Perspectives of Decision Makers and Regulators on Climate Change and Adaptation in Expedition Cruise Ship Tourism in Nunavut

Adrianne Johnston, Margaret Johnston, Emma Stewart, Jackie Dawson, Harvey Lemelin

Abstract: Increases in Arctic tourism over the past few decades have occurred within a context of change, including climate change. This article examines the ways in which tourism decision makers and regulators in Nunavut view the interactions of cruise ship tourism and climate change, the challenges presented by those interactions, and the opportunities available within this context of change. The article uses an approach that is aimed at assessing sensitivities and adaptive capacity in order to develop strategies for managing change. It describes the findings from thirty-one semi-structured interviews conducted with federal government, Government of Nunavut, and industry personnel and managers involved in Nunavut's tourism industry. The two major themes of the article are the growth and adjustment in the cruise tourism industry stemming from climate change and the governance issues that are associated with these changes. A strong focus in the interviews was recognition of the need for a collaborative approach to managing the industry and the need to enhance and extend territorial legislation to ensure a safe and coordinated industry to provide benefit to Nunavut, the communities that host the ships, the industry, and the tourists. The article concludes that decision makers and regulators need to address the compounding of challenges arising from tourism and climate change through a multi-level stakeholder approach.

Change, flexibility, and adaptation in tourism have become a major focus in northern regions as global environmental, political, economic, and social forces influence both the supply- and demand-sides of the industry. In recent years, for example, research has discussed the vulnerability of sub-sectors of the industry to the effects of global forces such as security issues, economic and social instability, and climate change (e.g., Dawson, Stewart, Lemelin, &

Scott, 2010; Gossling & Hall, 2006; Jóhannesson & Huijbens, 2010; Noakes & Johnston, 2010; Saarinen & Tervo, 2006, 2008). These types of changes clearly are not specific to northern regions, but how they are experienced reflects the particular contexts of northern settings and the specific responses, innovations, and adaptations evident in the North.

Though tourism in Nunavut includes a variety of attractions and activity options, this article focuses on expedition cruise tourism, a sub-sector of the industry that has experienced tremendous change over the past decade. Expedition cruising in Nunavut is similar to the cruise experience pioneered in the Antarctic whereby passengers make brief shore visits via small inflatable craft with an interpretive emphasis on environmental and historical education (Stewart, Draper, & Dawson, 2010b). Expedition cruising is at the forefront of one of the major changes affecting the Arctic related to climate change: the reduction in the extent of sea ice and changes in its distribution. As important as climate change and related outcomes are, they must be understood within the context of the other broad and local forces that play a role in how vulnerabilities and opportunities associated with change are experienced, viewed, and managed.

Arctic-specific adaptations to change are facilitated by the stakeholders involved in the management of Nunavut's cruise tourism industry. On an ongoing basis, Arctic stakeholders have to address current and predicted change by assessing 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. In understanding tourism change within these larger processes, the views of stakeholders provide insight into and clarification of tourism vulnerabilities, opportunities, and adaptive options.

Hardy (2005) states that tourism stakeholders consist of visitors, operators, local communities, and regulators. In this study, the stakeholders examined are the policy-makers and regulators, including the Government of Canada, Government of Nunavut, the local agencies, non-governmental organizations, as well as industry managers. For the purpose of this study, these stakeholders are referred to as decision makers and regulators (DMRs). The practical goal of the research is to suggest adaptive strategies DMRs might utilize in Nunavut's expedition cruise sector when managing the effects of climate change within the context of ongoing change. This article reports on research that was undertaken as part of a larger project, Tourism Vulnerability and Resilience in the Arctic (TVRA), that explores change and adaptation as viewed by a wider group of stakeholders including local residents, community leaders, and operators across seven community case

studies throughout northern Canada. The article describes the general context of climate change and expedition cruising in Nunavut, presents the study approach and methods, describes stakeholder views on vulnerabilities and change, and considers their implications for adaptive strategies.

