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Towards marine tourism management recommendations for the wrecks of HMS Erebus and HMS Terror National Historic Site, Nunavut, Canada

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ABSTRACT

Towards Marine Tourism Management Recommendations for the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site, Nunavut, Canada

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Over the last 25 years, climate change-induced increases in open water have led to a dramatic environmental and social transformation in the Canadian Arctic (Dawson, Pizzolato et al., 2018; Johnston, Viken et al., 2012). Increasing numbers of tourists aboard cruise ships and pleasure craft now venture farther into Canada's Arctic waterways seeking unique natural and cultural experiences (Dawson et al., 2018; Johnston, Dawson, & Maher, 2017; Stewart & Draper, 2008; Stewart et al., 2007, 2019). While tourism growth presents important opportunities for the region, it is not void of challenges. This research examined marine tourism management concerns in relation to the recent discovery of the Franklin shipwrecks in shallow waters of the Northwest Passage. It is anticipated that the wrecks of HMS *Erebus* and HMS *Terror* will become a popular tourist attraction, leading to the need to explore context-specific management recommendations for the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (WET NHS). This thesis used a systematic, three-staged data collection approach to examine: concerns related to marine and shipwreck tourism management; management "best" practices that have addressed similar concerns; and, expert feedback on the feasibility of applying these strategies to management of marine tourism at the WET NHS. Key management issues explored throughout included: which site(s) should be open to various visitor types; how tourism should use the sites; and, where and how visitor experience opportunities should be developed and managed. Based on the findings from the three-staged approach, ten context-specific management recommendations were made for the WET NHS, including: creating visitor guidelines, requiring local guides, developing anchoring restrictions, expanding the Inuit Guardian program, and offering high-quality visitor experiences on and off-site. Together, these recommendations helped inform recommendations for marine tourism management at the WET NHS for its protection and enjoyment by future generations, and the benefit of local Inuit communities.

Keywords: Canadian Arctic; Nunavut; Tourism; Management; Shipwrecks; Protected Areas; National Historic Site; Franklin; HMS *Erebus*; HMS *Terror*

To Brent –

Don't ever stop having fun!

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER 1: INTRODUCTION

The Arctic, climate change, reconciliation, the Northwest Passage, tourism, shipping, Canadian sovereignty, HMS *Erebus*, and HMS *Terror* now pepper Canada's popular media and political discussions, drawing attention from national and international audiences. The 2014 and 2016 discoveries of the Franklin shipwrecks, HMS *Erebus* and HMS *Terror*, off the coast of Qikiqtaq (King William Island) nearly 170 years after their disappearance solved a "Great Mystery" (Howard, 2014), but leave many more questions unanswered. The context of these questions and debates are shaped by European explorers who set out with heroic expectations to discover a northern trade route from Europe to Asia. The Franklin Expedition's 134 men sailed from Greenhithe, England on May 19, 1845. Aboard two refitted military bomb vessels (see Battersby & Carney, 2011; Pearsall, 1973) and provisioned with three-years worth of supplies, the men were confident they would return home heroes (Canadian Museum of History [CMH], 2018; Woodman 1991). Aside from five sailors who were deemed unfit and invalided home from Greenland (Marsh & Beattie, 2006), neither men nor ships ever returned to England. The mystery surrounding the ill-fated Expedition created a ripe foundation for romanticized interpretations of polar exploration (O'Hearn, 2017; Peck, 2012). Even now, as the story slowly unfolds, the Expedition continues to influence our understanding of the Canadian Arctic, European, Canadian, and Inuit history.

Over the last 25 years, climate change-induced increases in open water have made space for a dramatic transformation in Arctic environmental and social landscapes (Dawson, Pizzolato et al., 2018; Johnston, Viken et al., 2012; Lamers & Amelung, 2010; Stewart et al., 2007). While the extent of sea ice in the Arctic is decreasing, its distribution is sensitive to wind, temperature, and other atmospheric conditions that augment its interannual variability (National Snow and Ice

Data Centre, 2019; Lamers et al., 2018; Palma et al., 2019; Stewart et al., 2007, 2019). For local Inuit, "rapidly melting sea ice is affecting access to hunting grounds and is altering migration patterns of animals central to Inuit life" (Parks Canada, 2018b, para 17). For others, melting sea ice is an attractive invitation to broader and more regular and prolonged access to "unexplored" waterways (Dawson, Pizzolato et al., 2018; Lamers et al., 2018; Palma et al., 2019; Serreze et al., 2007; Stewart et al., 2007, 2019). Seeking unique natural, cultural, and historical experiences, visitors now venture farther into the Arctic in increasing numbers and frequency (Barr, 2017; Palma et al., 2019; Stewart & Draper, 2008; Stewart et al., 2007, 2019). While marine tourism in the Canadian Arctic is still relatively small in scale, its growth echoes broader trends where tourists have become the single largest human presence in other Arctic regions (Arctic Council & Protection of the Arctic Marine Environment, 2009; Johnston, Dawson, & Maher, 2017; Lemelin & Dawson, 2014; Stewart et al., 2007). Although tourism growth in Arctic Canada is viewed as an opportunity for much needed economic development, it is accompanied by many concerns (Dawson, Johnston et al., 2014, 2017; Dawson, Pizzolato et al., 2018; Johnston et al., 2013; Palma et al., 2019; Stewart et al., 2007).

Marine tourism carries the potential for adverse visitor safety, social, cultural, and environmental impacts (Dawson, Stewart et al., 2014; Johnston, Dawson, De Souza et al., 2017; Lasserre & Têtu, 2015). In Arctic Canada, these issues stem from growing numbers of commercial cruises and private yachts exploring a vast, complex, and rapidly-changing environment without sufficient oversight and management (Johnston et al., 2013, 2017; Lasserre & Têtu, 2015; Stewart et al., 2019). These concerns are immediately relevant to the recent discovery of the Franklin shipwrecks. The wrecks of HMS *Erebus* and HMS *Terror* rest in shallow waters along the most commonly transited route through the Northwest Passage

(National Snow and Ice Data Centre, 2019; Stewart et al., 2019). On September 5th, 2019, the site of HMS *Erebus* welcomed its first cruise ship (Parks Canada Nunavut, 2019) and both shipwrecks are being used to advertise cruises in the Northwest Passage (see Dawson et al., 2017; Polar Cruises, 2019; Têtu et al., 2019). While still closed to all visitors without special permissions, the iconic shipwrecks are expected to become highly popular tourism attractions.

The Franklin ships are jointly owned and cooperatively managed by Parks Canada and Canada's Inuit, under the guidance of the Franklin Interim Advisory Committee (FIAC) as the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (WET NHS). While public visitation within the WET NHS is prohibited without written authorization (Parks Canada, 2018d), management stakeholders hope to open them for the enjoyment and education of visitors (Tarasoff, 2018). However, there is a lack of research on marine and shipwreck tourism management in an Arctic environment to support the development of a site management plan that prioritizes ethical and sustainable protection and presentation of the Franklin shipwrecks for the education and enjoyment of future generations (see Lasserre & Têtu, 2015; Marquez & Eagles, 2007; McCole & Vogt, 2011). This research helps address this gap by examining marine and shipwreck tourism management concerns and strategies with key management experts to develop context-specific tourism management recommendations to the WET NHS.

1.1 RESEARCH QUESTIONS AND OBJECTIVES

Management of the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (WET NHS) is challenged by complex environmental, social, and cultural landscapes and sets a precedent as Nunavut's first national historic site and the first cooperatively managed by Inuit and Parks Canada (Parks Canada, 2019g). To embrace the WET NHS's unique position, this research strives to move beyond replicating previous "best" practices (see Myatt, 2012). Instead,

it examines examples of marine and shipwreck tourism management successes and shortfalls and addresses local needs and concerns to develop context-specific management strategies for the WET NHS. The research questions that guide this work are as follows:

1. What key marine tourism management concerns need to be addressed for the management of the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site?
2. What Arctic and shipwreck tourism management "best" practices have successfully resolved examples of the key marine tourism management concerns?
3. What marine tourism management practices and strategies are feasible to address the context-specific management needs for the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site?

This research uses a three-stage research approach to systematically address persisting questions and concerns related to tourism management and the Franklin shipwrecks. The thesis strays from a traditional structure in order to provide the necessary background to situate the work in its complex context, before examining specific concerns and management "best" practices related to marine and shipwreck tourism through meta-analyses and interviews. The work culminates in a series of context-specific marine tourism management recommendations for WET NHS.

1.2 OVERVIEW OF THESIS

This thesis is structured to develop an understanding of the complex environmental, social, and cultural landscapes in which the research is situated before addressing the research questions defined above. Chapter Two provides a brief review of the history of the 1845 Franklin Expedition, finding the lost ships, and how this history is important to ongoing management decisions. Chapter Two also explores the challenges associated with marine tourism in the Canadian Arctic and the complexities of shipwreck management on a broader scale. An overview of current site management and critiques of Parks Canada's history of collaborative management conclude the chapter. Chapter Three provides a review and justification of the

conceptual frameworks and methods used to conduct the research. Chapter Four delves into specific management concerns, using a meta-analysis to systematically analyze categories of concern related to marine tourism in Nunavut and shipwreck tourism worldwide. Chapter Four then follows a similar approach to pair management "best" practices that have successfully addressed similar concerns in other contexts. Chapter Five explores expert feedback from members of the Franklin Interim Advisory Committee (FIAC), who address the context-specific tourism management needs of the WET NHS and feasibility of applying the practices and strategies identified in Chapter Four to address their needs. Chapter Six offers a discussion of research findings and makes context-specific management recommendations for the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (WET NHS). It concludes by addressing study limitations and suggests directions for further research. Finally, Chapter Seven concludes the thesis by summarizing the research findings, situating them within existing literature and site management objectives, and reinforcing the context-specific management recommendations for the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site.

CHAPTER 2: CONTEXT

The Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (WET NHS) lies in the heart of Nunavut and the Northwest Passage (Figure 1). Nunavut Territory was established in 1999, and now encompasses over two million square kilometres of the Canadian Arctic Archipelago. Together, the City of Iqaluit and the Territory's 24 smaller hamlets, many only accessible by plane or boat, are home to 30,500 residents (Statistics Canada, 2017a). While the Territory contains five national parks, a recently established national marine conservation area (see Government of Canada, 2019), many territorial parks, and bird and wildlife sanctuaries, the establishment of the WET NHS is unprecedented. The WET NHS protects two internationally significant, well-preserved wooden vessels that sunk over 170 years ago, is the first national historic site established in Nunavut since it became a territory, and the first Canadian historic site

Figure 1: Map of Canada, illustrating Nunavut, the Northwest Passage, and the location of the Franklin shipwrecks.

cooperatively managed by Inuit and Parks Canada (Parks Canada, 2019g). With an important precedent to set, management of the WET NHS is challenged to ethically and sustainably integrate the needs of complex environmental, social, and cultural landscapes while ensuring the site's protection and presentation for the education and enjoyment of future generations, which are Parks Canada's mandated requirements. This chapter explores this management context by providing a brief review of the 1845 Franklin Expedition, then a discussion of marine tourism in the Canadian Arctic and shipwreck tourism more generally, the WET NHS's current management strategies, and finally, critiques of Parks Canada's history of cooperative management with Indigenous peoples.

2.1 HISTORY: THE LOST FRANKLIN EXPEDITION

On May 19th, 1845, Sir John Franklin and 128 men set sail from Greenhithe, England aboard the HMS *Erebus* and HMS *Terror*, two bomb vessels refitted for polar exploration. Bomb vessels were originally built with strong hulls and large holds to accommodate the size, weight, and recoil of mortars for bombardment of land targets (see Battersby & Carney, 2011; Pearsall, 1973). In 1836, the HMS *Erebus* and HMS *Terror* were refitted for polar exploration with iron-reinforced hulls, heating systems, and retractable propellers powered by steam locomotive engines (Battersby & Carney, 2011; CMH, 2018). The ships were stocked with 12 days worth of fuel and provisions for three years, so with only a small portion of the Northwest Passage left for the Expeditions to discover (Figure 2), Franklin and his crew were confident they would soon return home heroes (CMH, 2018; Têtu et al., 2019; Woodman, 1991). Europeans last saw these two ships and their crew as they waited for the ice to clear from their path across Baffin Bay to Lancaster Sound at the end of July the same year (Parks Canada, 2019c).

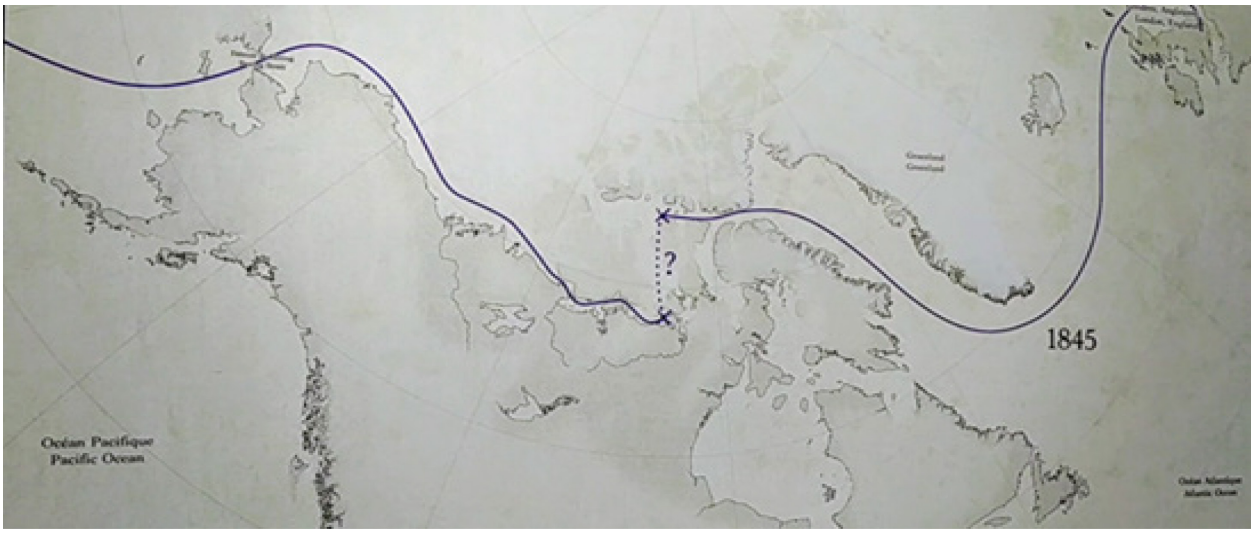


Figure 2: The small portion of the Northwest Passage left undiscovered when the Franklin Expedition set sail in 1845 (Canadian Museum of History, 2018; Iddon, 2018).

After circumnavigating Cornwallis Island, presumably in search of a northern route through the Arctic Archipelago, the crew spent the first winter on Beechey Island. The next summer, Franklin's expedition ventured south into Peel Sound. Here, the ships were beset in the ice on September 12th, 1846 near the northwest shore of Qikiqtaq, or King William Island (Parks Canada, 2018a). The ships and crew remained stuck in the ice throughout the following year (Beattie & Geiger, 1988; CMH, 2018; Woodman, 1991). After moving only 50 kilometres with the ice, the crew deserted the HMS *Erebus* and HMS *Terror* on April 22nd, 1848. Three days later, they reached land on the northwest coast of Qikiqtaq (King William Island), south of Victory Point (see Figure 3, Stenton, 2018). Two notes left in a cairn recorded Sir John Franklin's death on June 11th, 1847, the passing of 23 other crew, and plans for the remaining men to travel overland to the Back River (see Figure 3), likely in search of the nearest Hudson's Bay Company post (CMH, 2018; Parks Canada, 2017f, 2019c; Stenton, 2018). Even though the crew carried 200 message canisters and were instructed to "throw a note overboard… 'frequently' once the ships passed 65 degrees North" (CMH, 2018), no other firsthand accounts of the journey have been found. After two years without a word of the Franklin Expedition, the

Figure 3: Admiralty Chart No. 5101 (adapted from Gould, 1927) depicting Naval observations of the Franklin Expedition in red and Inuit testimonies in blue. Inuit guidance and assistance were instrumental to the survival and success of search efforts (Parks Canada, 2019c).

first rescue missions set sail in 1847 (Parks Canada, 2019c). The same year, a group of Inuit hunters met some of Franklin's men near Washington Bay. These hunters were the last known people to see the men alive (CMH, 2018).

2.1.1 HISTORY: FINDING THE HMS EREBUS AND HMS TERROR

The rest of the 1800s made way for "the largest manhunt in history" (Woodman, 1991, p. 3), a search made possible by experiences recorded in Inuit oral tradition (Parks Canada, 2018c). As years passed without sign of the missing ships or crew, Lady Jane Franklin posted sizeable monetary rewards for the crew's discovery, information that led to their relief, or details that confirmed their fate (CMH, 2018; CBC/Radio-Canada, 2012). In 1850, a search team discovered the expedition's winter camp and three graves on Beechey Island, but no information as to where the expedition planned to head next (Parks Canada, 2017f, 2019c). Four years later, Dr. John Rae learned from the Netsilingmiut, or Netsilik Inuit (Parks Canada, 2019c), that a large party of starving white men had resorted to cannibalism (Parks Canada, 2019c) and that 30 to 40 bodies lay at a camp in Terror Bay (see Figure 3) and others north of the Back River; Dr. Rae found human remains in Starvation Cove and on the Adelaide Peninsula (CMH, 2018; Parks Canada, 2017f). The British public was shocked by Dr. Rae's findings, doubting his Inuit sources and responding with "outright bigotry" (Parks Canada, 2019c, p. 9). Dr. Rae defended the accuracy of his Inuit sources (Parks Canada, 2019c) and the British Board of Admiralty awarded Dr. Rae his payment, declaring Franklin's men dead as of March 31st, 1854 (CMH, 2018; Great Britain, 1856). Consequently, private funding supported any further attempts to find remains of the ill-fated expedition; Lady Jane Franklin funded many. In all, over 30 expeditions set out in search of the lost ships and men (see Elce, 2009; Mills, 2003; Ross, 2002). Few found any traces.

Through the late 1900s, discoveries and scientific studies of 35 sites of the Franklin Expedition's remains took place (Stenton, 2018). Researchers exhumed bodies and suggested that scurvy, lead poisoning, and cannibalism played a role in the 129 men's demise (Beattie & Geiger, 1988; CMH, 2018). In anticipation of the wrecks' discovery, the Government of the Northwest Territories (prior to the creation of the Territory of Nunavut in 1999) expressed concern about the need for their protection (Parks Canada, 2019c). In 1992, Canada ensured the Franklin wrecks' protection by declaring them the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (CMH, 2018). Five years later, for the 150th anniversary of Franklin's death, Canada and Great Britain signed a memorandum of understanding for, "when found, the responsibility for the wrecks – and their recovery and contents – would fall to Canada" (Parks Canada, 2018f, para. 2). The same year, several partners, including Parks Canada, took part in the "Franklin 150" project, resuming the search for the wrecks of HMS *Erebus* and HMS *Terror* (CBC/Radio-Canada, 2012; Parks Canada, 2017f, 2018c). Still, with no sign of the lost ships, Parks Canada took the lead on another search beginning in 2008.

Parks Canada's Underwater Archaeological Team (UAT) began the renewed search for the wrecks of HMS *Erebus* and HMS *Terror* in collaboration with the Government of Nunavut, who led all parallel land-based archaeological surveys, the Canadian Coast Guard, the Canadian Hydrographic Service, the community of Uqsuqtuuq (Gjoa Haven), and numerous other public and private organizations (Parks Canada, 2017f, 2018c, 2019c). Guided by Inuit oral histories, without which search efforts would have been "wholly impractical" (Parks Canada, 2017f, para. 2), teams searched 1,601 square kilometres of seafloor around the south and western shores of Qikiqtaq (King William Island) by the end of August 2014 (Parks Canada, 2018c). Forced south by challenging weather, searchers from the Government of Nunavut made a breakthrough on

September 1st, 2014, when they discovered a davit pintle and deck hawse plug south of Victoria Island, where Inuit knowledge spoke of a ship sinking (Parks Canada, 2017g). The Parks Canada UAT adjusted their course the following morning, and minutes later, passed right over the wreck of HMS *Erebus*: "I would liken it to winning the Stanley Cup" (Ryan Harris, Parks Canada, 2017g). The first dives confirmed the ship was sitting largely intact, upright on the seafloor, just 11 metres below the water's surface (Koellner, 2017; Parks Canada, 2017g; Zachary, 2018). Parks Canada has since documented the exterior of the site, recovered artifacts primarily at risk of falling into the wreck (see Figure 4), and continued to plan for more in-depth and complex archaeological dives, including the removal of midship beams and stern decking to facilitate access to the interior. With many of the ship's furnishings intact, the underwater archaeology team hopes to find important artifacts inside (Parks Canada, 2017g). However, with one-metre tides (Parks Canada, 2019c) and three to four-knot currents pushing through the broken stern towards the ship's bow, lifting the stern decking risks shifting artifacts and losing the context of

Figure 4: A Parks Canada archaeologist diving above the wreck of HMS *Erebus* (Parks Canada/Marc-André Bernier, retrieved from Royal Museums Greenwich, n.d.).

their story, so work must happen carefully, respectfully, and systematically during good weather (Zachary, 2018). Nevertheless, short dive seasons combined with storms peeling back planking and shifting artifacts have instilled a sense of urgency amongst the archaeology team (Davison, 2017a; Zachary, 2018).

In 2016, the next breakthrough was made in Terror Bay near the southwestern corner of Qikiqtaq (King William Island), nearly 100 kilometres from where other teams were searching. Once again, relying on Inuit oral traditions and knowledge (see Parks Canada, 2019e), the Arctic Research Foundation's crew located a three-masted ship sitting 24 metres below the surface, largely intact and upright on the floor of the sheltered bay (Parks Canada, 2017h). A few days later, Parks Canada confirmed it was the wreck of HMS *Terror.* A more detailed description of finding the wrecks of HMS *Erebus* and HMS *Terror* is available in appendices A and B.

2.1.2 A COMPLEX MANAGEMENT CONTEXT

Discovering the wrecks of HMS *Erebus* and HMS *Terror* was only the beginning of piecing together the story of their ill-fated journey. As part of an intricate social and cultural heritage, the 1845 Franklin Expedition became the "Franklin Legend" in Inuit oral history (Têtu et al., 2019) and still "haunts" members of the community of Uqsuqtuuq (Gjoa Haven) (Beeby, 2018). This exemplifies its continued importance in Inuit heritage (Têtu et al., 2019) and contributes to a challenging management context. In 2016, the Government of Canada announced its commitment to joint ownership of the Franklin wrecks with Canada's Inuit and founded the Franklin Interim Advisory Committee (FIAC), whose members cooperatively advise Parks Canada's research on and management of the sites (Parks Canada, 2018a, 2018e). In June 2018, Parks Canada announced a contract for the *Franklin Expedition Inuit Oral History Project* (Parks Canada, 2018b). Requested by the FIAC, the project engaged elders and youth in effort to

increase public awareness of Inuit contributions to the discovery of the wrecks of HMS *Erebus* and HMS *Terror* and to fill the gaps of contemporary knowledge through documentation of Inuit interactions with Sir John Franklin and his crew (Cecco, 2018; Garber, 2018; Parks Canada, 2018b). As the WET NHS' commemorative integrity statement acknowledges,

> The [Franklin] Expedition has had an impact on traditional Inuit place names, such as the identification of particular meeting places [and] the original expedition and subsequent decades-long search and rescue efforts were a driver for the intensification and evolution of the interactions between Europeans and the Inuit. (Parks Canada, 2019c, p. 13)

Documenting and sharing this important interplay of cultures during their period of first contact and using the material to support museum exhibits, research materials, and interpretive programs are the first goals for the Project's findings. Together, Inuit oral history and Western science will shed light on the fate of the 1845 Franklin Expedition and shape the management of the WET NHS (Parks Canada, 2013, 2017e).

2.2 CHALLENGES: MARINE TOURISM IN THE CANADIAN ARCTIC

While discoveries continue, the North is changing. When Franklin and his crew set out to discover the Northwest Passage, they did so as a duty to their country. In the early 1800s, the Arctic was perceived by Europeans as a place for skilled explorers and scientists (Orams, 2010); marine tourism through this vast and sparsely populated archipelago was not on the horizon for another 150 years (Lasserre & Têtu, 2015; Goegebeur, 2014). Marine tourism refers to "recreational activities that involve travel away from one's place of residence and which have as their host or focus the marine environment (where the marine environment is defined as those waters which are saline and tide-affected)" (Orams, 1999, p. 9). Until recently, most Arctic marine environments were sheltered from the tourism industry by concerns about visitor safety and the Arctic's inaccessibility or high cost of access. Today, modern technology, the

popularization of international travel (Orams, 1999), and motivators like “last-chance tourism” (Lamers & Amelung, 2010; Lemelin, Dawson, & Stewart, 2012; Lemelin et al., 2010; Palma et al., 2019) and the quest for self-glorification through social media (see Dinhopl & Gretzel, 2016; Magasic, 2016) have made these spaces increasingly accessible and desired by the growing polar tourism industry.

Over the last 25 years, shipping traffic in the Canadian Arctic has more than tripled, with growth expected to continue (Dawson, Pizzolato et al., 2018; Johnston, Viken et al., 2012). A portion of this growth stems from increased Arctic tourism, which is driven in part by the results of: climate change-induced increases in open water; cultural resource development (Dawson, Pizzolato et al., 2018); and, motivations to visit attractions before they vanish (coined “last-chance tourism,” see Lamers & Amelung, 2010; Lemelin, Dawson, & Stewart, 2012; Lemelin et al., 2010; Palma et al., 2019). Dynamic changes in sea ice distribution and extent are broadening and lengthening (about five days per decade, Dawson, Pizzolato et al., 2018) access to the Northwest Passage, allowing vessels to travel increasingly regularly into the northern and western parts of the Arctic Archipelago (Dawson, Pizzolato et al., 2018; Johnston, Dawson, De Souza et al., 2017; Lamers et al., 2018). While this situation allows greater access to both independent pleasure craft and commercial expedition cruise ships, it is a combination that presents a unique management challenge in this vast, remote area (Johnston, Dawson, De Souza et al., 2017).

