerely,

Adrianne Johnston
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Appendix B- Informed Consent

[Printed on Lakehead University Letterhead]

Dear Participant,

By signing this consent letter, you are indicating your willingness to participate in this study and that you understand and agree to the following conditions:

1. Your participation in this research is voluntary and that you are free to withdraw at anytime.
2. You agree to participate in this research project as described in the cover letter, and that you understand that there is no risk associated with this project.
3. You have the right to anonymity, and you acknowledge that no personal or identifying information is being gathered without consent. You will be assigned a random code that will be used in the transcripts.
4. You have the right to choose not to answer any question in the interview.
5. The data generated from this research will be kept at Lakehead University for 5 years, as per Lakehead University's research ethics policy.
6. You can receive copies of publications that result from this research, if requested.
7. You have read and understood the cover letter provided to you for this research study.

My initials below indicate that I agree to:

_____The interview being audio- recorded.

_____Have my direct quotes used in the thesis and any publications about this research.

_____Have my name and position attached to the direct quotes used in the thesis and any publications about this research.

I have been fully informed of the objectives of the project being conducted. I understand these objectives and I consent to being interviewed for the project. I understand that steps will be undertaken to ensure that this interview will remain confidential and anonymous unless I consent to being identified. I also understand that, if I wish to withdraw from the study, I may do so without any repercussions.

_____ _____

Participant's Name (Printed) Date of Consent

_____ _____

Signature of Participant Signature of Witness

Appendix C- Interview Schedule

Interview Date:

Interviewee Code:

Background Questions

1. What is your role within your organization?
    b. How long have you worked here?
    c. What involvement have you had in the tourism industry?
    d. How have you been involved in the tourism industry in the Arctic for your work?
2. What is the history of your organization?
    a. How long has your organization had a role in the Canadian Arctic?
    b. What is your organization's role specifically in relation to tourism in Nunavut?
    c. What is your organization's role in relation to the expedition cruise ship tourism industry?

Trends in Arctic Cruise Tourism

3. What changes are occurring in the cruise tourism industry in Nunavut?
    a. Changes in numbers? Places visited? Type of visitor? Type of Activity?
    b. What do you believe is the attraction of the Arctic to tourists?

Governance of Cruise Tourism

4. For regulators: What are the procedures or requirements that your organization has in place related to cruise travel within Nunavut?
5. Is there any coordination between the cruise industry and the government/non-government organizations operating in the Canadian Arctic?
6. Do you think there should be a formal governing body in place to support the cruise industry operating in the Canadian Arctic (i.e. something similar to IAATO or AECO)?

Climate Change and Cruise Tourism

7. What would you say are the main challenges/issues that your organization is facing in with regard to cruise ships operating within the Canadian Arctic?
    a. Social/Cultural
    b. Economic
    c. Environmental
    d. Global, National, Regional, Community
8. Is climate change an issue for your organization?
    a. How is climate change affecting your organization's role in Canada's Arctic?

   b. What impact is climate change having on the tourism policies and regulations in the Arctic/ Nunavut?
   c. What strategies/policies is/has your organization employed to deal with climate change?
   d. What changes in climate would you say pose the greatest challenge to the cruise sector?
   e. How important is climate change in comparison to other challenges/issues?
9. Have you personally noticed any changes as a result of climate warming in Nunavut?
   a. Social/Cultural
   b. Economic
   c. Environmental
   d. Political
10. What has the cruise ship industry been doing to adapt to climate change? What do you believe the industry should be doing?

Climate Change and Tourists

11. Is your organization attempting to manage the experience that tourists have?
   a. How?
12. Why do you think tourists are coming to the Canadian Arctic?

Concluding Questions

13. What do you think will be the most pressing challenges to the expedition cruise ship tourism industry as a result of climate change in the next 10 years?
   a. Economic
   b. Social- Cultural
   c. Political
   d. Tourist Demand
   e. Climate/ice conditions/wildlife viewing opportunities
   f. What about after that, say 20 to 80 years?

14. Now that we have spent some time discussing cruise tourism in Nunavut is there anything else that you would like to add, especially in relation to cruise tourism and climate change?

Appendix D-Government Responsibilities for Tourism