Climate Change and Tourism Change in the Arctic

Increases in Arctic tourism have been observed over the past few decades, as capacity to support travel has expanded, and awareness of attractions has increased (Belanger, 2008; Hall & Johnston, 1995; Hall & Saarinen, 2010; Marquez & Eagles, 2007; Mason, Johnston, & Twynam, 2000; Stonehouse & Snyder, 2010). In Nunavut, this increasing interest has manifested itself in the form of visits to parks and protected areas, cultural tourism, wildlife viewing, outfitting (hunting and fishing), and adventure travel; capacity to support these interests has grown particularly via cruise tourism, which is a means of travel that enables a specific kind of educational tourism experience. Expedition cruise ship tourism involves small ships, with a capacity for perhaps 40 to 100 passengers, and thus the ability to access landscapes and settings that defy the larger ships more common elsewhere. In recent years, it has been suggested that changes in Arctic climate have also contributed to increasing tourist numbers in the North (Anisimov, Vaughan, Callaghan, et al., 2007; Becken, 2007; Coombes, Jones, & Sutherland, 2009; Hall & Saarinen, 2010; Saarinen & Tervo, 2006, 2008), and particularly so in the cruise sector in the Canadian Arctic (Stewart et al., 2010b).

Although the first Arctic cruise (to the Svalbard archipelago) has been dated as 1892 (Barthelmess, 2007), cruises to Arctic Canada did not take place until 1984 when the MS *Explorer* cruised the Northwest Passage (Jones, 1999; Marsh & Staple, 1995). Following that inaugural cruise, the sector grew sporadically until 1992 when the availability of relatively inexpensive icebreakers from the former Soviet Union enabled expansion and more consistent itineraries that included voyages through the Northwest Passage, around Baffin Island, to Ellesmere Island and into Hudson Bay (Grenier, 2004; Stewart et al., 2010b). In 2006, there was a significant increase in the number of expedition cruise itineraries across the Canadian Arctic (Maher, 2010; Stewart et al., 2010b) when the number of cruises doubled to 22 from the previous year (Stewart et al., 2010b). During the years from 2007 to 2010 the number of cruises stabilized at approximately 25 or 26 planned cruises annually (Stewart et al., 2010b). Though growth was anticipated in the industry, the economic downturn of 2008 appears to have played a part in the cancellation of some planned itineraries during the 2009–11 cruise seasons (Stewart et al., 2010b).

Throughout its short history, cruises have tended to concentrate in the Baffin Region, Hudson Bay, and the Labrador coast, but in recent years more cruise activity has taken place in the High Arctic and the Northwest Passage (Stewart & Dawson, 2011). The cruising season has extended from the typically busy period of the second half of July and most of August (Maher, 2010), to the first week of July continuing into late September (Stewart et al., 2010b). These changes are linked in part to the decline in sea ice cover in desirable areas and the earlier break up and later freeze up.

Though the Arctic is susceptible to the changes brought about by climate change, in the short term the Arctic expedition cruise tourism industry is in a position to be a beneficiary of climatic changes (Dawson, Maher, & Slocombe, 2007; Stewart, Howell, Draper, Yackel, & Tivy, 2007). For example, according to ACIA (2004), the Northwest Passage could be open for approximately 125 days a year by the mid twenty-first century and could be covered by 75% less ice. New Arctic cruise corridors and a longer season would enable the Arctic cruise industry to offer more itineraries, which could also benefit additional communities via seasonal employment and art sales. Even as opportunities are accessed by the industry, there remains the need for operators to pay close attention to this new operating environment. These opportunities are not without challenges. For example, dynamic ice presents navigational difficulties (Howell, Duguay, & Markus, 2009), and the cruise industry requires considerable preparation in relation to understanding physical hazards that may be present in this environment as the region transitions to an ice-free summer (see Stewart & Dawson, 2011).

As the industry adjusts, so too must the regulatory framework. The existing regulatory framework appears to be somewhat lacking in its ability to address environmental issues, community engagement, and safety (Maher, 2010; Marquez & Eagles, 2007; Stewart et al., 2010b; Stewart & Dawson, 2011). As policy continues to develop, it is important for government stakeholders to understand and monitor both the vulnerability of the resource, and how industry and local communities are responding and adapting to multiple opportunities and challenges presented by the changing nature of ice and other outcomes of climate change.