2.2.1 PLEASURE CRAFT PATTERNS

Pleasure craft are the fastest-growing contingent of vessels in Arctic Canada (Johnston et al., 2013; Johnston, Dawson, De Souza et al., 2017; Orams, 2010). As defined by Transport Canada (2019), pleasure craft are recreation vessels that do not carry paying passengers. They

Figure 5: Left, smaller yachts in Antarctica (Antarctica Guide, 2018); right, the SeaExplorer, 90-metre super-yacht, in Antarctica (Sorensen, 2015).

include sailboats and motor yachts (Figure 5), which often facilitate other adventure activities like sea kayaking, snorkelling, climbing, and camping in polar regions (Johnston, Dawson, De Souza et al., 2017; Lamers & Gelter, 2011). Pleasure craft are typically smaller vessels carrying few passengers; however, super-yachts (24 to 100 metres in length, Figure 5) and mega-yachts (over 100 metres in length) can host numbers comparable to adventure cruise ships (Orams, 2010; Sorensen, 2015). These large vessels often carry advanced equipment, such as SCUBA diving apparatus, helicopters, and underwater drones or submarines. Aboard self-reliant vessels, pleasure craft operators are taking advantage of changing ice coverage and are becoming increasingly widely dispersed (see Figure 6) and more difficult for managers to control or support (Dawson, Pizzolato et al., 2018; Johnston et al., 2013, 2017; Orams, 2010; Stonehouse & Snyder, 2010).

Pleasure craft frequently venture into new and uncharted waters, far from the few communities and limited infrastructure in the Arctic. According to Lasserre and Têtu (2015), as of 2012, only six percent of Arctic waters were charted to international standards and only eleven percent had been mapped, much of which based on information from the 19th Century (Kelly &

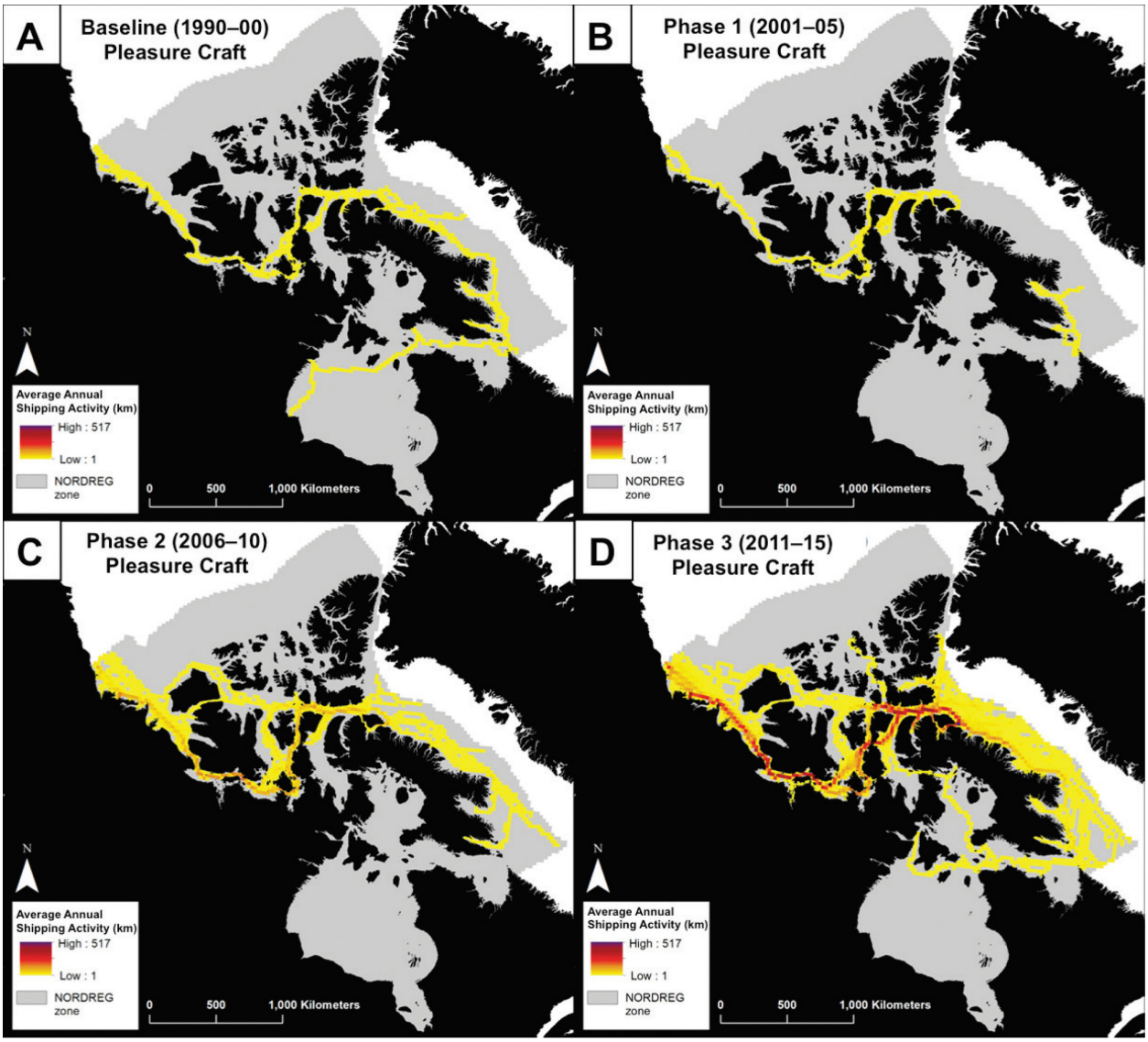


Figure 6: Annual kilometres travelled by pleasure craft in the Canadian Arctic (Dawson, Pizzolato et al., 2018, p. 22).

Ljubicic, 2012). While the search for and exploration of the Franklin wrecks contributed to these efforts and continue to do so, limited hydrographic charting is a known visitor safety issue. As the growth of the polar cruising industry outpaces infrastructure development and search and rescue capabilities, this challenge is becoming increasingly problematic (Goegebeur, 2014; Johnston, Dawson, De Souza et al., 2017; Lasserre & Têtu, 2015; Palma et al., 2019; Parks Canada, 2018c; 2018c; Stewart et al., 2019). Particularly concerning are private vessels' apparent lack of experience and resources to be safe and self-reliant in the Arctic's changing conditions

(Goegebeur, 2014; Johnston et al., 2013; Johnston, Dawson, De Souza et al., 2017). From a protected area management perspective, this lack of preparedness is also apparent in the frequency of vessels entering managed spaces without the required permits, many unaware they were within protected area boundaries (Johnston et al., 2013; Johnston, Dawson, De Souza et al., 2017). While a seemingly simple fix involves increased signage, permitting, and enforcement, some private vessel operators perceive themselves as exempt from such regulations (Johnston et al., 2013, 2017). More extreme examples include smaller commercial vessels registering as a private craft to evade stricter regulations and high-profile criminal or culturally inappropriate behaviours, see for example: the *Fortrus* in Iqaluktuuttiaq, also known as Cambridge Bay, in 2012 (Johnston et al., 2013, 2017; Têtu et al., 2019), and the *Berserk II* in the Northwest Passage in 2009 and Antarctica in 2011 (Johnston, Dawson, De Souza et al., 2017; Krakau & Herata, 2013).

Tourism management in the Canadian Arctic is challenged by visitors' lack of awareness of, or blatant disregard for regulations. In 2009, Captain Jarle Andhøy of the Norwegian-registered steel-hulled private yacht *Berserk II* was deported from Canada during a 2009 trip through the Northwest Passage for illegal entry into the country and hiding a crew member from the Royal Canadian Mounted Police (Curry 2007; Dawson, Johnston et al., 2014; Johnston, Dawson, De Souza et al., 2017; Spindler, 2018). According to Jarle Andhøy, the Northwest Passage is international waters and, therefore, its transit does not require the notification of Canadian authorities (Curry 2007). Two years later, the *Berserk II* sank in Antarctica's Ross Sea. Nine days after dropping off the captain and a crew member who were to travel overland to the South Pole, the *Berserk II* activated a distress signal during hurricane-force winds (Spindler, 2018). The three crew on board at the time were lost, and the captain was prosecuted. Amongst

other violations, Captain Jarle Andhøy had not acquired permits to visit Antarctica, which he claimed to be unnecessary in "no-man's land" (Spindler, 2018). Captain Jarle Andhøy and the *Berserk II* exemplify the challenges inherent in managing the diversity and severity of issues associated with pleasure craft cruising in polar waters. Given the concerns about the protection of environmental, social, cultural, and sovereign systems in the Canadian Arctic, this example illustrates the need for more than a national permitting structure (Johnston, Dawson, De Souza et al., 2017).

2.2.2 COMMERCIAL CRUISE VESSEL PATTERNS

On average, 22 commercial cruise ships navigate Canadian Arctic waters annually, collectively carrying approximately 3,500 tourists (Dawson et al., 2017). Most common to the region are expedition cruises. Expedition cruising, coined by Lars-Eric Lindblad in the mid-1900s (Bauer, 2001; Enzenbacher, 1995; Stonehouse & Crosbie, 1995), characterizes smaller vessels that enable frequent shore landings and community visits, with a focus on environmental and historical education (Dawson, Johnston et al., 2014; Lamers et al., 2018; Lasserre & Têtu, 2015; Manley et al., 2017; Stewart & Draper, 2008; Stewart et al., 2007, 2019). As defined by the International Association of Antarctica Tour Operators (IAATO, 2003, 2018a, 2019) membership and operating procedures, Category 1 vessels carry between 13 and 199 passengers and make frequent landings, while Category 2 vessels carry 200-500 passengers and make landings under stringent restrictions on time and place; both categories are limited to 100 passengers ashore at once and, Category 2 vessels especially, by the challenges inherent to managing the landing of higher numbers of people and the lack of deep-water ports (Lasserre & Têtu, 2015; Liggett et al., 2011). Typically, expedition cruise tourists are well-educated individuals over 50 years of age (though a growing younger cohort has been noted, see Lamers

& Gelter, 2011) with above-average disposable income (Grenier, 2018; Stewart et al., 2007), who want unique experiences off the main vessel, including zodiac cruising, extended walks, kayaking, and SCUBA diving, and who are driven to see the landscape and its wildlife before they are irrevocably altered (Dawson, Têtu, et al., 2018; Grenier, 2018; Johnston, Viken et al., 2012; Lamers & Amelung, 2010; Lamers & Gelter, 2011; Lasserre & Têtu, 2015; Lemelin et al., 2010; Manley et al., 2017).

Lasserre and Têtu (2015) argue that the need for polar class vessels limits cruising and mass tourism in the Arctic. However, the Antarctic cruising industry has experienced a growing number of non-ice-strengthened vessels (Liggett et al., 2011; Lück et al., 2010) and luxury cruises have made an appearance in the high North. *MS The World*, a 165-resident condominium-style ship carrying 508 passengers (The World, n.d.), completed an unescorted transit of the Northwest Passage in 2012 and returned in the summer of 2019 (The World, 2019). In 2016 and again in 2017, the 1,080-passenger ship *Crystal Serenity* was escorted by the *RRS Ernest Shackleton* icebreaker along a similar route (Coppes, 2017; Dawson et al., 2017; Northstar Travel Media, 2018). Beginning in 2020, Crystal Cruises plans to begin cruises aboard the *Crystal Endeavour*, a polar-class luxury mega-yacht equipped with helicopters, submarines, SEABOBs, amphibious zodiacs, jet skis, all-terrain-vehicles (ATV), kayaks and other boats, SCUBA and snorkelling equipment, a

Figure 7: Crystal Cruises' (2020b) advertisement of the equipment available on their polar-class vessel, the *Crystal Endeavour*. Its first commercial sailing is set for this summer.

recompression chamber, and more (see Figure 7, Crystal Cruises, 2020a, 2020b; Grenier, 2018). As with pleasure craft, commercial cruise ship numbers continue to increase, accompanied by growing concern about under-prepared vessels and inexperienced crew, a lack of infrastructure, comprehensive management, and rescue resources (Coppes, 2017; Lamers & Gelter, 2011; Liggett et al., 2011; Stansfield, 2016; Stewart et al., 2019). Some of these concerns are highlighted by an incident involving a polar-cruising veteran, the *MS Explorer*.

The *MS Explorer* (first known as the *MS Lindblad Explorer*) was built in 1969 and began polar cruise tourism in Canada (Marsh & Staple, 1995; Stewart & Draper, 2008). As the first tourism vessel built for these remote, icy environments, the *MS Explorer* completed numerous Arctic and Antarctic journeys, and in 1984, was the first tourism vessel to complete the Northwest Passage. On November 23rd, 2007, a "wall of ice" (Republic of Liberia, 2009, p. iv) holed the *MS Explorer* near Antarctica's South Shetland Islands (Associated Press, 2007; Stewart & Draper, 2008). The crew ordered passengers to abandon ship and issued a distress call as the watertight compartments failed. The 91 passengers, nine expedition staff, and 54 crew awaited rescue in lifeboats for three to four hours before rescue by a nearby cruise ship. At first, it came as a surprise that the veteran ice-strengthened ship in good-standing with recent safety inspections met its fate in seemingly benign ice and weather conditions (Stewart & Draper, 2008). However, the later report of investigation in the vessel's sinking found that:

> The decision by the Master to enter the ice field based on his knowledge and information at the time was the primary reason why the EXPLORER suffered the casualty. He was under the mistaken impression that he was encountering first year ice when in fact, as the Chilean Navy Report indicated, was much harder land ice…. The Master of the EXPLORER was very experienced in Baltic waters but he was unfamiliar with the type of ice he encountered in Antarctic waters. (Republic of Liberia, 2009, p. iv)

Fortunately, the *MS Explorer* had made an emergency contingency plan following the guidelines of the International Association of Antarctic Tour Operators (IAATO), which was enacted at the time of the distress call. This example reinforces concerns about inexperienced masters and crew and begs the question of whether a ship in the Canadian Arctic has the ability to organize a safe outcome when a similar incident occurs in the North (Stewart & Draper, 2008), as there is no association specifically for cruise operators in the Canadian Arctic (Lasserre & Têtu, 2015; Stewart et al., 2010). While the Association of Arctic Expedition Cruise Operators (AECO) is a voluntary cooperation of cruise companies that advocates for its members' interests while promoting "responsible, environmentally-friendly and safe cruise operations in the Arctic" (AECO, n.d.-b, para. 1), its focus is the more-heavily cruised European Arctic (for example, see Lamers et al., 2018) and does not target pleasure craft cruising (Johnston et al., 2013; Orams, 2010).

2.2.3 REGULATING MARINE TOURISM IN THE CANADIAN ARCTIC

Without an overseeing agency in the Canadian Arctic, cruise operators must acquire up to 33 permits through an array of organizations (see Dawson et al., 2017). Such complexity consequently reduces the capacity to monitor who is travelling where and with what resources, facilitate search and rescue efforts, provide centralized visitor information, direct visitor enquiries, and enforce regulations throughout Canada's Arctic waters (Davison, 2017b; Dawson et al., 2017; Johnston et al., 2013). Onshore, this lack of oversight limits the establishment of comprehensive visitor facilities, such as safe harbours, drug and grocery stores, fuel stores, customs and immigration, information and interpretation centres, et cetera, which could further support economic development in the North (Johnston et al., 2013, 2017; Lasserre & Têtu, 2015). In addition to a lack of overarching tourism management direction, the *Coasting Trade*

Act (CTA), designed to support and protect Canadian shipping, further penalizes the Canadian cruise industry (Dawson et al., 2017). To avoid more stringent safety, labour, and environmental regulations, most cruise ships operating in the Canadian Arctic are foreign-flagged (Dawson, Johnston et al., 2014). However, under the CTA, foreign-flagged vessels temporarily imported for cruising in Canada must undergo an import process burdened by substantial financial costs and extensive permitting, or must pay a heavy duty-tax to operate wholly within Canadian waters (Dawson, Johnston et al., 2014, 2017). Consequently, cruise itineraries are forced to include an international port of call, meaning most cruises begin or end their journey in Greenland or Alaska. While passengers' most substantial spending occurs where their journey begins or ends, this trend further undermines Canada's economic opportunities related to cruise tourism (Dawson, Johnston et al., 2014, 2017). Finally, foreign-flagged ships typically require a foreign crew, but they face income tax administration and financial strain that can make travel between Canadian ports unviable (Shipping Federation of Canada, n.d.). Together, these restrictions hinder positive economic benefits for Inuit and other Canadians in the Arctic.

2.2.4 SOCIAL AND CULTURAL IMPACTS

Despite the unfulfilled cruise-related economic potential in Canada's North, social and cultural impacts are ever-present. Eastern Canadian Arctic communities are the least bound by unfavourable ice conditions and, therefore, are the most frequented by cruise vessels. However, the call of a cruise ship is often still a welcomed event for many isolated western communities (AECO, n.d.-a; Lasserre & Têtu, 2015). As expressed by local residents from Uqsuqtuuq (Gjoa Haven), the hamlet nearest the Franklin wreck sites (about 125 kilometres) who receive an average of four cruise ships per year (seven were scheduled in 2018 but none made it due to ice cover, and six were scheduled in 2019), the arrival of a vessel is a time of excitement that brings

Table 1: Unemployment rate in Uqsuqtuuq (Gjoa Haven), Nunavut, and Canada (Statistics Canada, 2017a, 2017b).

Area	Unemployment Rate
Uqsuqtuuq (Gjoa Haven)	36.5%
Nunavut	21.5%
Canada	7.7%

with it the opportunity to meet new people, share their unique culture, history, traditions, and environment, and sell their local crafts (Dawson, Stewart et al., 2014; Government of Nunavut, n.d.; Stewart et al., 2011; T. Tarasoff, personal communication, February 27, 2019). When well-aligned with the culture and needs of these predominantly Inuit coastal communities, cruise tourism can be beneficial (Dawson et al., 2017; Johnson, 2002; Marquez & Eagles, 2007; Stewart et al., 2010). From an economic standpoint, a well-organized community visit can generate revenues totalling up to $30,000 in addition to a portion of cruise passengers' average spending of $352 per person on art and carvings in Nunavut (Dawson et al., 2017). This income can make a substantial contribution in a territory where the median income of the Inuit is nearly $60,000 less than their non-Indigenous counterparts ($24,768 versus $84,139, Inuit Tapiriit Kanatami, 2018, p. 17) and to a community whose unemployment rate is over four times that of the Canadian average (see Statistics Canada, 2017a, 2017b). Nevertheless, not all communities welcome marine tourism vessels (Stewart et al., 2011).

Research about communities' views of marine tourism, particularly cruise tourism, has found a diversity of perspectives and concerns about the industry. They vary most significantly between eastern communities such as Mittimatalik (Pond Inlet), one of the most frequently visited communities in Nunavut, and those that are beginning to develop as a cruising destination

in more central-western Canadian Arctic regions (Stewart et al., 2011). In the community of Uqsuqtuuq, residents expressed concerns about marine tourism, including:

- The potential for criminal activity;
- Surprise visits (or last-minute changes, as per Stewart et al., 2007);
- A sense of intrusion compounded by cultural misunderstandings or disrespect;
- Language barriers;
- Increased risks to sovereignty and security, and visitor safety;
- Risk of illness and disease; and,
- Concerns for adverse natural and cultural impacts such as marine pollution, wildlife disturbance, and the disturbance of cultural sites including Franklin gravesites and more (list adapted from Dawson, Stewart et al., 2014).

Although tourism permits and other regulations associated with land claim agreements can support the needs and cultural norms of coastal Inuit communities, the social and cultural implications remain a challenge with diverse user groups who may be unfamiliar with the North (Dawson et al., 2017). Marine tourism concerns and associated management practices are examined in-depth in Chapter Four.

2.2.5 ENVIRONMENTAL IMPACTS

Cruise and pleasure craft tourism also affects the physical environments on which it relies (Johnson, 2002; Orams, 2010; Palma et al., 2019). This section takes a broader look at the environmental impacts of the polar tourism industry both within and beyond the Canadian Arctic. As the polar tourism industry grows, trends demonstrate a diversification of activities (such as SCUBA diving and sea kayaking) and an increase in shore landings, each with distinct trampling, erosion, and other environmental impacts (Lamers & Gelter, 2011; Liggett et al., 2011). A summary of further physical impacts specific to ship-based polar cruises follows. First, the release of grey and black wastewaters that carry harmful substances contribute to damaging

environmental effects like eutrophication and fish mortality (Lück, 2010). Wastewater also contains nitrogen, which is "known to greatly stimulate the growth of soft-rot fungi" (Björdal, 2012, p. 134), a keen wood degrader. Similarly, ships dumping ballast waters act as a vector for invasive species and illnesses (Lück, 2010), especially in conjunction with warming northern water temperatures (Lamers & Amelung, 2010; Lück, 2010). Particularly concerning is the transport of marine borers, which are an aggressive wood degrader attributed to the rarity of well-preserved wooden shipwrecks worldwide (Björdal, 2012). Last, while technology is changing (for example, Hurtigruten's [2019] new hybrid ship), cruise ships are most-commonly powered by diesel engines burning bunker fuels. Bunker fuels are dirty leftovers from crude oil refining that release higher concentrations of contaminants that contribute to the greenhouse effect, humidity, and acid rain (Lück, 2010; Mölders et al., 2013; Papaefthimiou et al., 2016; Weggeberg et al., 2017).

In sub-Arctic (Hull, 2010) and Antarctic (Liggett et al., 2011) settings, other forms of degradation include increasing pressure to develop tourism structures that facilitate larger and broader land-based tourism. Currently, off-ship excursions are limited to cruises on smaller expedition vessels by the logistical complexity of loading and unloading more than about two hundred passengers (Lasserre & Têtu, 2015; Liggett et al., 2011). With the development of land-based infrastructures, like overnight accommodations for cruise passengers, larger cruise ships may also be able to offer excursions off-ship (Liggett et al., 2011). While environmental impact mitigation tools, such as the International Convention for the Prevention of Pollution from Ships and the Polar Code (see Dawson, Johnston et al., 2014 for a summary of international conventions affecting cruise tourism in Arctic Canada) strive to protect polar environments, they were not created with cruise, nor pleasure craft, tourism in mind (Orams, 2010). Consequently,

the strict standards for commercial vessels omit recommendations for pleasure craft and curb their ability to address environmental issues specific to polar cruise tourism vessels that travel differently through similar waters (International Maritime Association [IMO], 2017; Johnston, Dawson, De Souza et al., 2017; Orams, 2010).

The growth of polar tourism is a tide we cannot turn back (Dawson et al., 2017; IMO, 2017; Lasserre & Têtu, 2015). With tourism trends demonstrating a substantial interest in the Canadian Arctic and sites from historic polar exploration, decision-makers in the Canadian Arctic must take heed of the explosive development and implicit impacts of cruise tourism in Antarctica (Stewart et al., 2007, 2010; Dawson, Têtu, et al., 2018). Because Canada's cultural history presents opportunities and challenges distinct from other polar cruising destinations (Dawson et al., 2017), the next steps will shape the future of the natural and cultural heritage in, around, and beyond the wrecks of the HMS *Erebus* and HMS *Terror*. The environment and the lives of those living, working, and visiting within it deserve distinct management attention that both supports and controls the safe development of Arctic cruise and pleasure craft tourism (IMO, 2017; Johnston et al., 2013, 2017; Lasserre & Têtu, 2015; Orams, 2010).

2.3 CHALLENGES: SHIPWRECK MANAGEMENT

Shipwreck management is highly contextual. First, management is not synonymous with preservation, as even slow, incremental degradation cannot be entirely halted (Oxley & Gregory, 2002). Though many archeological approaches can decelerate the rate of deterioration of artifacts to "preserve" them for later examinations, the process frequently results in resources "found in zip-lock baggies, [where] the product is a report" (Hannahs, 2003, p. 8), or the site's value *in situ* is reduced by masking or prohibiting access (Oxley & Gregory, 2002). In contrast, shipwreck management, especially as a protected area, promotes sustainable access to wreck sites and the

cultural resources and stories they harbour (Government of Canada, 1985, 1998; Hannahs, 2003; Oxley & Gregory, 2002). In a general sense, management is the attempt to balance the protection and presentation of important sites by minimizing adverse impacts while operating within limitations of environmental and economic pressures, available funds, human resources, and time (Cuthill, 1998; Firth, 2018; United National Educational, Scientific and Cultural Organization [UNESCO], 2012). Management supports the view that value exists in the opportunity for the public to gain first-hand experiences with historical remains. The knowledge and stories they embody belong to the public mind, contribute to a sense of community, and attract recreation and tourism. While increased visitation intensifies site pressure and degradation (Hannahs, 2003; Marquez & Eagles, 2007), many believe that recreational exploration of shipwrecks should be maintained and even encouraged (Firth, 2018; International Council on Monuments and Sites [ICOMOS], 2011; National Park Service, 2018; UNESCO, 2012; Vrana & Halsey, 1992). "There is a point where the best use of the site is to provide the public with a tangible part of their heritage rather than more information about that heritage" (Hannahs, 2003, p. 12). Shipwreck management must then consider the physical environment, the cultural heritage and knowledge and experiences of the mariners, the interactions and relationships of peoples affected by the vessel and its mariners, and the ongoing tangible and intangible assets that educate and inspire current and future generations (Cummins & Dickinson, 2001; Firth, 2018; National Ocean Service, 2017c). Firth's (2018) complex web (Figure 8) and past Superintendents Cummins and Dickinson (2001) speak to this complexity through their management of the wreck of the USS *Arizona* in Pearl Harbor:

> Should we be doing anything to preserve shipwrecks in place? What about shipwrecks that are also grave sites? Should we let the natural processes continue unimpaired? Should we be looking for means to slow or stop deterioration? Should we be retrieving

> significant artifacts... so they can be displayed, and people can see them before they are lost to corrosion? Should we document wrecks with known dead? Should we merely monitor the deterioration process, noting changes in conditions that occur over time but allowing deterioration to continue? Should we be diving on such submerged grave sites? Should we penetrate them? ... If we don't dive them, how do we learn enough to make responsible management decisions regarding health, safety and appropriate visitor use? (p. 1)

Immersed in physically, socially, and culturally dynamic environments, management must rely on clear, yet adaptable goals and objectives that reflect the site's historically significant period (Cummins & Dickinson, 2001; National Ocean Service, 2017d).