Adaptation and Vulnerability

In general, vulnerability refers to the susceptibility of natural and social systems to adverse impacts of climate change (Anisimov et al., 2007; Schneider, Semenov, Patwardhan, et al., 2007). It is "… 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). Sources of vulnerability

include the aspects of the internal system of an industry, community, group, or region that affect its ability to respond to change from internal or external stressors. Responses are linked to broader forces, as well as local ones, and should include consideration of both negative and positive outcomes of change. Responses take place within a context of ongoing resource uses and the changes (or stresses) that are occurring in the broader and local settings. In the context of the tourism industry, climate change vulnerability relates to susceptibility in the health and extent of the industry stemming from changes to factors such as access (e.g., available safe routes), infrastructure (e.g., structural soundness), and attractions (e.g., effects on distribution of flora and fauna, changes in natural landscape). But in the Arctic, the industry is also substantially vulnerable to changes related to other industrial activities, political development, and cultural needs. For example, Johnston (2006) states 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). The industry will need to maintain awareness of the interaction of these changes in the context of their own business activities, innovations, and plans. Tourism operators that are able to adapt to the negative outcomes of climate change and take advantage of opportunities will be successful in the changing environment, while those that cannot adapt will be unsuccessful, facing decline, relocation, or closure (Scott, Dawson, and Jones, 2008.)

The ways in which government agencies, non-government organizations, and industry stakeholders perceive climate change and its outcomes influence adaptation decisions that are made. When industry stakeholders understand the relationships between climate change and tourism, effective planning and implementation can be used to adapt strategically to climate change (Marquez & Eagles, 2007). Understanding the impact of climate change on the tourism industry from the perspectives of DMRs is needed as these organizations will play a major role in assisting Nunavut Territory and communities to ameliorate negative outcomes and access opportunities related to change in the tourism sector.

Study Approach, Setting, and Methods

This case study aims to understand the views of the DMRs in Nunavut's expedition cruise tourism industry regarding industry based vulnerabilities and opportunities that are influenced by the relationships between climate change and tourism. Additionally, the research aims to identify adaptive strategies that can be utilized at a number of different scales. The vulnerability framework described by Ford and Smit (2004) and Smit and Wandel (2006)

provides a means of exploring the broad and local exposures and sensitivities to change identified by the DMRs in Nunavut's expedition cruise ship tourism. The framework begins with an identification of current exposures, exposure sensitivities, and adaptive strategies existing in the community, then identifies potential future exposures and exposure sensitivities, and identifies future adaptive capacity in the community, as well as the larger regulatory framework (Ford & Smit, 2004; Smit & Wandel, 2006). During this process, ways to reduce vulnerability are examined (Smit & Wandel, 2006), along with ways to include opportunities as a result of changes at a global, regional, or local scale.

The study focused on Nunavut Territory, Canada (Figure 1). With a population of 33,220 as of July 2010 (Nunavut Bureau of Statistics, n.d.), Nunavut experiences vulnerabilities related to the high cost of goods and services, high unemployment, a young population, low education levels, household incomes lower than the Canadian average, and potential for economic growth in tourism and mining (Ford, Pearce, Duerden, Furgal, & Smit, 2010; Government of Nunavut, 2008; Loverseed, 2008; Nunavut Bureau of Statistics, n.d.). Mineral extraction holds tremendous economic promise for the territory, but the requirement for infrastructure, human capital, technology, and appropriate government regulations and social policies present a source of considerable vulnerability (Vail & Clinton, 2001; Caulfield, 2004; Mayer, 2007). The economic contribution of tourism is estimated to have been $ 35.7 million to Nunavut's GDP in 2001 (4.8% of the GDP) (Vail & Clinton, 2001). In 2010, tourism's contribution to Nunavut's GDP was approximately 3.5% (Impact Economics, 2010).

Semi-structured interviews were conducted with DMRs resident in Iqaluit, Nunavut's capital, as well as with other individuals from outside the region who can influence the expedition cruise industry as stakeholders. Potential interview participants were identified using a purposive sampling method—supplemented with maximum variation and snowball sampling strategies—aimed at providing good breadth and sufficient coverage of the organizations playing a role in the decision making and regulation of the expedition cruise ship industry. The sampling strategies resulted in eighty-seven potential participants of whom thirty-one agreed to participate in the study. Participants representing a range of DMRs were interviewed: nine private industry (PI), six Government of Nunavut (GN), one community government, one Inuit Government, and fourteen federal government (FG). Eleven of these respondents participated in a telephone interview and twenty through in-person interviews. Interviews were undertaken from August to October 2010 and were recorded for later transcription. Participants were sent the transcripts and were able to make clarifications.

Figure 1. Nunavut Study Area. Cartographer: Marie Puddister, Department of Geography, University of Guelph

In line with the general themes of the framework, interviews were structured around a set of questions including background questions about the individual and his or her employer organization, changes that the individual believed were occurring in expedition cruise tourism in Nunavut, views on governance of the industry, challenges being experienced in regard to cruise tourism and to climate change, relationships between tourism and climate change, and strategies for managing adaptations to change. Interviewees were also asked about their views on the most pressing challenges for the expedition cruise ship tourism industry as a result of climate change in the near future.

Interviews were analyzed thematically with material grouped to develop representative categories and to demonstrate the breadth and variation of the perspectives of DMRs. Analysis used a coding approach that included descriptive, pattern, and focused coding (see Auberbach & Silverstein, 2003; Saladana, 2009). Findings are explored here in relation to two major themes: 1) Changes in Expedition Cruise Ship Tourism in Nunavut, and 2) Governance of Nunavut's Expedition Cruise Ship Tourism Industry. Each theme is described below and then the relationships to vulnerability and adaptation are explored in the following section of the article.

Changes in the Expedition Cruise Ship Tourism Industry in Nunavut

DMRs reflected on the processes through which Nunavut became a separate territory (distinct from the Northwest Territories) in 1999, and the impact of separation on tourism development. While these processes were playing out, mineral development was slow; but once the land claim, resource management, and political power issues were settled, tremendous effort was placed on mineral development, dwarfing the interest in tourism: "it's not that tourism has changed, it's just that mineral development has increased dramatically" (PI 6). Nonetheless, there were further explanations for the apparent weakness in tourism development that reflected territorial development: "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" (PI 6). Participants attributed this uncertainty about and disinterest in tourism to the fact that much of Nunavut's tourism is ship based.

Further, a federal government interviewee indicated that Nunavut's tourism development opportunities were 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 (FG 2).

Another federal government interviewee described Nunavut tourism as developing: visitors "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" (FG 9). However, the changes occurring within the tourism industry mirror changes in the way of life in Nunavut and this has been difficult for some individuals to accept, according to an interviewee:

> 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 (FG 12).

The impact of globalization was also discussed in relation to economic fluctuations affecting the expedition cruise ship industry. A federal government interviewee explained that the 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" (FG12). The impact of the global financial crisis in 2008 resulted in a major impact on the industry in 2009 explained another participant: "last year a lot of cruise ships—because of the economy—cancelled" (FG 11). It was suggested that tourists themselves had also been affected by the downturn. Though cruise tourists were viewed as spending over $50,000 in total on their Nunavut cruise, two federal government interviewees stated that the cruise tourists were not spending as much as previously.

The results revealed that climate change is viewed as a factor in motivating tourists to visit Nunavut. For example, media awareness has facilitated the use of the phrases "last chance tourism" or "last frontier" in Nunavut as one private industry participant explained: "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" (PI 4). Further, participants suggested that the changes in the Arctic climate are linked to an interest in Arctic adventure. A community government DMR said:

> 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.

A Government of Nunavut interviewee described Nunavut's expedition cruise ship tourism industry as immature, but growing quickly:

> 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 (GN 6).

Industry development was suggested as evident in the increase in itineraries and new 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" (GN 5). 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" (PI 3).

The challenges associated with tourism growth in an era of climate warming were identified by a number of interviewees, for example:

> 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 (GN 2).