Cultural resource management in a marine environment requires a distinct approach, as it uniquely engages dynamic ecological and cultural influences. Marine protected areas face higher

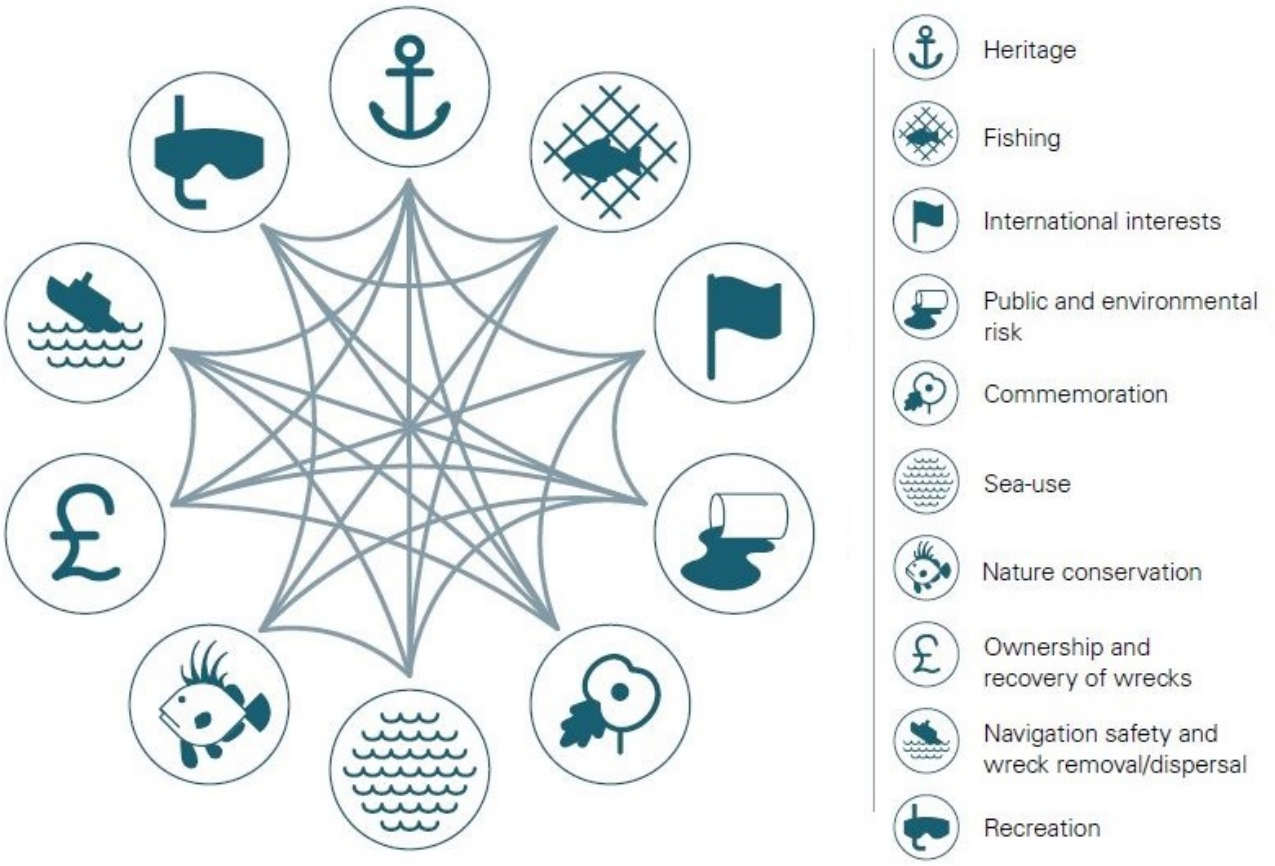


Figure 8: Web illustration of the complexity of shipwreck management (adapted from Firth, 2018, p. 9).

permeability than terrestrial protected areas, meaning they are more vulnerable to transboundary flows; marine protected areas, and the life and resources within them, are only as healthy as the waters to which they are connected (Dearden & Canessa, 2009). Tied to shorelines with diverse harvesting, shipping, tourism, leisure, and other uses make the protection of marine environments within and beyond their boundaries especially challenging (Brown et al., 2001). Cultural resources also have unique management needs. Cultural resources are "non-renewable time capsules" (McMahan, 2007) threatened by multiple sources of degradation. Concerns for the protection of finite cultural resources include the degrading effects from: natural physical-mechanical such as scouring, chemical erosion (a type of corrosion), and biological degradation by bacteria, fungi, and marine borers; indirect human impacts such as local infrastructure development (and its interaction with natural processes), oil and gas development, and waste outfalls, spoils, and spills; and, direct purposeful or inadvertent human impacts such as trawling and dredging, excavation, looting, and anchor damage (Björdal, 2012; McMahan, 2007; UNESCO, 2012). Compounded by remote locations and complex law enforcement needs, professionals who are accustomed to managing cultural resources on land can struggle to apply their knowledge and practice to marine environments (McMahan, 2007) while marine protected area managers may lack a background in cultural resource management (National Ocean Service, 2017c). Marked by such complexities, the National Ocean Service (2017c) recommends a cultural landscape management approach for marine cultural resources.

A cultural landscape management approach adopts a holistic perspective to "understanding the ways in which specific cultural and environmental processes overlap and influence one another" (National Ocean Service, 2017c, para. 2). This approach integrates interdisciplinary ways of knowing, including biophysical science, ethnographic and

archaeological studies, and traditional and stakeholder knowledge (Barr, 2013; Meyer, 2014; National Ocean Service, 2017a). It is a dynamic way of understanding and working with the complex interactions between natural environments, cultural resources, and social perspectives through time (Barr, 2013); in the Canadian Arctic, "Europeans were interested in 'discovering' a passage, [yet] Inuit have been living in [the] region for generations" (Parks Canada, 2019c). For cultural landscapes bound by water, Westerdahl (1992) coined the term *maritime cultural landscape*, which enables:

1. A more robust analysis of maritime culture that focuses on the association and relationships among various aspects of the living and nonliving resources;
2. Integration of the cultural past with the needs of present communities to better protect, manage, and sustain the landscape for the future;
3. Meaningful public interpretation of these associations and relationships within protected areas, museums, and visitor centers;
4. Stronger foundations for private-public partnerships within a landscape area; [and,]
5. A geographic framework for analyzing the social-cultural significance and making research-based decisions in allocating limited resources to research and resource management. (Vrana & Vander Stoep, 2003, pp. 24-25)

This adaptability is especially important for shipwrecks, which are commonly "connected to the history and interests of several countries and stakeholders" (Têtu et al., 2019, p. 74). Set in dynamic environmental, social, and cultural environments, adopting a maritime cultural landscape approach to shipwreck management engages the diversity of perspectives and adaptability needed for successful management (Barr, 2013; Vrana & Halsey, 1992).

Within a cultural landscape approach, a collection of international, national, and provincial/territorial laws and acts shape the protection of cultural resources in Canada. These overarching structures include the *1970 UNESCO Convention*, which strives to engage

international cooperation against the illegal export of cultural property and, if recovered elsewhere, return to its rightful country (Williams, 1980). In 2001, the Convention on the Protection of the Underwater Cultural Heritage furthered measures to protect underwater cultural heritage. Its four main principles are:

1. ...an obligation to preserve underwater cultural heritage;
2. In situ preservation [...] shall be considered as the first option;
3. Underwater cultural heritage shall not be commercially exploited; [and,]
4. ...should promote training and information sharing. (UNESCO, 2012, Unit 1, p. 4)

However, unlike the United States, the United Kingdom, and Russia, Canada has not ratified the 2001 Convention on the Protection of the Underwater Cultural Heritage (Têtu et al., 2019). Additional acts and regulations that similarly strive to protect Canadian cultural resources are:

- 1982 UN Convention on the Law of the Sea (UNCLOS III), whereby the State has the authority of archaeological and historical resources within the 12 nautical mile zone;
- Institute of International Law (IIL) and their proposed 2015 Resolution on *The Legal Regime of Wrecks of Warships and Other State-owned Ships in International Law*; and,
- *Navigable Waters Protection Act* (NWPA), which enables the government to secure, remove or destroy any wreck. (list adapted from Têtu et al., 2019, pp. 74-76)

On lands managed by Parks Canada, the *Parks Canada Agency Act* (Government of Canada, 1998) mandates the federal government to survey, investigate, monitor, protect, and present archaeological resources found on the surface, buried, or submerged (La Roche, 2003; Parks Canada, 2017b). The *Canada National Parks Act* (Government of Canada, 2000) and the *Historic Sites and Monuments Act* (Government of Canada, 1985) provide further commemoration and protection of historically significant sites, which are defined as: “a site, building or other place of national historic interest or significance, and includes buildings or structures that are of national interest by reason of age or architectural design” (Government of

Canada, 1985, para. 5). See Appendix C for more about Parks Canada's types of protected spaces and the acts and regulations associated with Canadian national historic sites. Through its system of national historic sites, Parks Canada works to share Canadian history through "diverse, wide-ranging, and sometimes complex perspectives, including the difficult periods of our past" (Parks Canada, 2019i, para. 5). While critiqued (see Andersen 2014; Hvenegaard, 2016; Neufeld, 2001; Peers, 2007), their efforts increasingly work specifically to include Indigenous history and voices in the commemoration and presentation of Canada's national historic sites (Fox, 1999; Hvenegaard, 2016; Neufeld, 2001).

Further, as the experts for the federal government, Parks Canada administers, preserves, and maintains spaces under these acts and is responsible for "[providing] advice, tools and information to other federal land managers on archaeology and environmental assessment to help implement the Government of Canada's Archaeological Heritage Policy Framework" (Parks Canada, 2017b, para. 2). Additionally, the Government of Nunavut requires anyone engaged in the search, survey, documentation, or excavation of an archaeological site to obtain a permit (Government of Canada, 2018). This regulation extends to dive or underwater submersible activities within 30 metres of an archaeological site, and the possession of any archaeological artifacts. Despite these regulatory efforts, an absence of formal oversight, regulation, and frameworks for shipwreck management persists (Cuthill, 1998; Firth, 2018; La Roche, 2003; McMahan, 2007). Consequently, site managers must work within the needs of a context-based marine cultural landscape and archaeological recommendations to protect and present shipwrecks for the enjoyment of present and future generations, knowing that regulations and enforcement alone are insufficient.

Used together, three key elements might provide a way to help ensure socially and scientifically sustainable protection and presentation of the Franklin shipwrecks. These three ingredients are community involvement, effective interpretation, and active management (McMahan, 2007; Scott-Ireton, 2007; Vrana & Halsey, 1992).

2.3.1 COMMUNITY INVOLVEMENT

Local peoples' involvement and support are important to the long-term success of protected areas (Andrade & Rhodes, 2012; Charles & Wilson, 2008; Dearden, 2010; Goodwin, 2002; Holmes, 2013; Reggers et al., 2013; Scott-Ireton, 2007). Community involvement refers to the meaningful engagement of local peoples, ideally early in the creation and management of protected spaces. Local participation and benefit from the research, protection, and presentation of historical resources encourages shared responsibility, ownership, and pride that leads many to become avid stewards of historical sites (Andrade & Rhodes, 2012; Goodwin, 2002; Scott-Ireton, 2007; UNESCO, 2012). Community involvement also engages a multiplicity of frequently underrepresented voices and develop contextually relevant management approaches, a strategy that helps increase awareness and visibility of the protected area site and its historical, social, or cultural importance (National Ocean Service, 2017b; Reggers et al., 2013; UNESCO, 2012). For visitors, hearing from residents and following their lead on how to respect and visit shipwrecks is more effective than feeling bound by laws and regulations. Community involvement, therefore, creates "teachable moments" for both local residents and visitors, as well as a sense of historical continuity for those involved (Hannahs, 2003). Local engagement deserves special attention (Reggers et al., 2013).

2.3.2 EFFECTIVE INTERPRETATION

Interpretation uses education to "reveal meanings and relationships through the use of original objects, by firsthand experience, and by illustrative media" (Tilden, 1957, p. 8) and contribute to site protection and positive visitor experiences (Burgin, 2015; Orams, 1996). To be effective in a marine cultural environment, interpretation must consistently convey accurate and engaging information for two distinct yet overlapping public audiences: terrestrial and submerged (Scott-Ireton, 2007), where 'public' refers to stakeholders (e.g. visitors and educators) who are not professionally involved in site management (UNESCO, 2012). The avenues used to accomplish effective interpretation are context-specific and may include:

- Signage, books and other publications (Ball et al., 2007; Parks Canada, 2017a; Scott-Ireton, 2007; UNESCO, 2012);
- Websites, lectures, and presentations (Burgin, 2015; Parks Canada, 2017a; UNESCO, 2012);
- Student education and teacher resources, films, audio-recordings, in-person activities (UNESCO, 2012);
- Shore-based and underwater shipwreck trails (McMahan, 2007; Scott-Ireton, 2007; UNESCO, 2012);
- Digital visualizations (Firth, 2018);
- Experiences "through the eyes" of ROVs or interactive virtual dives (Bruno et al., 2018, 2019; Burgin, 2015); and,
- Museums (Cummins & Dickinson, 2001; UNESCO, 2012).

Some of these experiences are based on wrecks *in situ*, while others can bring the culture and experience of the wreck site to visitors *ex situ* (Firth, 2018). *Death in the Ice: The Mystery of the Franklin Expedition* (CMH, 2018) is an example specific to the Franklin wrecks. As a travelling exhibit, it captures visitors' imaginations by engaging them in the history of the expedition and local ties, the mystery entwined in unanswered questions, the excitement of finding the wrecks of

HMS *Erebus* and HMS *Terror*, and the ongoing discoveries. This exhibit invites audiences to "join the search" at museums around the world: The National Maritime Museum (Royal Museums Greenwich, 2017) where it first began in England, the CMH (2018) in Ottawa, and then the Mystic SeaPort Museum (2018) in Stonington, Connecticut where the HMS *Terror* fired rounds during the war of 1812 (Parks Canada Nunavut, 2018). These interpretation products connect visitors to the local history, frequently attract large numbers of visitors, and extend peoples' stays in the area, contributing to the broader economy (Firth, 2018; Parks Canada Nunavut, 2018; Vrana & Halsey, 1992). Effective interpretation strategies engage the value of the site in the audience's mind and contribute to the understanding of histories through the words and stories of those involved (see the discussion of plurality and dissonance in cultural heritage interpretation in section 6.1.4 on page 128), making it an effective component of site protection strategies (Firth, 2018; Scott-Ireton, 2007).

2.3.3 ACTIVE MANAGEMENT: TOURISM

Finally, active management refers to the indirect (e.g. visitor education and site design) and direct (e.g. permits, fees, and regulations) control of the resource under protection and the people who visit (Orams, 1996; Scott-Ireton, 2007). For submerged shipwrecks *in situ*, the most obvious way to experience a site is through SCUBA diving and, if shallow and clear enough, snorkelling. The popularity of recreational diving has increased dramatically over the last 45 years, and dive travel continues to play an important part in the industry and local economies (Davis & Tisdell, 1995; Edney & Howard, 2012; UNESCO, 2012; Vrana & Halsey, 1992). Wreck divers are typically older, more experienced, and hold higher levels of certification than the broader profile of SCUBA divers (Edney & Howard, 2013). As a cohort of "exploration tourists," they continue to seek out increasingly challenging and unique dive experiences (Edney

& Howard, 2013). In addition, advancing technology continues to make wreck diving more accessible to broader audiences (Cuthill, 1998; Davis & Tisdell, 1995). Consequently, the potential for conflict with the site and amongst diverse users increases. Davis and Tisdell (1995) argue that negative impacts associated with diving result when the cost of accessing and enjoying dive sites is less than the site's ecological or aesthetic value. When frequently engaged disrespectfully, wreck diving can be very destructive.

The potential impacts of wreck diving and snorkelling are diverse. Salvage and looting are an obvious and serious concern and have severely affected the integrity of many shipwrecks worldwide (Edney & Howard, 2013; McMahan, 2007; Scott-Ireton, 2007; UNESCO, 2012). Less obvious, though, is the purposeful or accidental contact of divers with a wreck. For example, divers' physical contacts with a wreck can remove calcareous deposits and corrosion products that ultimately protect the submerged metal from further corrosion and resulting degradation (Edney & Howard, 2013; MacLeod, 2002). Currents created by divers and their introduction of new oxygen to an environment by blowing bubbles similarly affect submerged wrecks, as do natural currents in shallow, unprotected waters (MacLeod, 2002; Peterson & Willows, 2018). Newer divers, who are less skilled at controlling their buoyancy, kick around in uncontrolled manners, hold onto objects to steady themselves, and bump into their surroundings further exacerbate their site impacts (Davis & Tisdell, 1995; Edney & Howard, 2013). Anchors and dive lines, which facilitate diver access and egress, can also dredge the surroundings or tear wrecks structures (Edney & Howard, 2013; Peterson & Willows, 2018, UNESCO, 2012). While these typically less-controlled, unsupervised site visits can produce negative impacts, positive relationships with dive communities can result in strong advocates and participants in shipwreck protection (McMahan, 2007; Peterson & Willows, 2018; UNESCO, 2012). In many areas, divers

are also those who discover new wrecks, so strong relationships and the education of dive communities can help ensure shipwreck protection (Peterson & Willows, 2018; UNESCO, 2012).

Finally, SCUBA diving and snorkelling, especially in polar waters, is an inherently risky activity. The promotion of shipwrecks to visitors raises concern from site managers, as it inherently accepts a level of liability (Scott-Ireton, 2007). However, one study (Scott-Ireton, 2007) found that interpreting a wreck, suggesting safe dive practices, and recommending minimum levels of certification is perceived to increase site safety, and therefore, is not considered accepting additional liability. Although Davis and Tisdell (1995) found that safe access to dive sites is an important factor in dive site selection, it does not mitigate the risk inherent to SCUBA diving, especially in polar waters where medical facilities and rescue resources are limited and far from the site (Lamers & Gelter, 2011; National Park Service, 2017).

While SCUBA diving and snorkelling are the most obvious ways to experience a submerged shipwreck, only a small portion of the general public can access wreck sites in these ways (Burgin, 2015), especially in the Arctic. A common approach to include the non-diving community is aboard glass-bottom boats (La Roche, 2003). Few publications address their management; however, strategies should consider the threat of shipwreck degradation from their prop-wash and wakes (Barr, 2017), and address potential conflicts with other types of users (La Roche, 2003). Similar considerations should be made for other small watercraft, like jet skis and sea kayaks, especially for shallow shipwrecks visible from the water's surface. Further, context-specific protections efforts must also be culturally relevant and meaningful to local residents and visitors (Edney & Howard, 2013). Successful management tools include permits, special certification, charters and dive guides, and generally discourage restricted access like area

closures (Edney & Howard, 2013). Responsible behaviour and training/experience are messages consistent across these management approaches (Firth, 2018). With a diverse range of potential management approaches for wreck diving and other visitors, there is a need for further research on their application in polar environments.

2.4 CURRENT SITE MANAGEMENT

Designated in 1992, the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (WET NHS) encompasses the two Franklin wrecks and their surrounding water columns: a ten by ten-kilometre zone around the HMS *Erebus*, and six by ten-kilometre zone around the HMS *Terror* (Figure 9, Parks Canada, 2018d; Tarasoff, 2018). For about nine months of the year, both sites are covered with single-year ice up to two-metres thick, but typically remain ice-free from early August to early October (Parks Canada, 2019c). To ensure their protection, the wreck sites remain closed to all users without written authorization from the Field Unit Superintendent (the head person for the national parks, marine conservation areas, and historic sites in Nunavut). This closure does not affect Nunavut Inuit accessing the areas for sustenance harvesting (Parks Canada, 2018d).

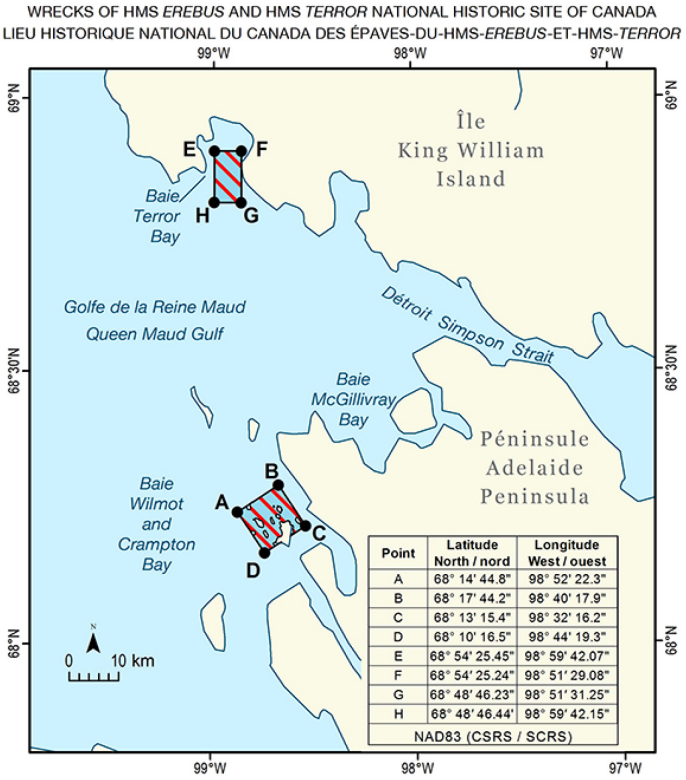


Figure 9: Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (Parks Canada, 2018c).

In 2016, the Government of Canada announced its commitment to joint ownership of the Franklin shipwrecks with Canada's Inuit and

founded the Franklin Interim Advisory Committee (FIAC, Parks Canada, 2018a). The committee comprises of representatives from the communities of Uqsuqtuuq (Gjoa Haven) and Iqaluktuuttiaq (Cambridge Bay), Kitikmeot Inuit Association, Inuit Heritage Trust, Government of Nunavut, Parks Canada, and the heritage and tourism industry (see Appendix D). The FIAC advises Parks Canada's research on and management of the WET NHS until Parks Canada and the Kitikmeot Inuit Association finalized an Inuit Impact and Benefit Agreement (IIBA). Delayed by the 2019 federal election, the IIBA will be signed later this year (Parks Canada, 2018e; T. Tarasoff, personal communication October 31, 2019). An IIBA is a formal contract under the Nunavut Land Claim Agreement negotiated between Inuit and the Government of Canada prior to the establishment of a new protected area (Coppes, 2016; Parks Canada, 2017c). These agreements help ensure that Inuit peoples are heard and gain from the proposed initiative, and outline both benefits and potential detrimental implications for Inuit peoples and the environment on local, regional, or territorial bases. According to Parks Canada (2017c), IIBAs also include assurance of "cooperative management, [the] continuation of Inuit harvesting rights, and Inuit employment and economic benefits" (para. 1). Once the IIBA for the WET NHS is signed, the FIAC will dissolve and the Franklin Implementation Committee (FIC) will adopt a cooperative management role and lead all visitor experience aspects of the historic site (T. Tarasoff, personal communication, February 27, 2019). Further, the United Kingdom gifted the two ships to the joint ownership of the Government of Canada and Inuit in 2018 (Parks Canada, 2018a). Although the sites of the wrecks of HMS *Erebus* and HMS *Terror* currently remain closed to visitors, opening them up for the enjoyment and education of Canadians and international visitors is important, and if managed properly, desired by the management experts (R. Harris, personal communication, July 7, 2017; UNESCO, 2012). To do so requires a formal

site management plan, a strategic long-term guide for the historic site's protection and appropriate use, within five years of the site's creation (Parks Canada, 2019e; Marquez & Eagles, 2007). Because the WET NHS was designated in 1992, long before the wrecks were found, the management-planning cycle will begin upon the signing of the Inuit Impact and Benefit Agreement (T. Tarasoff, personal communication, February 27, 2019).

2.4.1 CRITIQUE OF COOPERATIVE MANAGEMENT

Cooperative management is the term used throughout this thesis to characterize a management structure under which parties respectfully and sustainably share decision-making power for the management of an environment and its resources (Berkes, 2009; Clark & Joe-Strack, 2017; Craig, 2002; Jacobson et al., 2016; Lemelin et al., 2016; Martin, 2016). While Parks Canada does not have an articulated structure for Indigenous cooperative management, it operates within a spectrum (see Nesbitt, 2016) that aligns with the latter three levels of Parks Canada's framework for citizen participation. The key features and critiques of the spectrum's distinguishing stages are:

1. The Government consults with users and community representatives before making a final decision when it deems appropriate. Because the Minister of the Environment, under whom the Parks Canada Agency falls, maintains decision-making power, many argue that this approach is not genuine cooperative management (Berkes, 2009; Finegan, 2018; Jacobson et al., 2016; Langdon et al., 2010; Martin, 2016; Mulrennan & Scott, 2005; Nesbitt, 2016; Notzke, 1995; Sandlos, 2014; Scott & Webber, 2001).
2. Consensus decision making operates within the boundaries of existing legislative and land claim authorities, where the Minister and Indigenous decision-makers retain their responsibilities under the legislature and land claim agreements. Cooperative management boards make consensus decisions, which then require ratification by both authorities above (Craig, 2002; Finegan, 2018; Herrmann et al., 2017; Jacobson et al., 2016; Kopas, 2007; Martin, 2016; Nesbitt, 2016; Notzke, 1995; Sandlos, 2014). Canadian

parks recognized for cooperative management have adopted this approach (see Craig, 2002; Nesbitt, 2016; Lemelin et al., 2016; Martin, 2016; Rusnak, 1997).

3. A regulatory board undertakes cooperative management with the ability to make final decisions. While this structure supports true reconciliation (Finegan, 2018), it requires major federal legislative changes that are unlikely to occur in Canada (Martin, 2016; Nesbitt, 2016). This equal partnership is sometimes referred to as co-management/ governance (Farr, 2013; Notzke, 1995), terms often avoided by Parks Canada (Jacobson et al., 2016).

Ultimately, these three stages provide varying levels of engagement for Indigenous peoples to have voice and influence in the management of protected areas (Berkes, 2009; Kopas, 2007).