Several interviewees stated that tourists and other users of the Arctic waterways view the Arctic, and Nunavut, as now being accessible. This view 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 … 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 it] then, 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 (FG 13).

A Federal Government interviewee explained that the perception of safe ice has led to opportunities for ships and cruises: "With a longer season, with less ice, of course it opens up [the] 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" (FG 9). Federal government and Government of Nunavut DMRs recognize the presence of

hazards, but they do not believe that sea ice changes have diminished the expectations tourists have.

As the industry has grown, the Government of Nunavut is beginning 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" (GN 2). Though the industry was viewed as positive by some DMRs, several others viewed it as having a negative impact on communities and Nunavut. A Federal Government interviewee (FG 1) explained that the communities are being "sold" as an attraction and this has created a sense of being "used." One participant (FG 5) stated that shore visits by cruise ships can be considered "invasive." Concerns about the developing industry were articulated by a federal government interviewee:

> 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 (FG 1).

A federal government interviewee (FG 12) described the industry as a "business of flex" that is heavily influenced by local and global stresses, and a private industry interviewee (PI 5) suggested that the flexible business style has enabled the operators to respond to the need to utilize environmentally friendly vessels and to concentrate on safety. Though the industry places more emphasis on being environmentally friendly, it still has an impact, according to one private industry interviewee:

> 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 (PI 1).

Challenges described by Interviewee PI 1 were reiterated by another private industry interviewee, who also stated that her organization "had cruise ships

this summer [2010] change their itinerary at the last minute. Communities were planning for them and they did not show up" (PI 4).

Interviewee PI 3 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 shortchanged, as explained by a Government of Nunavut interviewee: "It is the community that gets shortchanged, the territory is short changed [and] the visitors are shortchanged …." (GN 4). A Government of Nunavut participant explained that there was no community service association that could act as liaison for the expedition cruise ship tourism industry. Interviewee FG 12 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 one 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 (FG 5).

Another federal government interviewee described the 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" (FG 12). This interviewee 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 (FG 12).

Governance of Nunavut's Expedition Cruise Ship Tourism Industry

Numerous participants discussed the importance of collaboration and coordination among key agencies. For example, one federal government participant identified the need for collaboration within the business permitting process:

> 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 (FG 9).

Multi-scale linkages such as these were identified by participants as being important for collaboration so that communities, territorial government agencies, federal government agencies, and the industry could be involved in responding to change and needs through adaptation. Further, because cruise ship tourism was projected to continue to develop, communities would need to collaborate with one another to develop cruise tourism products that were different from one community to the next.

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 Government of Nunavut interviewee. Interviewee FG 9 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." The level of coordination described by FG 9 as desirable was also suggested as a potential collaborative relationship between Nunavut Parks and Nunavut Tourism, and also between communities and the expedition cruise ship tourism industry, though human resource capacity issues were raised in relation to this option.

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" (FG 13). This interviewee 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 …" (FG 13).

Interviewee FG 1 explained that Parks Canada is starting "to explore a partnership with the cruise industry … so that Parks Canada's message can start to get to cruise passengers." However, this desire for a collaborative partnership with the cruise ship industry has been met with some resistance from a few operators.

> 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 (FG 1).

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" (FG 1). The success of the industry also requires that there is a collaborative relationship between the Inuit government and other stakeholders.

Interviewee PI 7 explained that "there has certainly been a concerted effort to … try very hard to collaborate on as many things as possible." He explained that collaboration between the Government of Nunavut and the Inuit government can be difficult at times because of the Nunavut Land Claim Agreement (NLCA). Interviewee PI 7 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" (PI 7). 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" (PI 7).

Though there is recognition by the interviewees of the need for collaboration among all the stakeholders that have a role in Nunavut's expedition cruise ship tourism, there remains a challenge, according to Interviewee FG 1, to make decision makers and regulators in corporate and organizational structures 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" (FG 1).

A number of interviewees drew a link between a collaborative approach to governance and the need to learn as part of responding to change. According to a private industry interviewee, adaptation to climate change will be a challenge, but the need to adapt may also provide a great 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 (PI 5).