While the "[Canada] National Parks Act does not guarantee cooperative management with Aboriginal peoples" (Dearden & Langdon, 2009, p. 385), unless as part of a land claim settlement (Dearden, 2010; Thomlinson & Crouch, 2012), Parks Canada has shifted towards increased Indigenous engagement. This shift has occurred predominantly in the North in response to land claim negotiations and legal cases, the recognition of treaty rights, and Indigenous driven environmental protests (Dearden, 2010; Dearden & Langdon, 2009; Farr, 2013; Fox, 1999; Jacobson et al., 2016; Kopas, 2007; Langdon et al., 2010; Martin, 2016; Nesbitt, 2016; Notzke, 1995; Parks Canada, 1979; Rusnak, 1997; Sandlos, 2014; Thomlinson & Crouch, 2012). This shift appears in the management of the WET NHS through the negotiations of the site's Inuit Impact and Benefit Agreement (Parks Canada, 2017c). While persistent colonial structures continue to challenge the Canadian national park system (Dearden & Langford, 2009; Finegan, 2018; Herrmann et al., 2017; Thomlinson & Crouch, 2012; Youdelis, 2016), the ongoing development of the WET NHS' management approach has the opportunity to set a new precedent for collaborative management with Canada's Indigenous peoples.

2.4.2 TOURISM

To date, the lost Franklin Expedition has captured the attention of many Arctic travellers, and the natural and cultural heritage examples protected and managed by Parks Canada attract cruise ships and private craft alike (Dawson, Têtu et al., 2018; Marquez & Eagles, 2007). Beechey Island, where three of Franklin's men and a fourth who went in their search have found their final resting place, is one of the most popular cruising attractions in the Northwest Passage (Lemelin & Baikie, 2012; Stewart et al., 2010). For many participants in a study by Dawson, Têtu et al. (2018), visiting this site was one of the highlights of their Arctic cruising experience. A similar response is expected for the Franklin wreck sites. To support the preparation of a site management plan, Parks Canada and other researchers (e.g. Dawson, Têtu et al., 2018) have begun to conduct visitor research. In September 2017, Dawson, Têtu et al. (2018) conducted visitor surveys with passengers on an Adventure Canada cruise scheduled to be the first public audience to visit and snorkel over the wreck of HMS *Erebus*. During this time and a similar attempt in 2018, Parks Canada "hoped to conduct a visitor impact study [about] how visitors interact with and affect the site and surroundings of the wreck of HMS *Erebus* to gain a better understanding of how these potential impacts could be managed and mitigated" (R. Harris, personal communication, July 7, 2017). With pre-and post-visit surveys, participant observation, interviews with zodiac operators, researchers and staff (ship staff and PCA staff), and aerial observation, the plan was to study trampling, dispersion, and other on-shore impacts, and have snorkelers on the surface with Parks Canada divers monitoring their visit, with no expected associated impacts (R. Harris, personal communication, July 7, 2017). Unfortunately, due to high winds, heavy seas, and challenging ice conditions, none of the vessels were able to visit the site until the sixth attempt, on September 5th, 2019 (Bain, 2019; Davison, 2017b; Dawson, Têtu et al., 2018; Parks Canada, 2019c; Parks Canada Nunavut, 2019; Tarasoff, 2018).

On September 5th, 2019, passengers on Adventure Canada's *Out of the Northwest Passage* cruise were the fist members of the public to visit the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (Parks Canada Nunavut, 2019). As part of Adventure Canada's site permit, visitors were required to disable the GPS functions on their phones and cameras, were not permitted to take photos underwater or in the artifact lab, nor disturb any part of the site (Bain, 2019; Parks Canada, 2019b). Visitors also completed surveys to help Parks Canada's site management planning efforts. Further, during the first attempt to visit the *Erebus* site, Dawson, Têtu et al. (2018) found that cruise passengers demonstrated significant interest in historical events, such as the search of the Northwest Passage, and wished very much that they could have visited the wreck of HMS *Erebus*. Participants in the study also desired further education about such historic events before their journey, and time to wander and experience "tangible" sites where there is "something physical to see" (Dawson, Têtu et al., 2018, p. 26). As part of these experiences, passengers hoped for more trained Inuit guides who can offer interpretation and facilitate experiences with local peoples. From a management perspective, Dawson, Têtu et al.'s (2018) findings illustrated a reliance on Adventure Canada and Parks Canada to regulate visits to vulnerable sites. While the protection of these sites was a consistently supported theme, visitors expressed confusion about site-specific visitor guidelines and their associated visitor behaviour expectations. Restrictions on the number of groups and their sizes also created concerns for the amount of time that visitors spent ashore waiting to participate in an experience. Finally, Dawson, Têtu et al.'s (2018) findings suggest a need for additional infrastructure like trail markers, boardwalks, interpretive displays, and trail etiquette reminders at high-use sites. While these concerns may be more-easily addressed with cruise tourists, management complexity

increases with concerns about people who travel on private vessels and visit these important Arctic sites unsupervised (Davison, 2017b).

In 2017, Parks Canada established the Inuit Guardian Program under the guidance of the Franklin Interim Advisory Committee (FIAC) to help address the management complexities of the Franklin wreck sites, including enforcement, interpretation, and Inuit engagement (ABOVE&BEYOND, 2018; Parks Canada, 2017e, 2019f). This program is based on the Australian model (see National Indigenous Australians Agency, n.d.) and is inspired by other Canadian Guardian and Watchmen programs (see Parks Canada, 2017e, 2019f). The Franklin Inuit Guardian teams live near the two wrecks during periods of minimum sea ice (typically early August to early October, Parks Canada, 2019c) to help curb trends of permit non-compliance (unauthorized vessels) and promote respect of polar sites, contribute to research, and eventually welcome visitors while offering interpretive experiences (Parks Canada, 2017e, 2019f; Stewart et al., 2017). While at the wreck sites, the Inuit Guardians also practice their traditional harvesting skills, pairing young Guardians with older mentors when possible to help facilitate the transfer of Inuit Qauijimajatuqangit, or Inuit Knowledge (ABOVE&BEYOND, 2018). As explained by Tamara Tarasoff, project manager for the WET NHS, “Inuit elders have told [the FIAC] that the Guardian program has enormous potential for sharing knowledge between Inuit” (ABOVE&BEYOND, 2018, para. 10). Members of the Franklin Interim Advisory Committee (FIAC) hope that the Inuit Guardian teams will grow to include families to support unique experiences and act as an opportunity to engage youth traditionally on the landscape (Kyle, 2017; Lemelin & Baikie, 2012; T. Tarasoff, personal communication, February 27, 2019). Numerous authors (e.g. Davison, 2017b; Dawson, Têtu et al., 2018; Marquez &

Eagles, 2007) have also demonstrated the desirability of having trained, local field staff on-site to engage with visitors and provide site interpretation.

In addition to the training, career opportunities, economic, enforcement, and visitor experience benefits that the Inuit Guardian program can bring to local communities and the Franklin wreck sites (Tarasoff, 2018), it also helps support ethical relationships with Inuit. Management relationships between Indigenous peoples and the Government of Canada, Inuit history of Franklin's expedition and their contributions to its ongoing discoveries, and the legacy of Inuit peoples prior to European contact can all be supported through the Inuit Guardian program (Parks Canada, 2017e; R. Harris, personal communication, July 7, 2017). To have Inuit drive this initiative and play a vital role in the management of the sites is essential to support visitors' respectful interaction with local communities and address issues of colonialism within an environment that glorifies European exploration (see Lemelin & Baikie, 2012; Lemelin, Thompson-Carr et al., 2013; Reggers et al., 2013). From a cultural perspective, tourism has been known to "other" Indigenous peoples, commercializing their culture and ways of life for the sake of profit (Johnston, Viken et al., 2012; Lemelin & Baikie, 2012; Reggers et al., 2013). Although meaningful engagement of Indigenous peoples does not guarantee the prevention of negative othering, it is an essential step in their respectful engagement, especially as the Canadian Government expresses the need for efforts of reconciliation with Canada's Indigenous peoples (Trudeau, 2016).

Finally, museum exhibits, and other forms of *ex situ* interpretation can bring the Franklin shipwrecks and story to a broader population, most of whom cannot visit the sites in person. The Nattilik Heritage Centre in Uqsuqtuuq, the community closest to the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site, hosts an exhibit about how Inuit knowledge contributed to

the discoveries of the wrecks. As with the previously noted travelling exhibit titled *Death in the Ice: The Mystery of the Franklin Expedition* (CMH, 2018), these *ex situ* interpretation experiences continue to capture the imagination of international audiences.

This chapter has presented a brief history of the lost Franklin Expedition, explored the context of marine and shipwreck tourism management within and beyond Arctic Canada, and laid the foundations for understanding the management of the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site. Next, Chapter Three makes explicit this study's research methods and how the research helps address the need for context-specific management recommendations for the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site.

CHAPTER 3: METHODS

Chapter Two set the context for this research, drawing primarily on discussions from the Arctic, as well as the Antarctic, whose tourism trends the North will likely emulate. With an understanding of the need for this research and the broader context in which it is situated, Chapter Three lays the theoretical foundation that guides this research and makes explicit the data collection and analysis methods used throughout. The chapter also describes how the research findings were shared with academic and Arctic management communities; management experts; Inuit, community, federal, and provincial agencies; Parks Canada; and, the community of Uqsuqtuuq. Together, this work will help support the management of marine tourism as it relates to the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (WET NHS) and similar efforts afar.

3.1 WHO AM I? POSITIONING MYSELF IN THE RESEARCH

An acknowledgement that research is not value-free (Agar, 1980; Wilson, 2001) informs and shapes the context of this work. As a qualitative researcher, my own experiences inevitably shape my methods and interpretation, and therefore, should be recognized. The relationships developed and relied upon throughout the research were threefold: 1) my work was informed and guided by a week-long familiarization trip to Uqsuqtuuq (Gjoa Haven), Nunavut where I learned about the context of marine tourism and the Franklin wrecks for the community; 2) ongoing research relationships established and maintained by research partners at the University of Ottawa through which I maintained connections with key research partners and management experts; and 3) as a white, southern researcher working in the North with and for Inuit peoples, the lens through which I interpret this research may differ from those of the experts who participated in my research. As discussed later in greater depth, my research process sought

guidance and revisions from management experts at multiple stages to ensure the accurate interpretation and representation of their perspectives. This dynamic also required me to "check" my beliefs and potential biases throughout the research process (see Agar, 1980; Simpson, 2001). Situating myself helps me in my iterative reflections and provides a sense of my experiences that shape this work.

I was born in Thunder Bay, Ontario, into an educated, bilingual, White, middle-class, supportive nuclear family. Raised on the North Shore of Lake Superior, I grew up exploring Canada's natural and cultural heritage. My formal education at Lakehead University, including an Honours Bachelor of Outdoor Recreation, Parks and Tourism, a Bachelor of Arts in Geography and the Environment, a minor in Women's Studies, and a Certificate in Geomatics and GIS, and travel in and beyond Canada have taught me about the unique challenges and opportunities experienced by diverse groups across the country. These educational experiences also highlight the inherently powerful social location that I have been granted within the fabric of Canada's social structure and inspire me to consider how protected areas management can positively affect the lives of residents and visitors alike.

I am keenly interested in how people can interact with protected areas, sustainable tourism, and diverse communities to create positive social and environmental change. My academic work includes: a general focus on protected areas management, including in the polar environment; deconstructing barriers that inhibit new Canadians from accessing Canada's national parks (Potter, 2016); gendering in the field of outdoor recreation (Oakley et al., 2018), and helping inspire a process of Indigenous place (re)naming along the North Shore of Lake Superior (Bower & Potter, 2017). Vital to this research is my interest and experience with protected areas management in Canada. I have held numerous roles in the Parks Canada Agency,

including a Visitor Services Attendant at Jasper's information centres, Public Relations and Communications Officer for Jasper National Park, and Geomatics Technician for Jasper and Lake Louise, Yoho, and Kootenay field units. These positions continue to create opportunities for me to learn about the challenges and opportunities in actively engaging residents and visitors in the management of Canada's protected areas. In this Master's research, my experiences help me understand the processes and challenges associated with Parks Canada's management planning process while responding to local needs and visitor expectations. However, my experiences come primarily from terrestrial southern spaces, which challenge me to learn and adapt my understandings to marine and polar physical, social, and cultural environments.

3.2 CONCEPTUAL FRAMEWORK

A maritime cultural landscape approach (see Westerdahl, 1992) to protected areas management grounds this research. A maritime cultural landscape refers to the network of tangible maritime artifacts (both submerged and terrestrial) and intangible socio-cultural aspects (Barr, 2013; Hall et al., 2016; Khakzad et al., 2015; O'Donnell, 2016; Scuri & Calabi, 2015) of peoples' use "of maritime space by boat: settlement, fishing, hunting, shipping and its attendant sub-cultures" (Westerdahl, 1992, p. 5). As a protected areas management approach, it values inherent culture in landscape (Ringer, 1998; Trudgill, 2010) as it engages diverse and sometimes differing perspectives and ways of knowing to develop broader and deeper understandings of a socially and physically dynamic place that are required to resolve today's management challenges (Barr, 2013; Khakzad et al., 2015; O'Donnell, 2016; Trudgill, 2010). As Arntzen and Brady (2008) conclude, "without a deeper understanding of the cultural landscape, we are unlikely to locate value in the great range of environments we wish to manage and protect" (p.

22). Therefore, an approach inclusive of diverse peoples, their histories, and their important tangible and socio-cultural resources lay the foundation for this research.

A marine cultural landscape approach is an "evolution of place-based management…. [that] improv[es] the comprehensive conservation and management of cultural heritage resources" (Barr, 2013, pp. 185-186) in marine protected areas. Its processes ultimately encourage new ideas to grow from skepticism about knowledge and practices previously used to manage marine sites. When European and Inuit marine cultures first intersected in the mid-1800s (Lutz, 2007), they produced a cultural interface (Nakata, 2007) that continues to shape the Arctic's tangible and intangible landscapes (Barr, 2013; Eber, 2008) – a cultural landscape where the still-developing places are home to people, resources, and an economy moulded by global trends like climate change, globalization, and tourism (Hall et al., 2016; O'Donnell, 2016; Ringer, 1998; Scuri & Calabi, 2015). Coupled with a unique context, history, and growing tourism demands (Scuri & Calabi, 2015), the marine cultural landscape approach helps protected areas management move beyond replicating previous "best" practices (Myatt, 2012; Parks and Wildlife Service Tasmania [PWST], 2000). Instead, it helps identify site-specific needs and values, critically examine past protected areas management successes, and ultimately shape a context-specific management approach that guides effective solutions for challenges (Barr, 2013; Khakzad et al., 2015; O'Donnell, 2016; PWST, 2000), in this case, facing the WET NHS.

3.3 RESEARCH METHODS

Protected areas management is an iterative process filled with conflict and uncertainty (see Charles & Wilson, 2008; Dearden, 2010), through which teams strive to minimize risk and costs to people, the environment, and resources within them while maximizing public acceptance (Kiker et al., 2005). The Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (WET

NHS) is a new and unique site situated in an ever-changing social and environmental context. Its management relies on humility and learning from the effects of past decisions while thinking creatively about future alternatives. Scenario planning was initially identified as a model approach for engaging management experts in a process of strategic reflection and collaborative learning (see Baron et al., 2009; Daconto & Norbu Sherpa, 2010; Falardeau et al., 2018; Peterson et al., 2003; Wollenberg et al., 2000) to develop management strategies for the WET NHS. Faced with inherent trade-offs, scenario planning forces its participants to engage in creative visioning, or creative thinking, a process that challenges the limits of one's thinking to explore new options for action that support a preferred rather than perfect future (Falardeau et al., 2018; Wollenberg et al., 2000). Calling on the perspectives, experiences, and beliefs of multiple experts, scenario planning merges different ways of knowing and encourages its participants to break out of established decision-making patterns and adapt to alternatives that facilitate a shared vision (Baron et al., 2009; Falardeau et al., 2018; Peterson et al., 2003; Wollenberg et al., 2000). However, scenario planning uses a series of interacting workshops where small groups explore alternative futures (Palomo et al., 2011; Peterson et al., 2003). Logistical, time, and money constraints made it unrealistic to host a series of in-person workshops with up to eleven management experts from the Franklin Interim Advisory Committee (FIAC) who are located across Nunavut. Instead, the multi-step approach described in the next sections employed meta-analyses and interviews from afar to mirror the outcomes of a scenario planning process.

3.3.1. META-ANALYSIS: CONCERNS AND MANAGEMENT "BEST" PRACTICES

Nunavut has been the focus of much research about challenges and concerns related to marine tourism that capture perspectives from communities, tour operators, government representatives, academics, and others affected by the growing industry. With this depth of past

research and a lack of resources to apply the ideal scenario planning method, this research examined the aforementioned body of literature to understand concerns related to marine tourism in Nunavut rather than duplicating other researchers' interview, workshop, and survey efforts. A meta-analysis approach was used to aggregate and synthesize the findings in academic, government, and other bodies of literature (see Table 2). A meta-analysis is a systematic "analysis of large numbers of similar studies to see if an overall pattern emerges" (Guthrie, 2010, p. 46). This approach created a process of systematically examining concerns related to marine tourism in Nunavut that may affect the management needs of the WHT NHS, and answered the first research question: What key marine tourism management concerns need to be addressed for the management of the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site? Using a meta-analysis approach had the benefit of identifying large-scale patterns or trends unseen by individual studies (Oliver, 2010), in this case, relating to marine tourism in Nunavut and its most concerning impacts to communities and tourism managers in the area.

A similar approach was used to answer the second research question: What Arctic and shipwreck tourism management "best" practices have successfully resolved examples of the key marine tourism management concerns? This second analysis built on the first to identify marine and shipwreck tourism management practices that have successfully addressed similar concerns to those identified in the previous step. While the focus was on examples from polar regions, shipwreck management literature from around the world was included as not to limit findings to a very select few examples of shipwreck management in polar regions. Table 2 makes explicit the sources and decisions used to identify and analyze the literature included in the two meta-analyses described above. These searches produced 28 titles related to marine tourism concerns in Nunavut and 23 titles related to marine and shipwreck tourism management practices.

Table 2: Sources and decisions used in the meta-analyses.

Meta-Analysis	Type of Studies	Critical Subject Terms	Databases Searched and Number (*n*) of Documents Included	Inclusion Characteristics	Exclusion Characteristics
Concerns: Marine Tourism in Nunavut	• academic research papers • academic book chapters • grey literature • Government of Nunavut documents, e.g. tourism strategies and websites • Parks Canada documents and websites	• Arctic Canada • Nunavut • Northwest Passage • marine • cruise • tourism • management • concerns	GoogleScholar ..... *n* = 9 Government of Nunavut. *n* = 6 Taylor & Francis ..... *n* = 5 Parks Canada ..... *n* = 4 Scholars Portal..... *n* = 2 Directory of Open Access Journals ..... *n* = 1 ScienceDirect..... *n* = 1 --- Academic Search Premier JSTOR Project MUSE SAGE Journals Social Sciences Research Network SpringerLink *n* = 0	• Nunavut specific • Inuit • community • government • concerns	• Language other than English or French • published before 1984 (first cruise in NW passage) • commercial shipping • natural resource exploration/exploitation • terrestrial
Concerns: Shipwreck Tourism	• academic research papers • academic book chapters • grey literature • shipwreck site websites • news articles	• historic shipwreck • maritime heritage • tourism • management • concerns • challenges	Academic OneFile..... *n* = 4 Australian Public Affairs ..... *n* = 1 Scholars Portal..... *n* = 4 Canadian Periodicals .... *n* = 3 GoogleScholar..... *n* = 3 Parks Canada ..... *n* = 3 Taylor & Francis ..... *n* = 2	• shipwreck as a tourist attraction • heritage value • remote area • polar environment • wooden hull	• language other than English or French • shipwrecked while pursuing tourism activities • grave specific • *ex situ*/beached • salvage • amnesty

Meta-Analysis	Type of Studies	Critical Subject Terms	Databases Searched and Number (*n*) of Documents Included	Inclusion Characteristics	Exclusion Characteristics
(Con't) Concerns: Shipwreck Tourism			Academic Search Premier ..... *n* = 1 America: History and Life ..... *n* = 1 SpringerLINK..... *n* = 1 --- ERIC..... *n* = 0 Historical Abstract..... *n* = 0		• law
Best Practices: Marine and Shipwreck Tourism Management	• academic research papers • academic book chapters • grey literature • government tourism strategies • conservation organizations' publications	• marine tourism • best practices • management • historic shipwreck • best practices • interpretation • tourism • management • remote • inaccessible	Academic OneFile..... *n* = 4 Academic Search Primer *n* = 2 America History and Life ..... *n* = 1 Australian Public Affairs *n* = 1 Directory of Open Access Journals ..... *n* = 1 GoogleScholar ..... *n* = 7 IUCN Library Portal..... *n* = 2 Parks Canada ..... *n* = 3 Scholars Portal..... *n* = 10 ScienceDirect..... *n* = 2 SpringerLINK..... *n* = 3 Taylor & Francis ..... *n* = 11 Other..... *n* = 3 --- SAGE Journals ..... *n* = 0	• best practices • protected area • marine tourism • shipwreck tourism • Indigenous stakeholders	

After identifying the relevant literature for the meta-analysis of concerns, a systematic coding technique (see Cobb & Thompson, 2012; Creswell, 2012; Merriam & Tisdell, 2015) was used to compare and critically examine findings, extract relevant information, and assess their relevance to the WET NHS. These findings were finally synthesized to inform the latter research phases. Like the initial stages of Palomo et al. (2011) and Peterson et al.'s (2003) scenario planning processes, the meta-analysis of concerns related to marine tourism in Nunavut helped establish the focal issues needing to be assessed by the study. Then, a similar analysis of management "best" practices examined 50 articles to identify marine and shipwreck tourism management strategies that could evolve to address the concerns related to the WET NHS. Together, these first two research phases generated the basis from which interview questions were derived to garner feedback from members of the Franklin Interim Advisory Committee (FIAC) and develop context-specific management strategies for the WET NHS.

3.3.2 TELEPHONE AND EMAIL INTERVIEWS

One open-ended telephone interview and five open-ended email interviews were conducted in October and November 2019. These interviews gathered expert feedback required to understand how the management "best" practices identified in the previous research stage could evolve to address the context-specific management needs of the WET NHS, ultimately helping answer the third research question: What marine tourism management practices and strategies are feasible to address the context-specific management needs for the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site? The interdisciplinary experts who participated in the telephone and email interviews were current members of the Franklin Interim Advisory Committee (FIAC). Their membership on the FIAC is reflective of their specialist and local knowledge of tourism and its management context for the WET NHS. While none of the experts

who participated wished to be personally identified in the research, mandates for each of the organizations represented on the FIAC are provided in Appendix D. Because of their expertise, involvement over the last four years, and potential to influence and be affected by what happens for the management of the WET NHS, members of the FIAC were the best group of individuals with whom to explore and gain an understanding of context-specific management practices and strategies for the national historic site. Six of the nine active members were interested in and available to participate in an interview.

The geographic dispersal of the experts from the FIAC, coupled with financial and time limitations for the researcher and experts, meant that open-ended telephone and email interviews based on the expert's preferences were the most appropriate form of data collection (see Creswell, 2012; Ernst & van Riemsdijk, 2013; Gray, 2009). Interviews were designed to obtain feedback that would enhance understanding related to the findings from the two preceding meta-analyses. An interview protocol (as described by Creswell, 2012) was used to guide interviews (see Appendix F), providing a structure for email interviewees or the telephone interviewer to record answers, while maintaining the option for probing. Topics of discussion included site management options, including legislation, safety, and monitoring; visitor experience products and education; and, strategies to ensure local community benefit. The research was approved by Lakehead University's Research Ethics Board (File no. 1467054) and the Nunavut Research Institute (License no. 0403419N-M).

3.3.3 DATA ANALYSIS

A systematic coding technique (explained by Creswell, 2012; Merriam & Tisdell, 2015) was used to compare feedback from each of the experts. Interview responses were first compiled into a table to facilitate a side-by-side comparison (see Merriam & Tisdell, 2015) to find cases of

agreement and disagreement across responses. The emergent themes were then grouped to provide insight into context-specific marine tourism management approaches that address each key category of focus defined in Chapter Four and indicate feasible management strategies. A return to the literature compared the feedback from the Franklin Interim Advisory Committee (FIAC) with the key concerns about marine tourism in Nunavut, shipwreck tourism worldwide, and the management practices that have successfully addressed similar issues elsewhere. This return to earlier findings and literature was used to draw conclusions and develop ten management recommendations for the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (WET NHS).

3.4 DISSEMINATION OF RESULTS

In addition to regular academic dissemination including a copy of this thesis available through the Lakehead University Library and a poster presentation at the 2019 ArcticNet Annual Scientific Meeting in Halifax, Nova Scotia, the knowledge and experiences shared by experts from the FIAC and the resulting study findings and recommendations were returned to the Franklin Interim Advisory Committee, Parks Canada, and the community of Uqsuqtuuq (Gjoa Haven). A report was prepared specifically for the community of Uqsuqtuuq, which summarizes the study context, processes, findings, and recommendations, and is written in language accessible to the public. Digital and hard-copies were delivered to the community of Uqsuqtuuq (Gjoa Haven) in English and Inuktitut and are available at www.arcticcorridors.ca/reports. A more technical report was sent digitally to each member of the FIAC, and is also available at www.arcticcorridors.ca/reports. The next chapter examines the tourism management concerns and “best” practices that lay the foundation for the discussions that informed these results.

CHAPTER 4: CATEGORIES OF CONCERN AND "BEST" PRACTICES

The Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (WET NHS) lies in a complex and ever-changing social, cultural, and environmental landscape that is unique in its context and history. While tourism continues to grow around historical, cultural, and natural resources (Barr, 2017; Stewart et al., 2007) like the WET NHS, it is important that this context, history, and related concerns about marine and shipwreck tourism inform the site's management. As a participant in Dawson et al.'s (2017) study about the regulation of Canadian Arctic cruise tourism explained: "We have a totally different history. One-size fits all management system will not work in Canada" (p. 74). The meta-analyses described in the previous chapter identified ten categories of concern, or themes, pertaining to marine tourism in Nunavut and seven categories, or themes, for shipwreck tourism. These categories of concern summarize research findings, recommendations, and tourism and protected area management plans that help inform a context-specific management approach to the WET NHS. These categories are presented next.

First, this chapter explores categories of concern about marine tourism in Nunavut (Table 3) and shipwreck management worldwide (Table 4), provides a count, or the number of publications in which each category of concern appeared, and presents its distinguishing components and examples of each category. Figure 10 and Figure 11 further illustrate the complex management context by connecting marine tourism and shipwreck management concerns, "best" practices used internationally to address similar issues, planned or implemented initiatives by Parks Canada (PC) or the Government of Nunavut (GN), and specific concerns identified by WET NHS managers (identified as a FIAC question in figures below). Especially important in these figures are the visible interrelationships in this management context. Cuthill (1998) found a similar pattern in the management of the *Yongala* historic shipwreck within

Australia's Great Barrier Reef Marine Park, where "issues [are] obviously interrelated and, by addressing one issue, others also may be resolved" (p. 40). This holistic perspective of interconnectivity is foundational to the remainder of this research. Further, Figure 10 and Figure 11 also highlight the similarities between concerns about marine tourism in Nunavut and shipwreck tourism. Because these categories of concern are illustrated in separate figures, concerns whose characteristic overlap both marine and shipwreck tourism meta-analyses are "bolded," or encircled in the other's primary colour. The number reported below each category name reports the count of publications in which the category of concern appeared. After these summary tables and figures, each category is explored in greater depth. This chapter also provides justification for this research's focus on four key categories of concern about the WET NHS. The chapter then examines management "best" practices used to address each key category of concern and concludes with examples of how some of the management "best" practices have been applied in Canada and other cold water places.

4.1 CATEGORIES OF CONCERN: MARINE TOURISM IN NUNAVUT

The ten following categories of concern report the findings from a meta-analysis of concerns related to marine tourism in Nunavut. While the meta-analysis did not intentionally seek the concerns of any one group, it includes the concerns voiced by local communities, tourists, tourism operators, tourism managers, territorial and national government representatives. Results are first summarized in Table 3 and their interconnectedness in Figure 10.

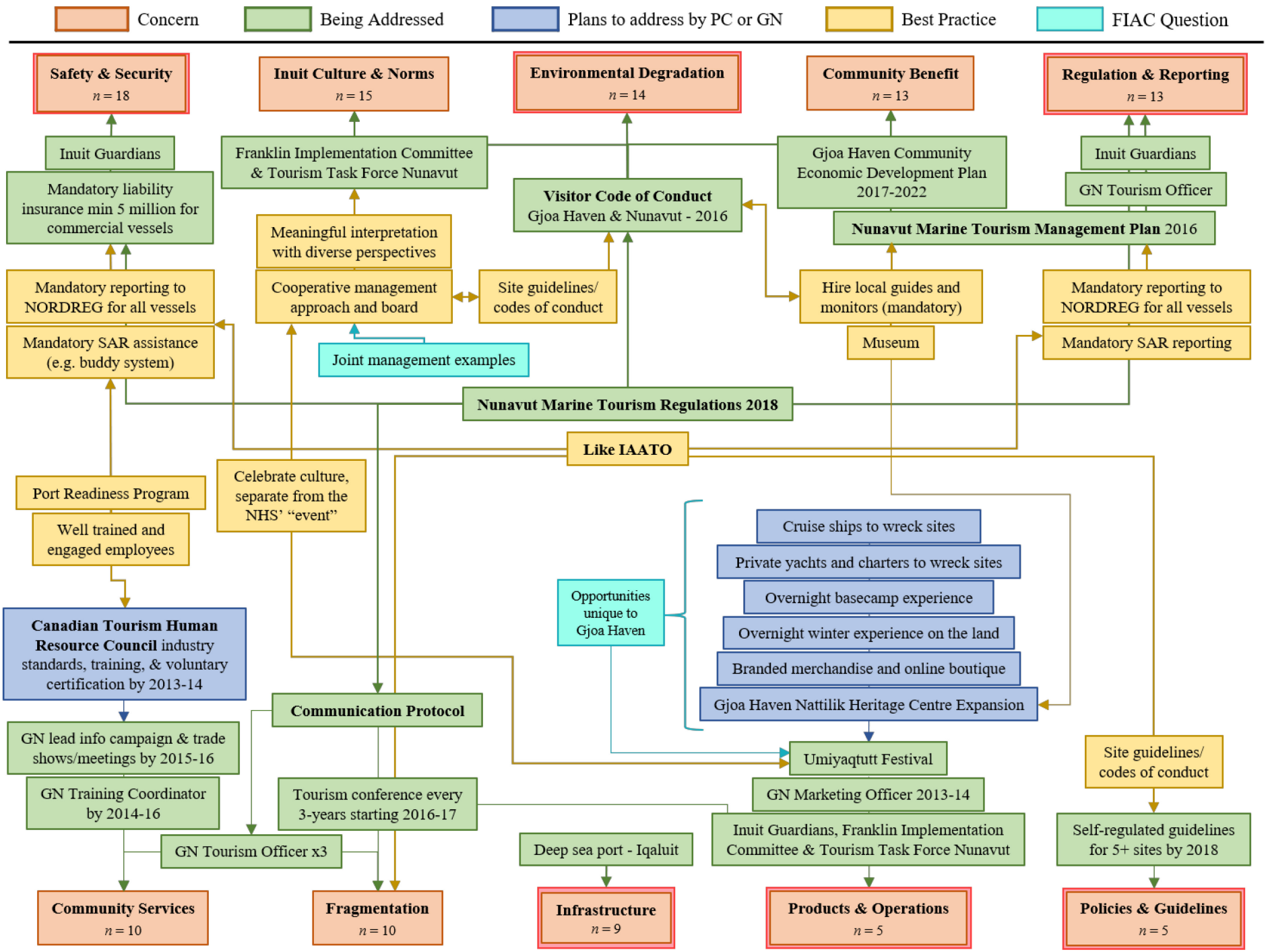
Table 3: Categories of concern – marine tourism in Nunavut.

Category	Count	Components and Examples
Community Benefit	|||| |||| ||| *n* = 13	• Local economic benefit and development • Non-residents benefit from tourism in communities rather than the communities themselves, yet there is a risk to the communities • Communities being "sold" and feeling "used" – surprise visits • Development strategies
Community Services	|||| |||| *n* = 10	• Local understandings of hospitality standards and expectations • Local education, training, and control • Opportunities for local jobs and learning • Training requirements (e.g. recognize traditional knowledge equivalents) • Learn about and respond to a diversifying market to deliver high-end experiences • Encourage vessels to visit and provide visitor information (e.g. itineraries and ideas)

Regulation and Reporting	|||| |||| ||| *n* = 13	• Need for monitoring, enforcement, and control
		  ◦ Especially of small private and subsistence vessels
		  ◦ Unlicensed operators or commercial reporting as private vessels
		• Capacity for enforcement – limited staff presence in parks and protected areas
		• Visitors unaware of regulations and required permits
		• Travel legislation and regulations – consider perceptions of unregulated areas
		• Planning and research data to inform management decisions (e.g. pre- and post-trip reporting)

Policies and Guidelines	|||| *n* = 5	• Community operational guidelines • Tourist site guidelines – consider insufficient orientations • Cruise ship policies – done at the site (e.g. Parks Canada) level but not Nunavut-wide • Historical, cultural, and archaeological site guidelines
Products and Operations	|||| *n* = 5	• Diversity and quality of attractions, products, and services • Inconsistent operations: costs, short seasons, staff shortages (turnover), small market access • Signs to identify protected and significant areas • A wider range of merchants and products distinct across communities
Safety and Security	|||| |||| |||| ||| *n* = 18	• Visitor and local safety • Rescue and clean-up capabilities – consider resources and training • Minimal charting and mapping – potentially dangerous and inaccessible environments • Lack of Arctic-specific knowledge and preparation/resources (e.g. ice-strengthened hulls) • Human and goods trafficking • Illegal entry, criminal activity, and national security • Vector for illness and disease
Infrastructure	|||| |||| *n* = 9	• Do not have the modern infrastructure to support the growing industry (e.g. ports, moorings, public washroom/showers, internet, customs/immigration, etc.)
Fragmentation	|||| |||| *n* = 10	• Simple, comprehensive permitting system and its high associated costs • Authority of governance and collaboration between agencies • Timely information sharing and communication between agencies – reliable itineraries • "red tape" restricting industry growth (e.g. complex permitting)
Inuit Culture and Norms	|||| |||| |||| *n* = 15	• Tensions between visitor culture and Inuit culture, practices, and norms (photos without perms.) ◦ Education and understanding Inuit culture – consider interactions with • Erosion of Inuit culture (e.g. Greenpeace tourists) and interfering with hunting • Illegal activities that harm communities (e.g. alcohol in dry communities) • Meaningful community interaction, engagement (e.g. meaningful consultation), and respect • Disruption of historic and archaeological sites
Environmental Degradation	|||| |||| |||| *n* = 14	• Environmental ignorance and disruption of marine species – need for Inuit monitors • Wildlife impacts (e.g. chasing away and changing migrations) and illegal harvesting • Release of pollutants and contaminants that pollute the food chain on which communities rely • Breaking ice that communities rely on for travel and hunting

Figure 10: Categories of concern – marine tourism in Nunavut.



4.1.1 COMMUNITY BENEFIT

Concern about a lack of local community benefit from the impacts of marine tourism in Nunavut is one of the most notable categories identified in the literature. At the community level, the *Nunavut Travel and Tourism Act Consultation Report* (Government of Nunavut, 2015) makes explicit local residents' apprehension to "non-resident businesses benefit[ting] from tourism activities in a community rather than the community members themselves" (p. 4). This skewed benefit contributes to local residents' sense of being "sold" to or "used" by the tourism industry (Johnston, Johnston et al., 2012). Surprise cruise ship visits, where vessels arrive and disembark often an overwhelming number of passengers in a small community without prior or sufficient notice, is one example that appears frequently in the literature. Surprise visits effectively eliminate a community's opportunity to host visitors at cultural performances, offer guided tours, supply souvenirs, and deliver other tourism products (Dawson, Stewart et al., 2014; Kelly & Ljubicic, 2012; Stewart et al., 2007, 2011; Stewart et al., 2015). The result is a missed opportunity for local economic and social benefit (Kelly & Ljubicic, 2012). Nevertheless, the local community sustains the social, cultural, and environmental impacts of the visit (Olsen et al., 2019; Stewart et al., 2005). Similar impacts result when vessels are unable to make scheduled community visits due to weather or other delays; for example, the community of Uqsuqtuuq (Gjoa Haven) planned to host seven cruise ships in 2018, yet none arrived due to ice-choked straits farther north (T. Tarasoff, personal communication, February 27, 2019).

Concern about community benefit also stems from convoluted permitting systems (Dawson et al., 2017; Grenier, 2018; Johnston, Dawson, & Maher, 2017) and inadequate infrastructure and strategic planning to respond to diversifying tourism markets (Johnston, Dawson, De Souza et al., 2017). These intertwined aspects are explored further in the sections

below about community services (4.1.2), infrastructure (4.1.7), and fragmentation (4.1.8). While literature primarily focuses on the impacts of commercial cruises, the rapidly growing cohort of private yachters generates similar concerns, particularly in relation to unannounced visits (Stewart et al., 2013).

4.1.2 COMMUNITY SERVICES

A second community-level concern is about hamlets' ability to participate in and, therefore, benefit from the marine tourism industry. The following sub-themes comprise this category. First, there exists a need for official development strategies and guidelines at the territorial, community, and site levels to guide the tourism industry's growth and dictate appropriate visitor behaviours within each segment (Dawson, Stewart, Johnston, & Lemieux, 2016; Johnston & Twynam, 2008). Sufficient education and training are then needed to support these guidelines and strategies. Training must help local residents develop an understanding of hospitality standards and expectations, and support their realization (Government of Nunavut, 2013, 2015; Stewart et al., 2015). The Government of Nunavut has begun to lead trade shows, meetings, and training sessions to help address this concern. Tightly knit with training needs, some communities are inadequately prepared to cater to a diversifying tourism market that demands unique, high-end tourism attractions, experiences, products, and services (Government of Nunavut, 2013; Johnston, Dawson, De Souza et al., 2017). Improved capacity in this area would help extend visitors' stays, effectively increasing the opportunity for local benefit (Johnston, Dawson, De Souza et al., 2017; Nunavut Tourism, 2016; Steward et al., 2015). Finally, and perhaps most importantly, is concern about communities' long-term ability to maintain control of the tourism industry and its impact on their livelihoods (Stewart et al., 2005).

4.1.3 REGULATION AND REPORTING

Concern about insufficient regulation and reporting of commercial and private vessels travelling through the Canadian Arctic cascades through all levels of tourism management. Through a national, rather than Inuit, lens, this concern includes fear about maintaining Canadian sovereignty in the Arctic Archipelago as the Northwest Passage becomes increasingly ice-free (Stewart et al., 2015). Resulting debated perspectives include whether the Northwest Passage encompasses internal waters over which Canada exercises full sovereignty or an international strait to which all nations maintain a rite of passage (Têtu et al., 2019). Former Prime Minister Stephen Harper's official announcement of the discovery of the HMS *Erebus* in 2014 reinforced Canada's national claim to the area: "This is truly a historic moment for Canada. Franklin's ships are an important part of Canadian history given that his expeditions, which took place nearly 200 years ago, laid the foundations of Canada's Arctic sovereignty" (Harper, 2014). While the Franklin shipwrecks are used to promote Canadian sovereignty in the Arctic (Dawson, Johnston et al., 2014; Neufeld, 2001), recognition of Inuit as rights holders and contributors who were imperative to the wrecks' discoveries (Parks Canada, 2017f) is essential to the ethical management of Canada's Arctic and the resulting tourism industry development.

At a national and territorial level, concerns suggest insufficient abilities to monitor (track) commercial and, especially, private vessels in the Canadian Arctic. Plagued by limited resources, such as staff and ice-strengthened vessels (Dawson et al., 2016; Stewart et al., 2015), governments have limited abilities to enforce travel legislation and regulations (Dawson, Johnston et al., 2014; Government of Nunavut, 2015). Consequently, tourism regulation in the Canadian Arctic is tested by unlicensed operators (Government of Nunavut, 2013), commercial vessels operating as if they were private vessels (Johnston, Dawson, & Maher, 2017), and other

illegal activities (Dawson, Johnston et al., 2014, 2017; Stewart et al., 2015; Têtu et al., 2019). While legal regulation and monitoring play a part, only an increased presence of government vessels in the north is insufficient to address concerns about regulation and reporting.

Visitors' lack of awareness or blatant disregard for protected areas' boundaries and associated permits and regulations concern local residents and all levels of management (Dawson, Johnston et al, 2017; Johnston, Dawson, De Souza et al., 2017). Johnston, Dawson, De Souza et al. (2017) found that, in some cases, vessel operators were unaware they were within park boundaries or that they needed permits, perceiving the Arctic to be an unregulated "free-for-all destination" (p. 73). In other cases, operators did not observe changing regulations between repeat visits. These examples illustrate how limited information that marine tourism managers have to base their decisions both contributes to and results from limited regulation and reporting in the Canadian Arctic (Government of Nunavut, 2013; Johnston, Dawson, & Maher, 2017; Johnston, Johnston et al., 2012). Knowledge of the numbers, patterns, and other statistics on marine tourism is especially lacking for pleasure craft. According to Johnston, Dawson, and Maher (2017), insufficient mandatory reporting, including pre- and post-trip surveys, has contributed to this challenging management situation. Effectively, the lack of incoming information on Nunavut's marine tourism industry makes it difficult for managers to produce high-quality, targeted, and accessible outgoing visitor information to curb trends of non-compliance. The Government of Nunavut (2016) and WET NHS (Parks Canada, 2019a) have begun to address this concern by hiring a dedicated tourism officer and stationing Inuit Guardians at the two wreck sites during ice-free periods to report unauthorized vessels and help with research.

4.1.4 POLICIES AND GUIDELINES

Insufficient policies and guidelines form one of two themes that appear less frequently in the literature about marine tourism concerns. However, policies and guidelines are frequently referred to as management "best" practices. While site-specific policies inform management at small scales, Marquez and Eagles (2007) and Stewart et al. (2005) critique the lack of territory-wide cruise ship policies. Further, authors (Dawson et al., 2016; Marquez & Eagles, 2007; Stewart et al., 2011, 2015) identified a lack of site guidelines, which describe expected visitor behaviours, provide site-specific orientations, require local guides, and more. Guidelines should address the needs of and be available to commercial and private visitors.

4.1.5 PRODUCTS AND OPERATIONS

An insufficient diversity and quality of tourism products and operations is an important theme in the literature, an area of concern specifically identified by the WET NHS site manager, and a key challenge to the growth of Nunavut's tourism industry. This theme is characterized by a lack of diversity and quality of tourism attractions, products, and services throughout Nunavut, but particularly between communities, meaning that many of the experiences communities offer are too similar (Government of Nunavut, 2015; Nunavut Tourism, 2016; Stewart et al., 2015). This struggle is compounded by businesses' inconsistent operations resulting from high operating costs, short business seasons, staff shortages, high turnover rates, and other limited resources (Government of Nunavut, 2013; Stewart et al., 2015).

Fortunately, the discovery of the Franklin shipwrecks has created an internationally unique opportunity on which the community of Uqsuqtuuq (Gjoa Haven) can capitalize. By recommendation of the Franklin Interim Advisory Committee (FIAC), Parks Canada began hosting the annual Umiyaqtutt Festival in Uqsuqtuuq (Gjoa Haven) to celebrate the discoveries

of the HMS *Erebus* and HMS *Terror* and "the important role of Inuit in the finds and in cooperative management of the national historic site" (Umiyaqtutt Festival, 2018). Occurring during the height of Nunavut's tourism season, the festival is an experience unique to Uqsuqtuuq (Gjoa Haven) that managers and local residents hope will help attract more visitors (T. Tarasoff, personal communication, February 27, 2019). Further, plans for the WET NHS include: welcoming cruise ships, followed by private yachts and charters to the wreck sites; hosting overnight basecamp experiences at the wreck sites and overnight winter experiences on the land; branded merchandise in Uqsuqtuuq (Gjoa Haven) and an online boutique; and, a six million dollar expansion to the Nattilik Heritage Centre (Parks Canada, 2019a). Together, these tourism products will help the community of Uqsuqtuuq (Gjoa Haven) distinguish its visitor experience offers from other opportunities throughout the territory.

4.1.6 SAFETY AND SECURITY

Concerns about safety and security make up the most frequently recurring theme in the literature, which is characterized by four important challenges. Limited local, territorial, and national abilities and preparedness to respond to incidents involving visiting vessels dominated concerns about visitor safety (Dawson, Johnston et al., 2014, 2017; Dawson et al., 2016; Government of Nunavut, 2013, 2015; Grenier, 2018; Johnston, Dawson, De Souza et al., 2017; Kelly & Ljubicic, 2012; Olsen et al., 2019; Stewart et al., 2013). With only a limited, seasonal presence of Canadian Coast Guard vessels in the vast Arctic Archipelago, there is no guarantee that search and rescue services can respond to a vessel in distress within ten hours or more, assuming good ice, weather, and other conditions (Kelly & Ljubicic, 2012; Palma et al., 2019; Stewart & Dawson, 2011). Consequently, the literature identifies a need for local training and resources to respond promptly to search and rescue incidents and associated clean-ups.

Compounding this concern is that little is known about much of the Canadian Arctic. As of 2012, only six percent of Arctic waters were charted to international standards and only eleven percent had been mapped (Lasserre and Têtu, 2015), much of which is based on information from the 19th Century (Kelly & Ljubicic, 2012). While the search for and study of the wrecks of HMS *Erebus* and HMS *Terror* continues to contribute to mapping the Arctic's seafloor (Parks Canada, 2019h), minimal charting, unpredictable ice conditions, and limited information continues to pose a well-documented hazard to marine navigation (Dawson et al., 2016; Grenier, 2018; Johnston, Dawson, De Souza et al., 2017; Johnston, Dawson, & Maher, 2017; Johnston, Johnston et al., 2012; Lamers et al., 2018; Nunavut Tourism, 2016; Palma et al., 2019; Stewart et al., 2015, 2019).

Specific to marine tourism in Arctic Canada, and compounded by a lack of search and rescue capabilities, is a concern about visitors' lack of Arctic-specific knowledge and resources, including supplies (e.g. fuel and groceries), equipment (e.g. ice-strengthened hulls), and enough insurance to cover a rescue (Johnston, Dawson, De Souza et al., 2017; Marquez and Eagles, 2007; Stewart et al., 2013). Nunavut Tourism (2016) also worries about the health of Nunavut's tourism industry should unprepared tourists get hurt in and create a bad name for the Canadian Arctic. Finally, as discussed in part under regulation and reporting, sovereignty and national security concerns include residents' safety and security. Threats such as human and goods trafficking and the transport of foreign illness and disease concern local communities (Dawson, Johnston et al., 2014; Johnston, Dawson, De Souza et al., 2017; Stewart et al., 2011; Stewart et al., 2005, 2015). The interaction of these sub-categories of concern contributes to a complex management context for Nunavut's marine tourism industry. Efforts including requiring commercial vessels carrying 12 passengers or more to maintain liability insurance of no less than

five million dollars (Government of Nunavut, 2018), and training and stationing Inuit Guardian teams at the two Franklin wreck sites will help address these concerns.

4.1.7 INFRASTRUCTURE

Limited and ageing infrastructure, including public washrooms, laundry, internet, drug stores, medical centres, customs and immigration, docks, ports, moorings, refueling sites, and other safe spaces for vessels in need poses a safety challenge for Arctic tourism (Dawson, Johnston et al., 2014; Dawson et al., 2016; Johnston, Dawson, De Souza et al., 2017; Johnston, Dawson, & Maher, 2017; Johnston, Johnston et al., 2012; Kelly & Ljubicic, 2012; Nunavut Tourism, 2016; Stewart et al., 2019). Interviewees in a study by Dawson, Johnston et al. (2014) explain:

> As a nation "we are promoting economic development in the Arctic, but we are not preparing for its consequences" (interview - policy stakeholder) and "we are marketing a tourism product here that [we] do not have the infrastructure to support" (interview - local resident). (p. 96)

While Nunavut's first small craft safe harbour opened in Pangnirtung in 2013 (Government of Canada, 2013b) and a deep-sea port is under construction in Iqaluit (Johnston, Dawson, De Souza et al., 2017), more infrastructure improvements and development are required to meet diverse visitor needs while increasing visitor safety in the Canadian Arctic.

4.1.8 FRAGMENTATION

Fragmentation of national and territorial permitting and inter-agency communication strategies causes much frustration for polar cruise operators and has been the subject of much research attention and management recommendations in the past 15 years. First, there is no authority of governance or a framework for regulatory oversight in Nunavut; instead of one agency overseeing Nunavut's tourism industry, each respective agency manages their separate

components (Dawson, Johnston et al., 2014; Dawson et al., 2016; Johnston, Dawson, & Maher, 2017; Stewart et al., 2015). In effect, there is no single information contact nor a simple, comprehensive, and collaborative permitting structure (Dawson, Johnston et al., 2014; Government of Nunavut, 2015; Johnston, Johnston et al., 2012; Marquez & Eagles, 2007). Instead, cruise operators must navigate a complex, intimidating, onerous, and redundant licensing/permitting arrangement that is suspected to restrict growth of the tourism industry. This fragmented nature also inhibits timely inter-agency communication, making it difficult for communities to host visitors and benefit from the industry (Dawson et al., 2016; Johnston, Dawson, De Souza et al., 2017; Nunavut Tourism, 2016; Stewart et al., 2015). While it has taken significant time to initiate change, efforts to streamline the permitting process are underway (Stewart et al., 2015).

4.1.9 INUIT CULTURE AND NORMS

Concern about negative impacts to and disrespect of Inuit culture and norms is the second-most common concern found in the literature. In many cases, tensions between visitor cultures and Inuit culture, practices, and norms led to misunderstandings between local and foreign peoples and caused negative impacts to communities (Government of Nunavut, 2015; Grenier, 2018; Johnston, Dawson, De Souza et al., 2017; Johnston, Dawson, & Maher, 2017; Milne, 2006; Stewart et al., 2015; Thomson & Thomson, 2006). Incidents include visitors taking photos without permission (Stewart at al., 2011, 2015), disrupting cultural and historic sites (Stewart et al., 2015; Têtu et al., 2019; Thomson & Thomson, 2006), and ‘Greenpeace’ tourists, who Grekin and Milne (1996) explain, “have the potential to jeopardize the freedom of locals to hunt” (p. 89). While visitor behaviour is identified more frequently, communities also express concern about their children’s behaviour in front of tourists. For example, begging children

embarrass other community members (Stewart et al., 2011). These examples accompany an identified need for educational experiences fostered through meaningful interactions between visitors and local peoples to help minimize cases of cultural ignorance and inappropriate behaviours.

Concern about the meaningful inclusion of local peoples also relates to fears of the tourism industry eroding an intact Inuit culture (Government of Nunavut, 2015; Nunavut Tourism, 2016). Research found that local communities' ways of life and culture is threatened by a lack of inclusion of and respect for local expectations and cultural desires in guidelines and other tourism management efforts (Johnston, Dawson, & Maher, 2017; Johnston, Johnston et al., 2012; Kelly & Ljubicic, 2012; Marquez & Eagles, 2007; Milne, 2006). For example, participants in Kelly and Ljubicic's (2012) study worry that Governments consult "local" people and Inuit based only in Iqaluit and leave out smaller hamlets across the territory. This limited representation of local and Inuit voices worries communities who want to ensure consideration of their priorities and concerns in tourism and Arctic shipping management. The cooperative management approach, guided by the diverse voices of the Franklin Interim Advisory Committee (FIAC), helps ensure local inclusion in the management of the WET NHS.