The ability to learn how to adapt from a governing perspective was discussed by federal government and Government of Nunavut participants. The federal government has, according to one participant, "an adaptive management process" (FG 13). It was explained that Transport Canada takes a consultative-adaptive management strategy in order to work with a broad range of users (e.g., communities, operators, and industry). This adaptive management, according to a Government of Nunavut interviewee, occurs through establishing a baseline and then making improvements to operational plans as necessary.

The changing of plans was articulated by a federal government participant who 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 per se, but with the effects that the changing climate has within a park and on the park management plans. For example, Interviewee FG 11 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." 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 Interviewee FG 14, "we build on what we have learned."

The need for the expedition cruise ship tourism industry to adapt, according to a federal government participant, requires a balancing act between "providing an experience for the cruise ships and the community" (FG 11). In addition, explained another interview, that industry adaptation requires that "regulations [adapt] to the times" (FG 4).

Several participants indicated that the responsibility for tourism governance has been unclear since 1999. An interviewee explained that in 1995 DMRs in the former Northwest Territories directed the government to devolve responsibility for tourism to the tourism industry. Another interviewee explained that government disengagement was achieved in Nunavut 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" (FG 2). With the funds transferred, stated Interviewee FG 2, the government paid no or little attention to its responsibility for planning tourism and Nunavut Tourism then became responsible for activities such as tourism marketing, product development, and membership services. "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" (FG 2). The government also "forgot that there are tourism development responsibilities [and] … marketing responsibilities that [the government probably] should maintain" (FG 2).

Another federal government interviewee stated that the Government of Nunavut is responsible for infrastructure, and the community is responsible for facility management. Two Government of Nunavut participants suggested that the territorial responsibilities included licensing and ensuring an economic benefit from the industry. Interviewee GN 5 continued the list:

> 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.

Despite this role, another participant indicated that the Government of Nunavut is not ready to have a strong tourism leadership role due to the events that had occurred in the mid-1990s as outlined above. This individual suggested that the Government of Nunavut first had to develop the capacity (e.g., financial and human resource) to take the lead in tourism development.

Two Government of Nunavut interviewees explained that the regulation and legislation 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 and the majority of the enforcement.

Two federal agencies have an interest in the federal legislation governing the expedition cruise ship tourism industry in Nunavut: Transport Canada and the Canadian Coast Guard. According to several interviewees in Transport Canada, the current legislation is preventative and stringent. Interviewee FG 3 discussed legislation issues in relation to the possibility of large ships navigating into the remote parts of the Arctic:

> 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 (FG 3).

Incident prevention is achieved through legislation such as the *Arctic Shipping Pollution Prevention Regulations* and regulations regarding construction requirements, which include "risk management tools for safe navigation" (FG 3). 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" (FG 4). 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" (FG 4). Several interviewees noted that Canada's preventative legislation is one of the most stringent internally, enabling Canada to be a leader in preventative shipping legislation; furthermore, "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" (FG 3).

Further, Canadian shipping legislation is continually updated. "[W]e do have regulatory development, which is an ongoing animal" (FG 13). 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 (FG 13).

Two participants noted that change in legislation relates, in part, to changes in vessel size; therefore "the mandatory regulations will come about because any bigger ship that goes into these places presents a danger" (FG 3). This issue 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 you're used to, so we have to make sure that our regulations are adapted to the times (FG 4).

An example of recently adapted federal government legislation is the Vessel Traffic Reporting Arctic Canada Traffic Zone Regulations (NORDREG), which came into force July 1, 2010. A private industry participant suggested that having "rules about entering a particular ice area of the Arctic" (PI 1) would be beneficial; NORDREG includes a mandatory reporting process for vessels over 300 tonnes, but allows voluntary reporting for vessels under 300 tonnes. A federal government interviewee indicated 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" (FG 10).

Issues related to territorial legislation arose in interviews with stakeholders from Environment Canada (FG), Canadian Northern Economic Development Agency (FG), Parks Canada (FG), Tourism and Cultural Industries (GN), and the Department of Environment (GN). Two primary concerns were the apparent ineffectiveness of the legislation and enforcement of the legislation.