4.1.10 ENVIRONMENTAL DEGRADATION

Environmental degradation stemming from visitors' negligent behaviours is the third most important concern. Wildlife harassment, improper waste disposal, the release of pollutants and contaminants that harm the wildlife and environment on which communities rely is primary to this theme (Dawson, Johnston et al., 2014; Johnston, Dawson, De Souza et al., 2017; Johnston, Dawson, & Maher, 2017; Johnston, Johnston et al., 2012; Kelly & Ljubicic, 2012; Lamers & Amelung, 2010; Olsen et al., 2019; Palma et al., 2019; Stewart et al., 2015; Stewart et

al., 2013; Thomson & Thomson, 2006). According to Lück (2010), vessels in polar waters can release treated sewage as of 4 miles (6.5 kilometres) from the coast and untreated beyond the 12-mile (19-kilometre) zone. This wastewater frequently contains harmful substances that contribute to fish mortality and other damaging effects such as eutrophication, defined as an increased nutrient load to coastal waters (Lück, 2010). The release of ballast water is also a vector for invasive species and illnesses. Participants in studies by Olsen et al. (2019) and Stewart et al. (2011, 2013) also articulated how transiting vessels interfere with their hunts by breaking the ice they rely on to travel the hunting grounds and scaring wildlife away from these important areas.

Together, these ten themes summarize issues related to marine tourism in Nunavut that were identified in literature that captures concerns expressed by local peoples, academics, and members of local, territorial national governments. The Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (WET NHS) is affected by challenges stemming from marine tourism in Nunavut and shipwreck tourism on a smaller scale, as such, the next section explores the seven categories of concern related to shipwreck tourism around the world.

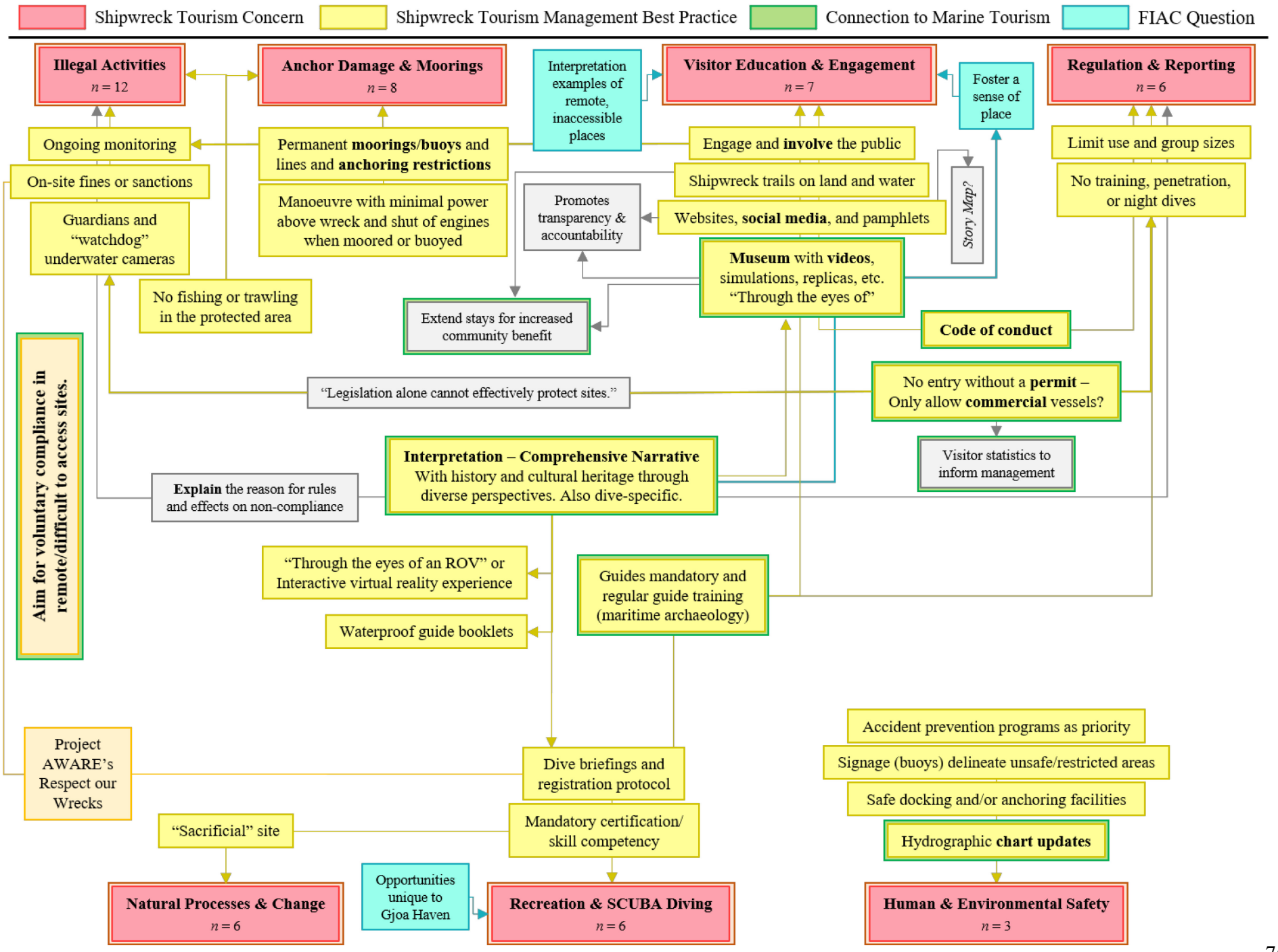
4.2 CATEGORIES OF CONCERN: SHIPWRECK TOURISM

Due to the uniqueness of the Franklin shipwrecks site, this section steps beyond Nunavut to learn from worldwide shipwreck management challenges. Despite a global perspective, the following seven categories of concern (see Table 4) mirror aspects of the concerns described in the previous section (see page 61). The interrelatedness of marine and shipwreck tourism makes explicit the need to consider tourism management concerns on industry and site-specific scales. The seven categories of concern report the findings from this study's meta-analysis and are summarized in Table 4 and their interconnectedness illustrated in Figure 11.

Table 4: Categories of concern – shipwreck tourism.

Category	Count	Components and Examples
Visitor Education and Engagement	||||| || *n* = 7	• Lack of: ◦ Awareness of the presence of the Park or resources (e.g. unknowing visitation/impact) ◦ Awareness of the impacts of one's actions, including well-meaning, uninformed visitors ◦ Education of all users types (e.g. effective with divers, but did not reach fishers) ◦ Trust of government agencies' ability to manage sites while maintaining public access and transparency (e.g. insufficient information flow to the public) ◦ Public outreach and education – perceived disconnect between archaeology and the public, despite work occurring on and funded by public resources ◦ Museum-quality displays showcasing artifacts • Shipwreck legislation and best practices not taught during dive training
Anchor Damage and Moorings	||||| ||| *n* = 8	• Propwash and vessels' wakes disturbing shallow wrecks • Anchor damage – the greatest level of damage, but arguably the easiest to manage ◦ Anchors dragged to locate wrecks and secure vessels, especially in tough-to-locate sites and in challenging weather • Attaching lines to the wreck (primarily for diving) • Moving artifacts and other mechanical damage destabilizes the site • Shortage of overnight/safe mooring facilities, which are expensive to install and maintain
Regulation and Reporting	||||| | *n* = 6	• Lack of: ◦ Research and monitoring of impacts and management decision implications ◦ Human resources to discourage illegal activities and monitor/inspect facilities ◦ Laws, regulations, closures, restrictions, etc., which are also know to be ineffective • Deliberate non-compliance
Natural Processes and Change	||||| | *n* = 6	• Increased erosion and sedimentation from longer ice-free periods with more intense storms • Physical and chemical processes affecting the site longevity • Northern expansion of invasive species (e.g. shipworms) ◦ Climate change-induced ◦ Tourism as a vector from the transport of invasive species • Nearby infrastructure development (related to changing natural processes)
Illegal Activities	||||| ||||| || *n* = 12	• Illegal diving in restricted areas (e.g. "It's easier to ask for forgiveness than for permission") • Artifact scavenging, souvenir collecting, and salvage by temptation of profit • Illegal fishing in restricted areas • Moving or otherwise disturbing artifacts • Adding materials to a site, especially in memorial to lost sailors • Graffiti and other vandalism
Human and Environmental Safety	||| *n* = 3	• Grounding and spills from vessel accidents • Severe weather and safety associated with maintaining visitor facilities • Pollution, especially garbage and fishing nets (caught on the structure) littering wreck sites
Recreation and SCUBA Diving	||||| | *n* = 6	• Cruise ships and private vessels with advanced tourism equipment • Diver safety, and liability and insurance costs for the hosting agency • Following guides' inappropriate actions • Penetration dives into the wreck ◦ Increased chance of unintentional contact with the wreck ◦ Exhalation of bubbles • Diver crowding • Contact with the wreck ◦ Intentional: most common when stopping to rest, adjust equipment, examine something, pose for photos, "hang pulling" to reduce silting, and "cleaning" the wreck structure ◦ Unintentional: most common in training dives and during sensory deprivation (e.g. night and penetration dives)

Figure 11: Categories of concern – shipwreck tourism.



4.2.1 VISITOR EDUCATION AND ENGAGEMENT

Like cases in Nunavut's marine tourism industry, researchers report instances where visitors lack awareness of a protected area and its resources, sometimes leaving them within protected area boundaries or near important shipwrecks without knowing they exist (Marano, 2015; Souter, 2006). In other cases, visitors are unaware of the impacts of their actions (Edney, 2016), such as touching a wreck's structure, or are well-meaning but uninformed (Scott- Ireton & McKinnon, 2015). Drawing from the natural sciences, Scott-Ireton and McKinnon (2015) provide a series of examples where biologists and conservationists have used visitor education and engagement to address unawareness (Viduka, 2011) and foster a conservation ethic in visitors; they suggest that the same practice can be applied to shipwreck management and argue that it is more effective than generally ineffective and unenforceable legislation. However, while proven successful, Harvey and Shefi's (2014) findings suggest concern about education programs that do not consider all user types. Their research on the *Clarence* Protected Zone in Victoria, Australia (see State Government of Victoria, 2020) found that efforts to educate divers were successful, but failed to include recreational fishers, who effectively caused substantial irreversible anchor damage to the historic shipwreck. Concerns about insufficient visitor education and engagement extend beyond the history and boundaries of a single site.

Further, the public's frequent distrust of government agencies (Dearden, 2010) to manage public resources responsibly, while allowing continued access, is a long-lasting and often generational or cultural challenge in shipwreck management (Marano, 2015; Steyne, 2010). Marano (2015) found that distrust grows from:

- Perceived lack of transparency and accountability caused by lingering resentment;
- Poor information flows that disconnect archaeologists and the public; and,

- A lack of public outreach programs, including museum-quality displays, and public engagements.

While weakened public support (Parks Canada, 2019d) and a history of persistent colonial structures challenge Parks Canada (Finegan, 2018; Herrmann et al., 2017), this concern cannot be understated. The WET NHS's cooperative management approach guided by the Franklin Interim Advisory Committee (FIAC) makes strides to engage local peoples and foster support for the protected area.

4.2.2 ANCHOR DAMAGE AND MOORINGS

Concerns about anchor damage and a lack of moorings arise second-most commonly following fears of illegal activities. Therefore, anchor damage is the most important non-malicious concern, whose impacts cause some of the greatest damage to shipwrecks worldwide; yet, it is arguably the easiest impact to manage (Edney, 2016). Anchor damage refers to the destructive effect of anchors or chains being dragged across, dropped on, or attached to shipwrecks in order to locate a site, secure boats above, or act as a descent/ascent line for divers (Cuthill, 1998; Edney, 2016; Souter, 2006; Steyne, 2010). Anchor damage is exacerbated when:

- Wreck sites are regularly affected by rough weather, making them difficult to access (Cuthill, 1998);
- Are difficult to locate, as vessels will pinpoint the site by dragging their anchor until it catches on the wreck (Cuthill, 1998; Viduka, 2011);
- Have a shortage of nearby overnight moorings or other facilities (McClellan, 1999); or,
- Are situated in shallow waters that make them more susceptible to disturbance from prop-wash and wakes (Barr, 2017).

Consequently, anchors detach and damage protective marine growth from the wreck structure, which naturally slows corrosion and decay, and leads to more rapid site degradation and diminishing visual appeal (Edney, 2016; Viduka, 2011).

While permanent moorings installed alongside shipwrecks significantly reduce anchor damage by providing a safe and easy point to secure a vessel (Cuthill, 1998; Edney, 2016; McClellan, 1999), they come with several challenges. Some types of moorings are expensive to install and maintain. This applies especially to northern environments where the above-water components must be removed each winter and inspected regularly to ensure their integrity (McClellan, 1999; Peterson & Willows, 2018). In addition, McClellan's (1999) report to Parks Canada identifies concern for permanent moorings' visual impact, which may be perceived as a negative intrusion in "pristine" areas (McClellan, 1999). Moorings' visual impacts also come with the risk of unintended consequences. For example, Harvey and Shefi (2014) report an instance where a sensitive shipwreck was preserved by keeping its location secret, but its position had to be published in the Government Gazette once it was afforded provisional protection. While the wreck was given a surrounding 100-metre protection zone, in which public access was prohibited, it was marked with a wooden pile supporting closure signage that had the unintended consequence of attracting fishers to the wreck's rich and productive environment. Albeit one of the easiest impacts to manage in southern waters (Edney, 2016), challenges posed by anchor damage and moorings is more complex in a remote Arctic environment like the WET NHS.

4.2.3 REGULATION AND REPORTING

Concern about insufficient regulation and reporting is threefold. First, many sites that allow legal access without active and adaptive management have succumbed to a "tragedy of the commons," where a site is essentially loved to death (Lemelin & Dawson, 2014; Têtu et al., 2019; Vrana & Halsey, 1993). A frequent lack of human and material resources to monitor site conditions and visitor impacts, and discourage illegal activities, further compounds regulation

and reporting abilities (Cuthill, 1998; Marano, 2015; McClellan, 1999). Finally, regulatory efforts such as restrictions and closures are found to be an ineffective management approach, due in part to insufficient education, limited law enforcement, or deliberate non-compliance (Edney, 2016; Scott-Ireton & McKinnon, 2015), as discussed further in sections 4.2.1 and 4.2.5.

4.2.4 NATURAL PROCESSES AND CHANGE

Natural physical and chemical processes affect shipwrecks' longevity, but vary for wood- and metal-hull ships and (Cuthill, 1998). Warmer water temperatures (Pournou et al., 2001), higher concentrations of dissolved oxygen and salinity (Al-Hamdani et al., 2011; Björdal, 2012), lower pH (Al-Hamdani et al., 2011), rough waters, light exposure, little sediment protection, and a resulting presence of soft rot bacteria or wood borers (Al-Hamdani et al., 2011; Björdal, 2012; Pournou et al., 2001) are factors known to increase the rate of deterioration in wooden wrecks. In polar environments, erosion and sedimentation are exacerbated by extended ice-free periods and more intense storms (Barr, 2017; Lamers et al., 2018; McClellan, 1999; Stewart et al., 2019), which is having noticeable impacts on the HMS *Erebus* (Beeby, 2019). Last, nearby infrastructure development can cause direct (e.g. physical disturbance) or indirect (e.g. changes in sedimentation) impacts to a shipwreck, risking increased rates of deterioration (Edney, 2016; Scott-Ireton & McKinnon, 2015; Steyne, 2010).

4.2.5 ILLEGAL ACTIVITIES

Illegal activities contributing to the disruption and degradation of historic shipwrecks are the most important concern identified in international shipwreck management literature. Concerns about artifact collection, scavenging, and salvage are primary (Barr, 2017; Chabai, 2000; Connolly, 2004; Cuthill, 1998; Marano, 2015; Scott-Ireton & McKinnon, 2015; Souter, 2006; Steyne, 2010; Viduka, 2011). While some visitors are driven by the allure of profit, others

perceive themselves to have a right to access and use or consume the wreck. These visitors do not consider their actions to be illegal or disrespectful, and sometimes consider them even better than leaving artifacts *in situ* at the mercy of other salvagers (Connolly, 2004; Edney, 2016; Steyne, 2010; Vrana & Halsey, 1993). In other cases, people believe that "It's easier to ask for forgiveness than it is to ask for permission" (McNeil, 2013, para. 8). Specific to SCUBA diving, guides are known to cluster artifacts in more visible locations on the wreck or hide them to only show their clients in efforts to offer a "better" dive experience (Edney, 2016). In other cases, divers will add materials to a site to commemorate lives lost or deliberately graffiti or otherwise vandalize a site. Unfortunately, these impacts have some of the most damaging effects on historic shipwrecks (Edney, 2016). These incidents are closely related to the regulation and education themes, as most occur without understanding the archaeological and historical importance of a site and its context left untouched (Steyne, 2010).

4.2.6 HUMAN AND ENVIRONMENTAL SAFETY

As in the literature related to Nunavut marine tourism concerns, fears of negative impacts on human and environmental safety arise specific to shipwreck management. Barr (2017) reports concerns about vessel accidents, specifically groundings, and associated passenger rescue, spill cleanups, and residual pollution. Sites with active fishing industries are sometimes littered with fishing nets and garbage (Kingsley, 2009; Steyne, 2010), and in extreme cases like in the English Channel, wooden wrecks are "being devastated by trawlers" (Steyne, 2010, p. 51). Last, McClellan (1999) discusses staff safety concerns when travelling to and from shipwreck sites, maintaining site infrastructure like permanent moorings, especially when it involves SCUBA diving, and while providing visitor safety and rescue services.

4.2.7 RECREATION AND SCUBA DIVING

Cruise ships and private vessels are carrying increasingly advanced equipment, including remotely operated vehicles (ROVs), submarines, SCUBA equipment, helicopters, all-terrain vehicles (ATVs), and sea kayaks, to offer unique tourism experiences (Barr, 2017; Crystal Cruises, 2020a, 2020b; Grenier, 2018; Lamers & Gelter, 2011). However, SCUBA diving is one of the most popular shipwreck viewing alternatives (Cuthill, 1998; Edney, 2016), meaning it has been the primary research focus, leaving gaps in the literature about the impacts of other/newer recreation activities. Illegal activities related to SCUBA diving were examined in section 4.2.5, which leaves concerns about intentional and unintentional diver contact with a wreck structure, penetration dives, and diver safety. Intentional diver contact with a wreck structure is most common when divers stop to rest, adjust their equipment, examine something more closely, pose for or take photos, use a technique called hang pulling where divers pull themselves along a structure to avoid using their flippers to reduce silt, or use brushes (Viduka, 2011) and other equipment to "clean" parts of the wreck (Edney, 2016). Effects are sometimes exacerbated when dive clients follow their guide's inappropriate actions (Edney, 2016). Unintentional diver contact occurs most frequently during training when new divers kick in uncontrolled manners and bump into their surroundings while trying to navigate and control their buoyancy (Davis & Tisdell, 1995; Edney & Howard, 2013; Viduka, 2011), and during sensory deprivation dives at night or upon entry into a ship (Edney, 2016). Regardless of its source, diver contact with a shipwreck can remove protective deposits and introduce new oxygen and currents that accelerate its deterioration (Edney, 2016; Edney & Howard, 2013; MacLeod, 2002; Viduka, 2011). Finally, SCUBA diving is an inherently risky activity, during which strong currents, entanglement hazards, great depths, and dangerous sea life can threaten diver safety (Evans, 2014; Lamers &

Gelter, 2011). Consequently, there is further concern about liability and insurance costs for the hosting agency (Souter, 2006).

This concludes the examination of the seven categories of concern related to shipwreck tourism and management. Because some categories of concern have either been addressed by many other authors, are beyond the scope of this research, or are less focused on tourism management, it is unreasonable that all 17 marine and shipwreck tourism concerns, or themes, identified through this first meta-analysis be addressed with members of the Franklin Interim Advisory Committee (FIAC). The following section justifies the decisions used to select four key categories of concern to investigate further through a meta-analysis of "best" practices and present to the FIAC for feedback specific to the management of the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (WET NHS).

4.3 SELECTED CONCERNS OF FOCUS

With growth of the marine tourism industry in the Canadian Arctic, research has focused on its fragmentation, limited regulatory enforcement, and lack of community services, and made numerous recommendations that are starting to be implemented throughout Nunavut. Further, since the discovery of the Franklin shipwrecks, management of the WET NHS has begun to incorporate unique tourism experience opportunities the sites provide for visitors and local residents in its ten-year operational plan. Table 5 lists the categories of concern from marine tourism in Nunavut (Table 3) and shipwreck tourism (Table 4) that are excluded from further research as they are already being addressed in practice or are beyond the scope and capacity of this research. The four overarching categories of concern that remain unaddressed and within the scope of this research are outlined below.

Table 5: Categories of concern omitted from further research and justification for their exclusion.

Category of Concern	Justification
Environmental Degradation and Natural Processes and Change	• Nunavut has a strong set of regulations and environmental assessment processes (Johnston, Dawson, & Maher, 2017) • An archaeological perspective that is not a tourism management-specific focus • Not a tourism management-specific focus for the WET NHS • Beyond project scope/capacity as it deals with biological and chemical processes
Fragmentation	• Being addressed by the Government of Nunavut • Not specific to the WET NHS • Beyond project scope/capacity as it deals with complex permitting and communication challenges across the Territory
Illegal Activities	• Addressed in aspects of other categories included in further analysis • Beyond project scope/capacity. Security of the WET NHS is overseen by Parks Canada's Law Enforcement Branch and the Maritime Marine Security Operations Centre

4.3.1 SAFETY AND SECURITY

Ensuring visitor and staff safety and wreck integrity are primary concerns related to both marine and shipwreck tourism management. It is essential that these concerns are addressed in the WET NHS because they pose potential risks to people, the heritage sites, and their surrounding environments. Addressing these issues will incorporate aspects of insufficient infrastructure as discussed in section 4.1.7 and human and environmental safety as per section 4.2.6. Due to its importance and interconnectedness to marine and shipwreck tourism and specific nature to the WET NHS, it makes up the first category of focus for this research.

4.3.2 COMMUNITY BENEFIT

The need for increased local benefit was one of the most important concerns raised by local community members and has the potential to impact them substantially, for either better or worse. Consequently, ensuring inclusion and benefit to local residents from Uqsuqtuuq (Gjoa

Haven) and Iqaluktuuttiaq (Cambridge Bay) is essential to the WET NHS's success. This category also connects community services and the local-level aspects of regulation, reporting, policy, and guideline-related concerns about both marine and shipwreck tourism management concerns.

4.3.3 VISITOR EDUCATION

The need for increased visitor education and engagement addresses categories 4.1.9 (Inuit culture and norms) and 4.2.7 (recreation and SCUBA diving), both of which are significant to local peoples and relate to marine and shipwreck tourism. Visitor education also appears to be one of the most effective approaches to managing remote historic sites in complex environments (Edney, 2016; Scott- Ireton & McKinnon, 2015; Viduka, 2011). Identifying examples of interpretation of remote and inaccessible sites that help inspire a sense of place in visitors was also raised by the Parks Canada's manager responsible for the WET NHS as an important enquiry to the site's management.

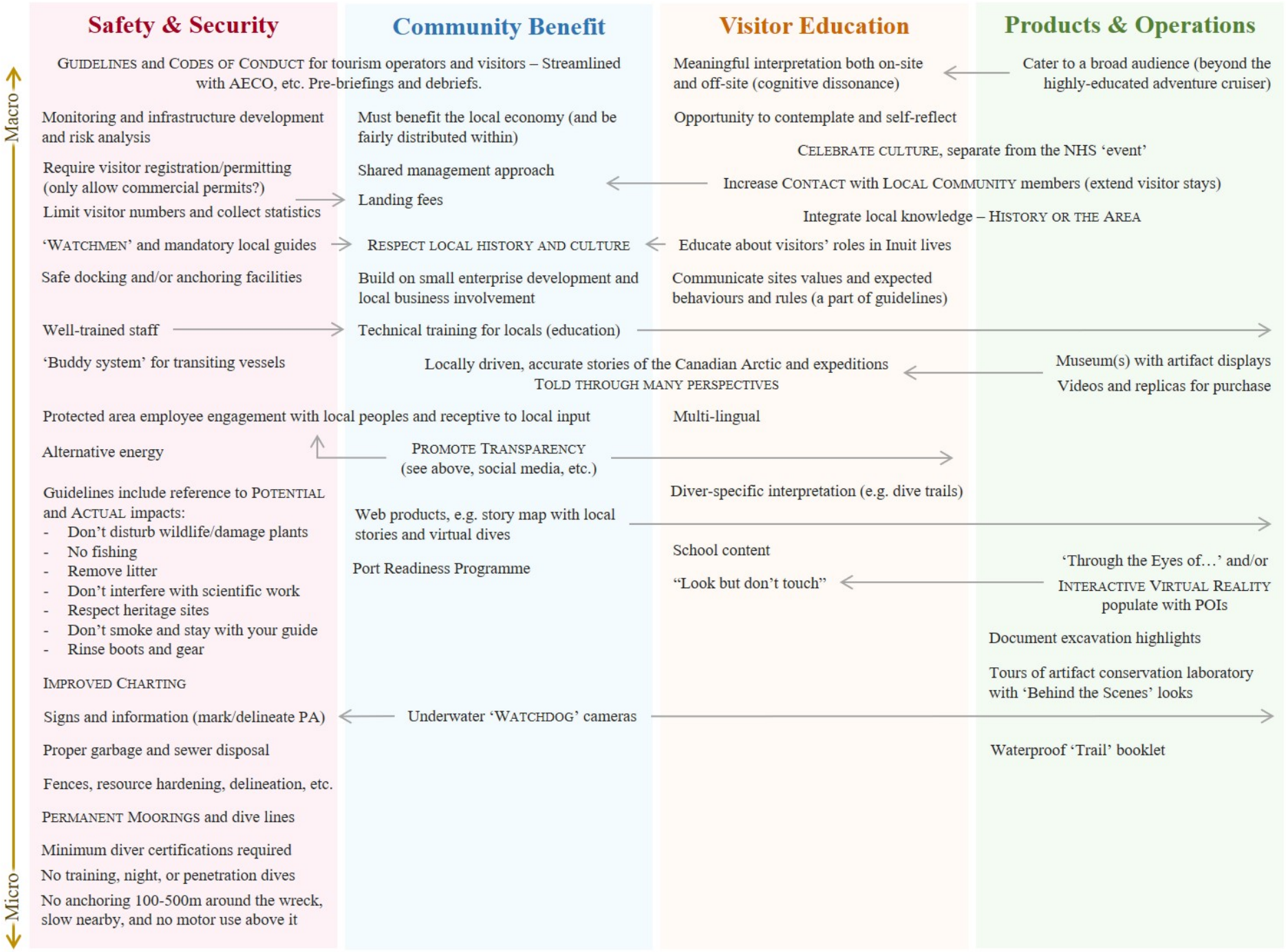
4.3.4 PRODUCTS AND OPERATIONS

Finally, researchers (Government of Nunavut, 2015; Nunavut Tourism, 2016; Stewart et al., 2015) and the WET NHS manager highlight the need for visitor experience products that are unique to the WET NHS and distinct from offers in nearby communities. This category ties in aspects of visitor education and recreation, simultaneously addressing concerns about marine and shipwreck tourism management. Together, these four categories will be used to identify management "best" practices using the meta-analysis as done for the categories of concern above, and then brought to members of the Franklin Interim Advisory Committee (FIAC) to discuss their applicability to the context and needs of the WET NHS.

4.4 MANAGEMENT "BEST" PRACTICES

Best practices guide protected areas management approaches to reach the desired outcome (Skibins et al., 2012). However, subject to changing physical and social site conditions and a "culture of continuing improvement" (Parks and Wildlife Service Tasmania, 2000, p. ii), "best" practices cannot act as a blanket approach for all sites. Instead, "good" management practices should be applied context-specifically to inform site management approaches (PWST, 2000). The following sections examine practices that have successfully addressed management concerns similar to those affecting the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (WET NHS); they are referred to as management "best" practices throughout. Sections 4.4.1 to 4.4.4 take a global perspective to pair management "best" practices with each of the four categories of focus. These practices are summarized in Figure 12, which organizes management "best" practices by category of focus specific to this research, working top-down from macro- to micro-level approaches, and illustrates their interrelatedness with other categories and strategies. Finally, the section ends with North American and Antarctic examples of shipwreck tourism management strategies in marine protected areas. Together, these will help inform the development of context-specific marine tourism management recommendations for the WET NHS.

Figure 12: Marine and shipwreck tourism management "best" practices.



4.4.1 SAFETY AND SECURITY

Developing a tourism attraction that is safe for visitors, tourism operators, local communities, the resource of interest, and its surrounding environment is important to the attraction's success and sustainability. Beginning at a macro-level, guidelines and codes of conduct are well-known and effective tools for managing tourism operator and visitor behaviours (Dawson, Johnston et al., 2014; Dawson et al., 2016; Cuthill, 1998; Edney, 2016; Johnston, Dawson, & Maher, 2017; Johnston & Twynam, 2008; Mason, 1997, 2005; Viduka, 2011). Guidelines and codes of conduct are self-imposed, voluntary forms of regulation (Edney, 2016; Mason, 1997) that are "an extremely valuable tool for tourism management in remote areas where monitoring capabilities are limited and expensive" (Dawson, Johnston et al., 2014, p. 95). Guidelines and codes of conduct are tailored to address environmental, social, and cultural visitor-related concerns by making explicit appropriate behaviours and the consequences of misbehaviour. While voluntary, Edney (2016) and Kelleher (1999) suggest that codes of conduct should be supported by legislation while being mindful not to prohibit more than what is necessary. Guidelines and codes of conduct are communicated through visitor publications, permitting systems, and tour pre-briefings and debriefs (Edney, 2016; Wilde-Ramsing & Hermley, 2007), and must explain their reasoning and effects (Edney, 2016; Mason, 1997). According to the United National Environment Programme (1995), codes of conduct should:

1. Serve as a catalyst for dialogue between the government and other bodies involved in tourism;
2. Create awareness in government and the industry of the need for sound environmental management;
3. Heighten awareness amongst tourists of the need for appropriate behaviour;
4. Make host populations aware of the need for environmental protection; [and,]

5. Encourage cooperation between government agencies, host communities, industry and NGOs. (Mason, 1997, p. 153)

Points one and five highlight that guidelines and codes of conduct are closely tied to ensuring community benefit.

To further support community benefit, guidelines and codes of conduct should closely align with guidelines from the Association of Arctic Expedition Cruise Operators (AECO) (Marquez & Eagles, 2007), the International Association of Antarctica Tour Operators (IAATO), and other popular Arctic destinations like Svalbard (Johnston, Dawson, & Maher, 2017). Antarctica, for example, has been a leader in polar tourism management for the past five decades. Managed voluntarily through the IAATO and the Antarctic Treaty Consultative Parties (ATCPs), commercial and private tourists venturing south of 60° Latitude must give advanced notice of their travel plans and acquire a permit under provisions of the Antarctic Treaty (IAATO, 2018b; Liggett, McIntosh, Thompson, Gilbert, & Storey, 2011). The vessel's flag state or the visitor's home country approve these permits, some only up to five months before departure. Applications through the Government of Canada (2013a) must include an environmental impact assessment, waste management plans, emergency plans, and in some cases, "a security to cover potential costs needed to prevent, mitigate or remedy any adverse environmental impacts caused by the permit holder" (para. 3). Further, IAATO guides and regulations advocate and promote "safe and environmentally responsible travel" (IAATO, 2018b) to Antarctica. While aligning Canada's polar tourism guidelines with successful examples such as IAATO, it is especially important that guidelines and codes of conduct remain consistent throughout Canada (Johnston, Dawson, & Maher, 2017). Consistency helps align visitor expectations and support increased compliance.

In addition to site guidelines and codes of conduct, many authors (Government of Nunavut, 2016; Khelleher, 1999; Kelly & Ljubicic; Marquez & Eagles, 2007; Mason, 2005; Price, 2013; Scott-Ireton, 2007; Stewart et al., 2013; Têtu et al., 2019) support Watchmen or guardian programs and mandatory local guides who watch over and help protect resources on land, at sea, or underwater. Requiring local guides, more specifically, promotes local economic benefit and offers additional support for protected areas. Well-trained local guides and professional expedition leaders also help establish a cruise/tour structure where limited numbers of small groups head ashore (Johnston, Johnston et al., 2012; Mason, 2005; Stewart et al., 2005) and are led and managed in a way that helps reduce site impacts and contribute to visitor education. While adventure cruising typically follows this structure and has proven successful in visitor education, there remains a need to target less-informed, mainstream, and private tourists (Manley et al., 2017). One commonly used approach is requiring visitor registration/permitting.

Mandatory visitor registration/permitting is a popular approach that helps limit, manage, and educate visitors in effort to address concerns related to both commercial and private tourism (Anderson et al., 2006; Cuthill, 1998; Edney, 2016; Khelleher, 1999; Mason, 1997; McClellan, 1999; Parks Canada, 1998, 2016; Price, 2013; Scott-Ireton, 2007). Approaches and outcomes of this practice include:

- Allowing only commercial permits and assuming that other visitors are engaged in illegal activities eases enforcement with limited resources in challenging landscapes (Cuthill, 1998; Scott-Ireton, 2017). Non-commercial permits can be issued for special exceptions;
- Identifying the social and environmental site carrying capacity and issuing only the number of permits that keep visitor numbers within it (Cuthill, 1998; Khelleher, 1999; Stewart et al., 2005);
- Collecting detailed visitor statistics (Edney, 2016), which also helps track vandalism (Scott-Ireton & McKinnin, 2015); and,

- Providing site-specific orientation and training for land- and water-based visitors (Mason, 1997; Price, 2013; Wilde-Ramsing, & Hermley, 2007).

Mandatory permitting also helps inform important monitoring (Cuthill, 1998; Dawson et al., 2016; Kelly & Ljubicic, 2012; Parks Canada, 1998, 2016; Vrana & Halsey, 1992) risk analysis (Wyman et al., 2011), and infrastructure development (Wyman et al., 2011) programs on which visitor, cultural, and environmental safety management decisions rely. A final macro-level management "best" practice is to enhance the public's perception of the protected area's transparency and legitimacy by fostering opportunities for employees to engage with local communities and incorporating their input (Andrade & Rhodes, 2012; Marano, 2015; Mason, 1997; Pater & Oxley, 2014; Stern, 2008). In effect, enhancing perceptions of park legitimacy helps increase voluntary compliance (Stern, 2008), which is key to managing remote resources (Edney, 2016).

At a smaller scale, McClellan (1999) suggests updating marine charts to make clear the boundaries of restricted areas, and especially important in the Canadian Arctic, to provide much-needed accurate information on navigable waterways and hazards (Dawson et al., 2016; Stewart et al., 2013). On land and along protected area boundaries, Evans (2014) suggests the use of signs and other markers to clearly delineate unsafe or restricted zones. Cuthill (1998) and Mason (2005) also advise the use of protective and stabilization measures, such as reinforcing site structures and footpaths, to further protect sites against deterioration from heavy use. The use of alternative energies (Wyman et al., 2011) and proper garbage and sewer management (Dawson et al., 2016; Wyman et al., 2011) also helps reduce the negative environmental impacts of marine and shipwreck tourism.

Finally, the most commonly recommended micro-level marine and shipwreck tourism management "best" practice is providing access to safe docking and/or mooring facilities (Dawson et al., 2016; McClellan, 1999), especially to help ensure diver safety and protect the integrity of shipwreck structures (Anderson et al., 2006; Cuthill, 1998; Edney, 2016; Marano, 2015; McClellan, 1999; Souter, 2006; Viduka, 2011; Vrana & Halsey, 1992). When moorings are offered, Edney (2016) found that compliance with other "best" practice restrictions was higher, including no anchoring within 100-500 metres of a shipwreck (Cuthill, 1998; McClellan, 1999; Viduka, 2011) and slow motoring around and no motoring above it to reduce prop-wash damage (McClellan, 1999). Other diving-specific "best" practices include requiring minimum levels of diver certification (Edney, 2016) and prohibiting training, night, and penetration dives (Cuthill, 1998; Edney, 2016; McClellan, 1999; Parks Canada, 2016; Viduka, 2011). Together, these "best" tourism management practices help create a safer tourism attraction for visitors, tourism operators, local communities, the resource of interest, and its surrounding environment.

4.4.2 COMMUNITY BENEFIT

While a safe tourism attraction is important to its success and sustainability, it is paramount that tourism and protected areas management respect local history and culture (Johnston & Twynam, 2008; Klein, 2011; Marano, 2015; Stern, 2008) to establish a product through which communities benefit. The 2002 *Capetown Declaration* states that responsible tourism "is culturally sensitive, engenders respect between tourists and hosts, and builds local pride and confidence" (International Conference on Responsible Tourism in Destinations, 2002, p. 4). Tourism management that ensures community benefit must, therefore, be transparent (Marano, 2015; Stern, 2008) and genuinely involve local communities in decision making (Delling & Endere, 2001; Klein, 2011; Price, 2013; Scott-Ireton, 2007; Vrana & Halsey, 1992).

Adopting a shared management approach is a "best" practice (Hvenegaard et al., 2016) that helps ensure a responsible management structure that benefits local communities. Cooperative management refers to parties respectfully and sustainably sharing decision-making power for the management of an environment and its resources (see Berkes, 2009; Clark & Joe-Strack, 2017; Craig, 2002; Jacobson et al., 2016; Lemelin et al., 2016; Martin, 2016). This approach is especially important to fostering healthy management systems in colonial landscapes shaped by Parks Canada's historically exclusionary relationship with Indigenous peoples (see section 2.4.1 on page 41, Kopas, 2007; Lemelin, Thompson-Carr et al., 2013). The rest of this section explores smaller-scale "best" practices to ensure local community benefit.

First, not restricting more activities than necessary, encouraging local communities to define what should be restricted (Goodwin, 2002; Vrana & Halsey, 1992), and supporting locally driven initiatives (Milne, 2006) are practices that help engage local communities in management decision making. When communities are involved, they become stewards, crucial to the site's long-term success (Price, 2013; Scott-Ireton, 2007; Scott-Ireton & McKinnon, 2015). At a smaller scale, guidelines are also used to increase local community benefit (Dawson, Johnston et al., 2014; Dawson et al., 2016; Johsnton & Twynam). To help ensure local economic benefit and fair opportunities for sustainable income (Cuthill, 1998; Goodwin, 2012; Klein, 2011; Mason, 1997; Wyman et al., 2011), guidelines can be used to help "maximize linkages to the local economy and minimize leakages" (Goodwin, 2002, p. 347). For example, guidelines or legislation can require tourism operators and visitors to hire local guides and/or Watchmen/ resource monitors (Dawson et al., 2016; Eagles et al., 2000; Edney, 2016; Government of Nunavut, 2016; Johnston, Dawson, & Maher, 2017). For example, in China's Sichuan Province, residents must make up 20 percent of tourism concessions' staff, and in the Seychelles, tourism

businesses must have local partners and licensed-out services like equipment rentals must hire a minimum percentage of local citizens (Wyman et al., 2011). Last, reserving some opportunities for local businesses (Wyman et al., 2011), further supporting local enterprise development (Goodwin, 2002), issuing landing fees (Dawson, Johnston et al., 2014), and having all passengers pre-apply for animal product export permits to be able to buy from local artists (Dawson et al., 2016) are all smaller-scale practices to help ensure community benefit.

Local benefit can also be achieved by indirectly managing visitor patterns. For example, cruise ships' visits to Uqsuqtuuq (Gjoa Haven) typically last only a morning, leaving little time for visitors to interact with and buy from community members. Therefore, a "best" practice is to lengthen visitors' stay and increase tourism contact with opportunities to spend (Goodwin, 2002) by, for example, opening maritime history museums and other unique experiences (Vrana & Halsey, 1992). This practice closely relates to visitor products discussed in section 4.4.4. Then, capacity building and technical training for local communities help ensure their preparedness to maximize the benefits of such opportunities (Delling & Endere, 2001; Wyman et al., 2011). The Cruise Association of Newfoundland and Labrador's (CANAL) Port Readiness Programme is a regional example of successful implementation of these practices (Hull & Milne, 2010; Stewart et al., 2015). The program supports port communities' tourism development by generating needs assessments, offering training workshops, setting benchmarks for measuring growth, and liaising marketing opportunities (CANAL, 2005). Nunavut's *Marine Tourism Management Plan* makes steps in this direction by establishing, among others, the following marine tourism preparation goals:

- Identify potential local economic impacts;
- Calculate actual benefits to communities;
- Enable planning to work towards increased local income;

- Preparing products and services for marine tourism;
- Information about successful marine tourism destinations; and,
- Training and meetings. (Government of Nunavut, 2016)

Finally, communities must have advance notice of cruise ships' arrivals for these efforts to be successful, which is especially important in new or developing destinations (Johnston, Johnston et al., 2012). Having a specific organization or dedicated staff to act as liaisons between cruise operators and communities (Johnston, Johnston et al., 2012), supported by communication plans and protocols (Government of Nunavut, 2016) are other "best" practices to help ensure local community benefit from marine and shipwreck tourism.

4.4.3 VISITOR EDUCATION

Alongside guidelines and codes of conduct, visitor education is one of the most frequently referenced tourism management "best" practices, especially in controversial or challenging settings. Generally, experiential learning can modify visitor behaviours (Mason, 2005; Price, 2013; Scott-Ireton & McKinnon, 2015) by promoting understanding of site values and expected visitor behaviours (Cuthill, 1998; Pater & Oxley, 2014; Periera, 2005; Viduka, 2011). Interpretation is one common visitor education approach. According to Hvenegaard et al. (2016), interpretation should incorporate narratives with multiple points of view, include local knowledge (Stewart et al., 2005), and integrate time for participants to ask questions, reflect on, personalize, and connect with the stories. Effective interpretation can spur cognitive dissonance (Hvenegaard et al., 2016; Orams, 1996) and then act as a safe space for resulting "confrontation, exploration, and debate" (Staiff et al., 2002, p. 104). Because "history" often favours white, upper-class, male voices, interpretation can respectfully "demonstrate how issues of race and gender can be used for political gain" (Hvenegaard et al., 2016, p. 54), including the colonial erasure of Indigenous narratives (see Lemelin, Whyte et al., 2013; Shrubb, 2014), and effectively

foster greater understanding of resulting local cultural, social, and environmental issues (Klein, 2011). Ultimately, visitors should leave feeling educated about the site, its cultural value, and what a site means to the area's history (Evans, 2014; Hvenegaard et al., 2016; Scott-Ireton, 2007). To be most effective in diverse environments, interpretation should be locally led, target multiple audiences (i.e. terrestrial, submerged, and others) (Scott-Ireton, 2007), and discuss their impacts on the environment and local communities (Stewart et al., 2005). Stories wrapped in a colonial history should also diversify interpretation strategies to address dissonant heritage (see Lemelin, Whyte et al., 2013) through culturally sensitive approaches and by, for example, integrating "hot" interpretation techniques (see Ballantyne et al., 2012; Uzzell, 1989). Further discussion of the importance of dissonant heritage and interpretation strategies like "hot" tourism is provided in section 6.1.4 on page 128. While interpretation is a favoured approach to visitor education, technology has broadened its repertoire of strategies.

The internet, including websites and social media, is an important tool used to reach and educate potential visitors, act as a space for remembering experiences and events (see Figure 13, Burgin, 2015; Jager & Sanche, 2010; Rao, 2017), and as a resource for people who are unable to visit the site. For example, digital platforms can effectively communicate multi-lingual local cultural content, daily archaeological or site updates, important messages, and promotions (Delling & Endere, 2001; Milne, 2006; Scott-Ireton, 2017). The development of virtual reality is another important technological advance that creates the opportunity to increase the public's knowledge of underwater archaeology by enabling non-divers to live realistic shipwreck experiences (further discussion provided in the next section, Bruno et al., 2018, 2019). Because of its interactivity and high emotional impact, virtual reality experiences are an effective and exciting education strategy that targets diverse audiences both on- and off-site.

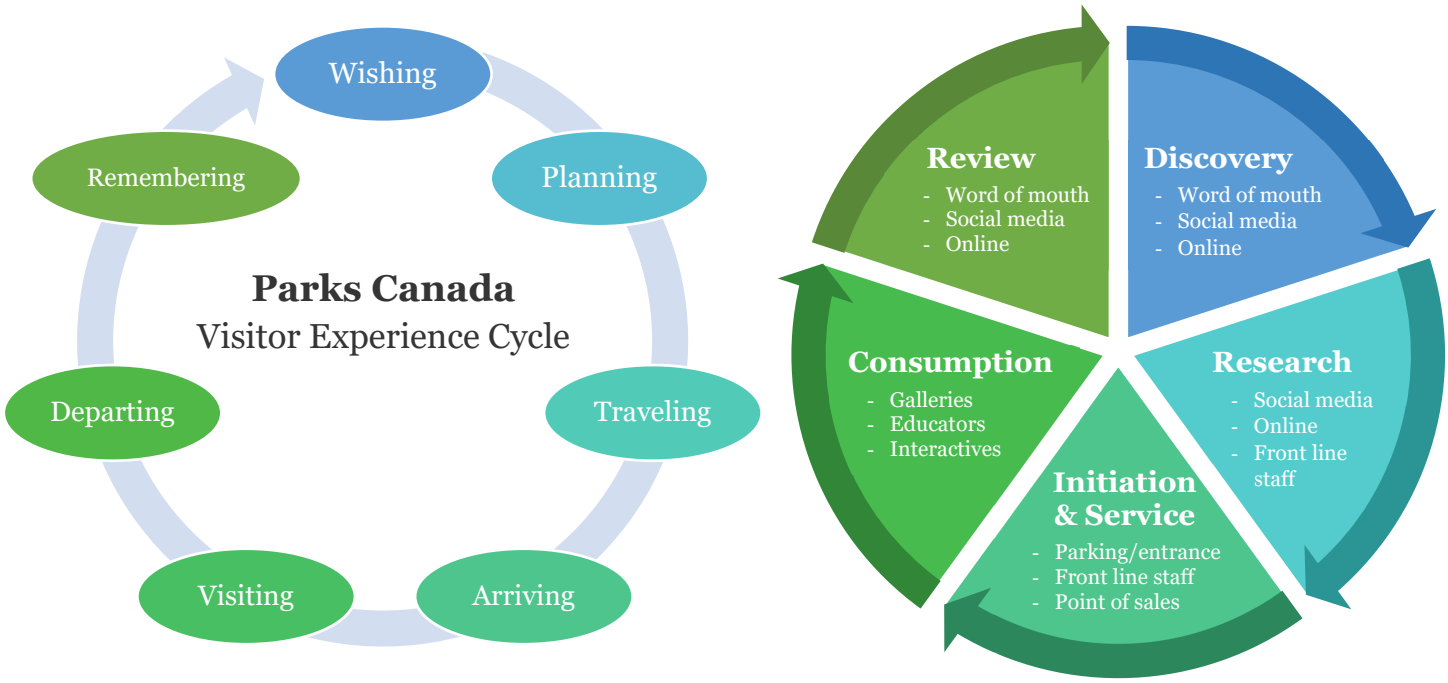


Figure 13: Left, the Parks Canada visitor experience cycle (adapted from Jager & Sanche, 2010); right, the museum customer experience cycle (adapted from Rao, 2017).

Finally, diver-specific interpretation is an effective strategy for managing SCUBA-related activities and resulting impacts (Parks Canada, 1998; Souter, 2006; Wilde-Ramsing & Hermley, 2007). When visiting divers are accompanied by guides, targeting educational efforts at dive guides and operators (Edney, 2016; Viduka, 2011) is essential, as their behaviour is frequently emulated by those they lead; and, they can act as effective site guardians, intervening when they witness inappropriate diver behaviours (Edney, 2016; La Roche, 2003). Guides are also able to provide pre-dive briefings and post-dive debriefs through which they can educate guests on appropriate behaviours while diving around the shipwreck (Viduka, 2011; Wilde-Ramsing & Hermley, 2007). A similar approach can also be used as part of private permitting processes, where for example, a condition of obtaining a permit is the divers' participation in a diver orientation. Together, these "best" practices shape visitor experiences that promote the

protection (Parks Canada, 2016) of shipwreck sites, their surrounding environment, and local communities.

4.4.4 PRODUCTS AND OPERATIONS

Unique visitor experience products and responsive operations make up the final section of management "best" practice examples that have successfully addressed marine and shipwreck tourism management concerns around the world. At a macro-scale, community members should be informed about visitor needs and expectations to be able to provide consistent and quality customer service and visitor experiences (Dawson et al., 2016). Products should cater to a broad audience (Manley et al., 2017; Têtu et al., 2019) and account for visitors with diverse needs, such as access for individuals with physical limitations (Klein, 2011); this type of inclusion is especially important to the typically older cohort that makes up the majority of polar cruise tourists (Grenier, 2018; Stewart et al., 2007). To meet visitors' expectations and further benefit local communities, tourism products should foster opportunities for meaningful connections with local peoples (Klein, 2011) and celebrate local culture separately from the specific event the historic site is established to commemorate (Hvenegaard et al., 2016). The rest of this section discusses numerous micro-level approaches to meeting these broader "best" practices.

Museums are one of the most commonly used approaches to bring shipwrecks, their surrounding environments, and histories to a breadth of audiences (Anderson et al., 2006; Delling & Endere, 2001; Evans, 2014; Scott-Ireton, 2017; Scott-Ireton & McKinnon, 2015). At their foundation, museums offer visitors the opportunity to connect with the past and engage in discovering history (Scott-Ireton & McKinnon, 2015) through multiple narratives (Hvenegaard et al., 2016). Exhibits accomplish this with the use of artifacts, photographs, videos, computerized simulations, among other strategies (Delling & Endere, 2001; Evans, 2014;

Marano, 2015; Scott-Ireton, 2017). While internet platforms are another successful approach that can offer similar experiences to off-site user groups, museums' personal and tangible nature can further support site protection. For example, Marano (2015) reports that having artifacts "on active display discourages the idea that artifacts collected by archaeologists are stored away in a government warehouse never to be seen by public eyes again" (p. 107). Coupling this with a collection of artifacts that exemplify personal ownership dampens some divers' perceptions that what is "found on the ocean floor [is] simply 'there for the taking'" (Marano, 2015, p. 109). Museums and online gift shops also offer the opportunity to sell resource and artifact replicas (Delling & Endere, 2001; Mason, 2005) and videos (Scott-Ireton, 2017; Scott-Ireton & McKinnon, 2015). Together, these aspects help promote site protection, extend visitor stays, and increase community benefit.

Interactive guided tours and virtual reality experiences are successful visitor products that can be used at museums, or elsewhere. Guided tours of archaeological conservation laboratories or other operation centres help engage the public by providing a "behind the scenes look" (Marano, 2015, p. 111) of archaeological efforts. Virtual reality experiences are a developing tool that offers realistic, high emotional impact opportunities for non-divers to explore and connect with shipwrecks (Adams, 2013; Bruno et al., 2018, 2019; McMillan et al., 2017). Virtual reality experiences are developed using high-resolution imagery and surface models, populated with realistic vegetation, marine life, and interpretive points of interest, and controlled by the user to simulate real-life site visits. Bruno et al. (2018) explain, for example, how the product offering begins by situating the participant as a diver on a buoyed boat and progresses as they follow a dive guide into the water and then around the site, interacting with points of interest and pop-ups along the way (for other examples, see Colleton et al., 2016). Virtual reality can be an

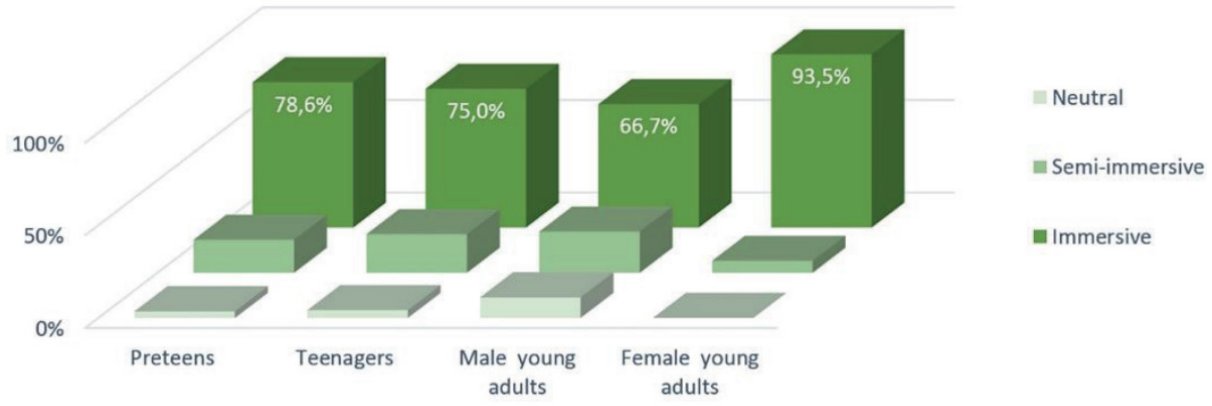


Figure 14: Participants subjective virtual reality preferences (Bruno et al., 2018, p. 99).

immersive, single-user experience where the participant wears 3D goggles and controls their travel through the scene with their body movements, or using semi-immersive "caves" or tablets to navigate scenes displayed on high definition monitors and viewed through passive 3D glasses (see 3D Research S.R.L., n.d.; Adams, 2013; Bruno et al., 2018, 2019; McMillan et al., 2017). While young participants in Bruno et al.'s (2019) study overwhelmingly preferred immersive virtual reality experiences (Figure 14), authors suggest that semi-immersive versions are better when participants make frequent turns to navigate the scene, and for museums and schools, where multiple people can enjoy the experience together (Adams, 2013; Bruno et al., 2018, 2019).