Interviewees explained that the Nunavut legislation was "grandfathered" from the Northwest Territories and had not been revised. One interviewee noted 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 …" (FG 2). Use of Northwest Territories legislation has limited the enforceability and effectiveness of Nunavut's tourism legislation.

Nunavut's tourism legislation was described as "not specifically address[ing] the cruise ship sector" (GN 5) and Tourism and Cultural Industries was "still in the process of changing the regulation and legislation" (GN 2). A federal government interviewee stated 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" (FG 1).

Planning for development of Nunavut's tourism legislation is based on a consultative approach; this according to a Government of Nunavut interviewee 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" (FG 5).

Currently, the legislation was seen as not allowing for sufficient enforcement; this was outlined by a federal government interviewee who stated:

> 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 someone responsible for … enforcement ... but ... (this duty is) added onto their existing responsibilities (FG 2).

DMRs 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" (FG 12). For Interviewee PI 3, the "licensing and permitting is a huge, ridiculous problem with a government that is trying to increase revenue and promote."

A private industry participant working in the international expedition cruise ship tourism industry stated that 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" (PI 5). A federal government interviewee further elaborated on industry guidelines and explained that at times the company policies are not in line with regulations that are currently in place for the industry. For example, some cruise companies require that tourists on land be accompanied by a crew member carrying a firearm because of insurance

issues. 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? (FG 5)

Vulnerabilities and Adaptation for Expedition Cruise Ship Tourism

The article so far has outlined the views of DMRs about the change and governance contexts of expedition cruise ship tourism in Nunavut, providing detail on the vulnerabilities and adaptive opportunities related to climate change. Table 1 lists the vulnerabilities and adaptive opportunities identified for the industry by DMRs in this study.

A variety of vulnerabilities were discussed in the interviews and these related to the past, present, and future of Nunavut and the changing conditions for Arctic cruise tourism. Particular concerns arose around the ways in which climate change and its associated environmental changes were affecting cruise tourism patterns and were likely to affect those patterns. For example, the opening up of the Canadian Arctic through the decline in sea ice was seen as having resulted in higher numbers of cruises and visitors. This was likely to continue and involve the incursion of cruise tourism into areas previously not accessible. The growth and flexibility of the industry is linked to questions about capacity for managing the needs to the industry in terms of human resource capacity and interpretive/educational programming, but clearly also relate to concerns about the ability of small communities to manage this form of tourism and the policy, planning, and regulatory readiness in Nunavut for the challenges of cruise tourism. Specific vulnerabilities raised here included those stemming from the ways in which governmental responsibilities for the tourism industry were viewed and addressed through legislation. Confusion around responsibilities was identified as a limiting factor in reference to Nunavut Tourism, essentially a membership and marketing organization, and the Nunavut Government. These issues underlie much of the concern about how the changes in cruise tourism can be managed. Further, the problems with the regulatory framework compound other vulnerabilities and result in a more complex context for addressing the adverse outcomes of climate change.

Table 1. Vulnerabilities and adaptive opportunities for cruise ship tourism

Sources of Vulnerabilities	Sources of Adaptive Opportunities
Limited capacity (financial, human, etc.)	Develop human capacity in communities and territorial government
Limited tourism product development	Make use of Nunavut's natural and cultural resources
Limited cruise tourism programs	Access capacity for program development in industry, communities, and government agencies
Existing negative attitude of some decision makers and regulators towards tourism	Education on tourism advantages and disadvantages directed towards decision makers and regulators
Limited and incomplete tourism legislation	Mandates of both federal and territorial government to develop, enhance and expand tourism legislation
Current permitting process – lengthy and convoluted	Possibility of streamlining permit process (including one-window access) through an existing or new agency
Small communities lack capacity to handle cruise numbers	Coordination of industry through existing or new agency to assist with capacity needs
Expedition cruise ship tourism growth means more players, more needs, and more potential impacts	Stakeholder interest in greater collaboration and coordination for programs, packaging, education
Limited understanding of institutional responsibilities (history and confusion)	Stakeholder interest in institutional collaboration and coordination for clear departmental responsibilities
Expedition cruise ship expansion into new areas	Existing safety systems can be updated and information provision enhanced

In terms of the need to develop legislation because of industry growth and expansion into new areas, interviewees indicated that this may be the opportunity for DMRs to develop appropriate Nunavut-specific tourism legislation that includes a streamlining of the permitting process and coordinates ship visits to sites and communities. Some interviewees

suggested that a new association or an existing government agency could become a liaison and coordination body to assist with the permitting and mainstreaming of the industry through, for example, the development of guidelines (developed through collaboration with DMRs), information dissemination, and facilitation of communication with various parties. These adaptive opportunities represent specific and practical strategies that can be used by DMRs to help manage the changes they are seeing in the industry as a result of climate change.

Conclusion

DMRs noted that climate change and its associated environmental changes were affecting the cruise tourism industry by providing new access and new challenges. The industry was described by DMRs as having demonstrated a steady growth over the last decade, an observation also made in the literature (Stewart et al., 2010b; Maher, 2010). The overall upward trend in the number of cruises has been accompanied by shifts in itinerary patterns. Interviewees noted that cruise ships are making fewer stops in Iqaluit and are more focused around northern Baffin Island, and that a greater number of cruise ships are attempting the Northwest Passage. DMRs noted that travel into new areas presents safety issues for the 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. (2010a). The need for greater industry preparedness with travel to new areas is suggested by Stewart and Dawson (2011).

DMRs described the interactions of climate change and tourism in Nunavut and noted changes to the foundation of tourism in Nunavut evidenced in the opening up of new areas, extension of the season, and influences on visitor motivations. The emergence of last chance tourism and other climate related interests as motivation in the Arctic has been identified in the popular press and is the subject of some research (see Lemelin, Dawson, Stewart, Maher, & Lück, 2010).

This picture of a changing industry was prevalent across the various groups of DMRs interviewed in this study, but there were also similarities in how DMRs viewed governance. Federal legislation was seen as strong and territorial legislation was seen as being inadequate, reflecting the history of the territory rather than its present context and needs. Issues included confusion about responsibilities and a regulation gap. Interviewees were positive about the potential to improve governance through effective communication among all stakeholders and through a greater emphasis on collaborative governance. The theme of collaboration was raised throughout

the interviews and connects very closely with the expressed desire for an improvement to legislation itself and the processes involved that enable industry to operate.

The need to enhance the regulatory framework to meet the needs of managing the changes in the industry was matched with the idea of developing a coordinating body. Such an organization was viewed as providing a multi-level liaison for DMRs that would satisfy the needs of the Government of Canada, the Government of Nunavut, and the private expedition cruise ship tourism industry. It could also play a role with communities and could be pivotal in assisting those communities that are just beginning to interact with cruise industry.

This study has identified sources of vulnerability that DMRs need to ameliorate and the adaptive opportunities that may be pursued. Not all of the negative aspects can be ameliorated; however, it is the responsibility of DMRs to ensure that the most pressing sources of vulnerabilities are managed and that at least some opportunities are pursued. As DMRs work on adaptation, the careful examination of vulnerabilities is required and is especially important in the areas where vulnerabilities overlap or are compounded. Furthermore, it is clearly evident that a collaborative, multi-level stakeholder approach is vital in the context of Nunavut if DMRs are to address with any success the climate change related transitions in the expedition cruise ship industry.

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Authors

Adrianne Johnston is a graduate of the MES in Nature-based Recreation and Tourism at the School of Outdoor Recreation, Parks and Tourism, Lakehead University.

Margaret Johnston is professor, School of Outdoor Recreation, Parks and Tourism, Lakehead University.

Harvey Lemelin is associate professor, School of Outdoor Recreation, Parks and Tourism, Lakehead University.

Emma Stewart is senior lecture of tourism and parks, Department of Environment, Society and Design, Lincoln University, Canterbury, New Zealand.

Jackie Dawson is assistant professor of geography and Canada Research Chair (Tier II) in Environment, Society and Policy, University of Ottawa

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