Virtual reality experiences are a tool for off-site exploration, interaction, and storytelling of a resource and its history (Bruno et al., 2018), which Têtu et al. (2019) conclude are essential to addressing Parks Canada's dual mandate of protection and presentation. Other products that offer similar outcomes are virtual site visits through the eyes of a remotely operated vehicle (ROV), which uses either live or recorded high-resolution imagery to explore a wreck site (Oxley, 2001; Parks Canada, 1998; Scott-Ireton, 2017; Têtu et al., 2019). Finally, underwater interpretive "trails" along robust features (Pater & Oxley, 2014; Souter, 2006) and land-based

shipwreck trails (Cuthill, 1998; Pater & Oxley, 2014; Souter, 2006) supported by guiding publications such as waterproof trail booklets and school content (Anderson et al., 2006; Scott-Ireton & McKinnon, 2015) offer other unique products and experiences for on- and off-site visitors. The next section offers examples where some of the practices described above have been implemented successfully.

4.4.5 NORTH AMERICAN AND POLAR EXAMPLES

The following are four examples that apply some of the management "best" practices described above while incorporating other strategies that overlap with some of the categories of concern excluded from the remaining focus of this research. These examples highlight the complexity of marine and shipwreck tourism management and reinforce the need for context-specific strategies for managing visitors in sensitive and protected marine areas. Each example offers an example of: a Canadian protected area known for its historic shipwrecks, a protected area that manages shipwrecks and SCUBA divers in cold waters with icy winters, or SCUBA diving tourism in polar waters.

4.4.5.1 LOUISBOURG HARBOUR, NOVA SCOTIA

Canada's first submerged cultural zone is Louisbourg Harbour, where Transport Canada manages public access to 18th Century warships using a permit system (La Roche, 2003). Here, management restricts the number of dive guides and mandates that a permitted boat and guide accompany divers. Operators requesting a guide permit must agree to site guidelines developed by Parks Canada. Guides also received archaeological training under the Nautical Archaeology Society (NAS) to further improve their awareness of site sensitivity and damage mitigation strategies. The specifics of their tour offerings remain the operators' responsibility, as does any damage to the sites. Overall, these management strategies that rely on the cooperation of dive

tourism operators have led to the successful protection of the shipwrecks. Management continues to monitor the site and has found little sign of human intrusion or looting (La Roche, 2003).

4.4.5.2 FATHOM FIVE NATIONAL MARINE PARK, ONTARIO

At Fathom Five National Marine Park, shipwreck visitors include SCUBA divers, snorkelers, and people on glass-bottom boats. Due to heavy use, one of the 27 wrecks inside the park is subject to restricted access to avoid conflicts between divers and glass-bottom boats (La Roche, 2003). Otherwise, divers must:

- Register and purchase a diving pass before diving (no permit or registration is required to snorkel);
- Use provided mooring buoys or the natural lake bed to secure dive vessels;
- Always maintain at least one person on the dive boat;
- Display a dive flag within 30 metres of all diving activity; and,
- Not remove, damage, or disturb any part of the site (Parks Canada, 2017d).

Among other sites, Fathom Five National Marine Park encourages divers to "look but don't touch" and engage in low-impact diving. The Park's dive code also encourages good buoyancy skills, non-disturbance of artifacts and protective silts, avoidance of physical contact with parts of the shipwrecks, and no anchoring on the sites. An information leaflet about the initiative includes Crime Stoppers' telephone number so that anchoring at shipwreck sites or the removal of artifacts can be reported (UNESCO, 2012, Unit 17, p. 23). The Park also strongly encourages safe diving practices and caution (Parks Canada, 2017d).

4.4.5.3 ISLE ROYALE NATIONAL PARK, MICHIGAN

Isle Royale National Park in the northern portion of the United States' side of Lake Superior similarly requires divers to acquire permits, display a dive flag, not remove or disturb any underwater cultural sites and artifacts, and follow safe diving practices (National Park

Service, 2017). The Park has also closed some areas to diving, mandated strict SCUBA gear treatment protocols to prevent the spread of invasive species, and buoyed nine of their shipwrecks to provide safe moorings and to protect their wrecks from anchor damage (Cuthill, 1998; National Park Service, 2017, UNESCO, 2012). These sites permit only two boats per buoy and prohibit vessels from anchoring or tying off to the wreck. Where buoys are not installed, divers are instructed to tie off to the wreck instead of anchoring (National Park Service, 2017). A similar program is in place across Ontario (Save Ontario Shipwrecks, 2018). However, these programs face the burden of seasonal installation and removal of all mooring balls to prevent winter ice damage, in addition to regular ongoing maintenance (Peterson & Willows, 2018; Save Ontario Shipwrecks, 2018).

4.4.5.4 SCUBA DIVING IN ANTARCTICA

Finally, a case study by Lamers and Gelter (2011) found that recreational SCUBA diving has become increasingly available in Antarctica since the year 2000. Specialized operators offer dives on expedition cruises and yachts, and most require their clients to "carry a Professional Association of Diving Instructors (PADI) advanced open water certification, a special dry suit certification, a minimum of twenty dry suit dives, a medical report signed by a doctor, and sufficient insurance coverage to allow participation" (p. 282). Although not specific to wreck diving, Lamers and Gelter's (2011) case study found a significant lack of visitor guidelines directed at Antarctic marine use and recognize a need for more research concerning visitor needs, perceptions, and interactions with the surrounding landscapes.

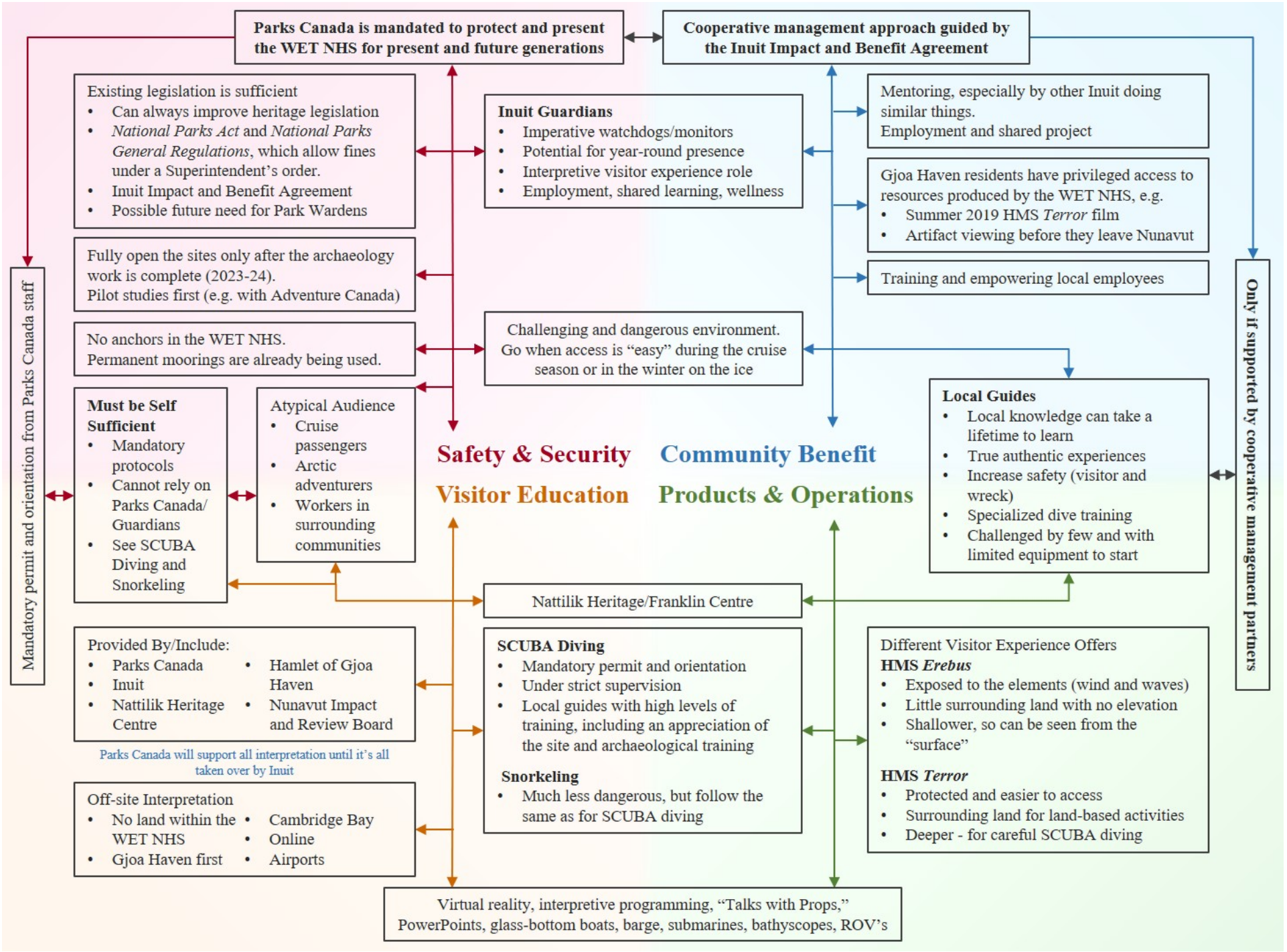
This chapter examined ten categories of concern related to marine tourism in Nunavut and seven categories of concern related to shipwreck tourism through an international lens to identify key themes requiring focus at the Wrecks of HMS *Erebus* and HMS *Terror* National

Historic Site (WET NHS). These themes were then coupled with management “best” practices that have successfully addressed similar concerns throughout the world, supported by examples from Canada, the United States, and Antarctica. Next, Chapter Five examines the results of expert feedback from members of the Franklin Interim Advisory Committee (FIAC) on how these management “best” practices can be applied to the WET NHS.

CHAPTER 5: EXPERT FEEDBACK FROM THE FIAC

Expert feedback from members of the Franklin Interim Advisory Committee (FIAC) helped answer this study's third research question: What marine tourism management practices and strategies are feasible to address the context-specific management needs for the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site? In October and November 2019, six members of the FIAC, who are closely involved with the management of the WET NHS, provided expert feedback on this research's four key areas of concern and associated management "best" practices. One expert participated in a telephone interview and five chose an email interview; both formats used the interview protocol available in Appendix F. Three of the six experts answered additional probing or follow-up questions. Overall, the experts were supportive of tourism development around the WET NHS but raised the need for careful planning and growth. Their responses are summarized in Figure 15 and are discussed in depth under each of the following four key categories of concern that make up the focus of this research: safety and security, community benefit, visitor education, and products and operations. While given the opportunity (see Appendix E), none of the experts who participated wished to be personally identified in the research. Therefore, throughout the discussion of their feedback, they are collectively referred to as "experts" and their individual responses are attributed to "Expert 1" through "Expert 6." Together, the expert feedback from members of the FIAC provides the knowledge required to develop context-specific management recommendations for the WET NHS.

Figure 15: Summary of the expert feedback from the Franklin Interim Advisory Committee (FIAC).



5.1 SAFETY AND SECURITY

Under Parks Canada's mandate, resources within the WET NHS should be protected and presented to the public for the benefit of present and future generations. This order means that management of the WET NHS must balance the integrity of the wrecks of HMS *Erebus* and HMS *Terror* while sharing them with the public. As "one of Canada's most unique historic sites" (Expert 1) located in a very challenging, remote, and dangerous environment that attracts atypical national historic site audiences, experts repeatedly highlighted the need for careful planning to ensure visitor safety and the wrecks' integrity. This section first examines expert feedback regarding protecting the wrecks of HMS *Erebus* and HMS *Terror* before turning to visitor safety and its interconnectedness with sections of the remaining categories of concern.

At its broadest, all experts agreed that existing legislation and regulation is sufficient to account for potential impacts on the WET NHS. Under the *Canada National Parks Act* (see Appendix C, Government of Canada, 2000) and *National Historic Parks General Regulations*, Parks Canada can enact a Superintendent's order (see Parks Canada, 2018d) that prohibits unauthorized access to the WET HNS and allows them, in collaboration with the Royal Canadian Mounted Police, to fine anyone found without a permit in the WET NHS. According to Experts 1, 2, and 3, this exclusion order is enough to protect and monitor the site. As management progresses, the legislation will be further supported by:

- An Inuit Impact and Benefit Agreement (IIBA), to be signed this year;
- The WET NHS Management Plan, to be completed within five years of signing the IIBA; and,
- Parks Canada's Impact Assessment Process.

Further, Expert 1 suggested that national heritage legislation can always be improved, Expert 4 emphasized that the IIBA should be written in plain language for Inuit benefit and the Nunavut

Impact Review Board be included in planning decisions, and Experts 2 and 6 suggested that site management be supported by a fully-funded and expanded Inuit Guardian program. However, Experts 2 and 3 anticipated that a bolstered Inuit Guardian and enforcement presence may be required in the future to deter illegal activities and respond to immediate issues. They suggested these efforts could include Park Wardens or Inuit Guardians with warden designation.

Security of the WET NHS is overseen by Park Canada's Law Enforcement Branch and the Maritime Marine Security Operations Centre. On the ground, Inuit Guardians allow continuous monitoring of the Franklin wreck sites during periods of open-water, and may grow to include a year-round presence. Their presence acts as an effective deterrent to illegal activities; Expert 3 suggested that their recent media attention further increases public awareness that the sites are actively monitored. Experts 2 and 6 also said that the Inuit Guardians are imperative to the WET NHS, both for their monitoring capacities and benefits to the community of Uqsuqtuuq (Gjoa Haven). According to Experts 1, 2, and 3, the Inuit Guardian program is a vector for shared learning and transmission of intergenerational knowledge, generates income for residents while employing their underutilized knowledge, increases pride and mental health in the community, and will enrich visitor experiences. Nevertheless, experts identified that sustaining the program is challenged by funding, sufficiently trained Inuit Guardians and appropriate equipment, and the need for infrastructure development such as permanent cabins near the Franklin wreck sites (Expert 2; Expert 4). Rough weather and ice conditions also test their day-to-day operations. The Inuit Guardians make up just one of the ongoing site security programs in the WET NHS, but experts did not elaborate or stated that they are not at liberty to discuss further monitoring efforts. Nevertheless, Expert 3 and Expert 4 noted that the Canadian

Space Agency once used satellite monitoring and that satellite images, automatic cameras, and any other new technology could be considered to help manage the WET NHS.

Documentation and protection of the wrecks of HMS *Erebus* and HMS *Terror* and the stories and history they harbour take priority for many of the experts. In effect, Parks Canada will only fully open the sites to tourism after the archaeological work is complete. Their tourism management decisions will also be informed by pilot studies, the first having occurred in partnership with Adventure Canada's *Out of the Northwest Passage* cruise in September 2019. Further, visitors to the WET NHS will require a permit and receive a mandatory orientation from Parks Canada staff, as is consistent with all other Parks Canada sites in Nunavut (Expert 2). While still being developed, orientation to the WET NHS may include (Expert 2):

- specific site and activity guidelines;
- respecting Inuit rights;
- polar bear safety;
- zodiac and group travel safety; and,
- environmental and wildlife protection.

When asked specifically about the potential threats of anchor damage to the wrecks of HMS *Erebus* and HMS *Terror* and the feasibility of installing permanent moorings or applying other management approaches, experts reported that four permanent moorings acquired from the Canadian Coast Guard are already in use around the wreck of HMS *Erebus* (see Figure 16, Figure 17, and Parks Canada, 2020b) and others will be installed at the wreck of HMS *Terror*. The moorings currently support archaeological efforts. Once complete, the moorings will remain on site, which leaves the potential for later tourism use. In addition, Expert 2 strongly recommended that no anchors be permitted within the WET NHS; rather, cruise ships should remain outside the NHS boundaries and use zodiacs to enter the site (see Figure 17). While

Figure 16: Parks Canada's research barge moored above the wreck of HMS *Erebus*, as seen in the waters below (Parks Canada, 2020b).

pleasure craft have the potential to approach the Franklin shipwrecks too closely, clear rules like a Superintendent's order excluding anchors from within the WET NHS and enforcement by groups like the Inuit Guardians will address the risk of anchor damage. Expert 3 and Expert 5 said that addressing anchor damage threats depend on the types and number of annual vessels and visitors. Finally, Expert 2 and Expert 4 suggested that vessels be provided coordinates to where they can anchor safely, for example, one kilometre from the shipwrecks. Expert 2 also proposed that offering a visitor experience barge to which smaller vessels can attach themselves and board to enjoy the interpretation and experiences it offers above the shipwreck may help reduce the threat of anchor damage. Permanent moorings and similar alternatives will help reduce the risk of damage to the HMS *Erebus* and HMS *Terror* and help increase visitor safety in the WET NHS.

Figure 17: Zodiac carrying some of the first visitors to the wreck of HMS *Erebus*, which rests below Parks Canada's barge moored in the upper-centre of the image. The *RV David Thompson*, Parks Canada's research vessel is visible in the top-right. Photo courtesy of Tamara Tarasoff/Parks Canada.

As explicitly described by Experts 2, 3, and 4, the WET NHS is in a very challenging, remote, and dangerous area. While management of the WET NHS works to increase visitor safety through prevention measures like mandatory visitor orientations, Expert 2 was adamant that visitors must be self-sufficient; resources such as the Inuit Guardians, their eventual permanent cabins, or any other structures cannot be relied on. Others suggested mandatory visitor safety protocols, including requiring adequate safety and survival equipment when using zodiacs and trained personnel who monitor all visitors. While the emphasis was placed on visitors' self-sufficiency supported by protocols and monitoring, all six experts supported

necessitating local guides: “Not only is it feasible, it will be essential” (Expert 1). Expert 3 was equally supportive of local guides, and eloquently explained their reasoning:

> Local knowledge and experience in the region is something that can take a lifetime to learn. Although out-of-the-region outfitters may have learned skills elsewhere, some skills don’t transfer over adequately; Franklin and his men attempted to survive by incorporating some skills learned from previous expeditions from Inuit [*sic*], but were still unsuccessful. (Expert 3)

In addition to helping increase visitor safety, most experts focused on the local community benefits of requiring local guides.

5.2 COMMUNITY BENEFIT

Before examining the benefits to local communities of requiring local guides and other efforts in the WET NHS, it is important that this section is prefaced with experts’ emphasis that the WET NHS operates under a cooperative management structure that will be guided by the Inuit Impact and Benefit Agreement, once signed this year. While actively pursuing the arrangements established under this framework, management strategies will only be implemented when supported by cooperative management partners. Expert 2 made explicit that their feedback came only from personal ideas and did not speak for the larger group that must inform management decisions. Nevertheless, feedback from the FIAC included local community voices, explaining that local entrepreneurs are waiting for the opportunity to work as guides. As the option is considered by the FIAC, they suggested that, in addition to increased visitor safety, benefits to requiring local guides include:

- “The Franklin story is also an Inuit story and should be told from that perspective” (Expert 1);

- Local guides provide authentic and enriched visitor experiences rather than experiences shaped by southern perspectives that may misinterpret Indigenous contributions (Experts 2 and 3);
- Requires tourism operators and visitors to be involved with local communities (Expert 2); and,
- Provides economic opportunities, promotes pride and mental health wellness, is an opportunity to share one's culture, and inspires community youth (Experts 2, 3, and 6).

Further, Expert 2 noted that their experiences show that cruise passengers love having Inuit guides aboard their ships. While requiring local guides in the WET NHS, Experts 2, 3, and 6 highlighted that such a program would first be challenged by the limited availability of guides and reliable and properly equipped resources like boats, complex logistics, limited goods and services in local communities, and the time required to mobilize volunteer search and rescue efforts should they be required. While there is an important potential for local community benefit by requiring local guides to the WET NHS, there are further means through which it should be guaranteed.

Experts from the FIAC emphasized the community of Uqsuqtuuq's (Gjoa Haven) imperative role in locating the wrecks of HMS *Erebus* and HMS *Terror* and, therefore, that their benefit must be prioritized. Experts suggested a variety of items as means through which the community of Uqsuqtuuq (Gjoa Haven) has or should have privileged access to the benefits of the WET NHS:

- Open houses with Parks Canada's archaeologists and artifact viewing events before they leave Nunavut;
- School students and Umiyaqtutt Festival experts being the first to view films, such as the 2019 footage of the HMS *Terror* captured by an ROV, before they are released to the general public;

- Mandate that requires tourism operators and visitors be involved with the local community in some capacity, such as by employing local residents, paying fees, or supporting local businesses;
- Mandate that requires the consultation and involvement of local Inuit in all visitor experience offers;
- Money available to hire and train local staff to take on jobs associated with the WET NHS;
- Opportunities for mentoring local residents, especially by other Inuit involved in similar endeavours; and,
- Common and joint projects and providing lots of time and encouragement to local residents throughout.

When asked specifically about local interest in training opportunities, answers were mixed: Expert 1 was unable to answer the question, Expert 4 said local residents are not interested in being trained, and Experts 2, 3, and 5 reinforced that training already occurs for local resident in Uqsuqtuuq (Gjoa Haven), such as the Inuit Guardians and community tour guides. Finally, Experts 2, 3, and 6 said that there will always be interest in any type of training that deals with tourism. Specific examples include:

- how to interact with visitors;
- how to share one's knowledge and culture through interpretation and storytelling;
- accommodation;
- sportfishing guiding;
- SCUBA diving; and,
- boating.

Experts 2, 3, and 6 said that the Government of Nunavut's Department of Economic Development and Transportation, Tourism Nunavut, the Hamlet of Gjoa Haven, the Arctic College in Uqsuqtuuq (Gjoa Haven), and any other agency designed to provide tourism training or certification should offer such opportunities. Expert 2 specified that training opportunities

should, ideally, be coordinated and that shorter courses are preferred when striving not to overwhelm communities. As training and local capacity grow, the community of Uqsuqtuuq (Gjoa Haven) will be able to offer unique experiences in and related to the WET NHS.

5.3 PRODUCTS AND OPERATIONS

The wrecks of HMS *Erebus* and HMS *Terror* and the stories they harbour make the WET NHS extremely unique; it is "important to Canadian history and helps define Canada's cultural identity in the North" (Expert 3). All six members of the FIAC believed that both Franklin shipwrecks should be open to tourism when access to the sites is "easy," meaning during the cruise season or in the winter over the sea ice. However, experts cautioned that the development of these visitor experiences "needs to be done correctly" (Expert 5) and undertaken uniquely to each wreck site. According to Expert 2 and Expert 6, the wrecks of HMS *Erebus* and HMS *Terror* offer different potential visitor experiences. The HMS *Erebus* rests farther from shore and is exposed to the elements – there are only small, flat islands surrounding it. While the *Erebus* site is not a good place for permanent structures, it lies in shallower waters that make it better for snorkelling and viewing from the water's surface. In contrast, the wreck of HMS *Terror* is easier to access and is surrounded by sheltering land to facilitate land-based activities or permanent camps. It also rests deeper below the ocean's surface, which makes it more suited to SCUBA diving. Both SCUBA diving and snorkelling were addressed specifically by all experts.

All six of the experts conditionally support SCUBA diving at the wrecks of HMS *Erebus* and HMS *Terror*. Because archaeological research takes precedence, Experts 1 and 2 said that SCUBA diving cannot be permitted before that work is complete, which means the potential for allowing the activity remains distant. Should the sites open to this activity, Experts 1, 2, 3, and 6 reinforce that it should only occur under strict guidance and supervision from a divemaster who

controls who dives and how, ensuring that the most stringent rules related to SCUBA diving and safety are followed. They supported that all divers should have specialized SCUBA training, such as cold water, deep water/advanced, shipwreck, and other certifications. Further, dive guides should receive specialized archaeological training to help ensure their respect for the sites and a "look but don't touch" ethic. Expert 2 and Expert 3 also highlighted the WET NHS' dangerous environment, noting that SCUBA outfitters should be equipped with a hyperbaric chamber to ensure their self-sufficiency. Other suggestions included that divers should not be allowed to approach the wrecks within a certain distance (Expert 4), that recreational dive guides should acquire a special permit (Expert 4), and that local SCUBA dive guides would be "a dream come true" (Expert 2).

Feedback regarding snorkelling above the Franklin shipwrecks was similar to SCUBA diving. Again, snorkelling will not be permitted before the archaeological research is complete. What differed most between responses related to SCUBA diving and snorkelling was the perceived level of danger to visitors and the shipwrecks. While snorkelling is still challenged by weather and water temperatures, Experts 1, 2, and 3 suggested that it is much less dangerous than SCUBA diving and can be a great visitor experience. Nevertheless, five of the experts make explicit the need for mandatory visitor orientations and local guides with training and careful supervision. In addition to unique SCUBA and snorkelling experiences, the experts identified potential for the following visitor experiences:

- glass-bottom boats, including a barge, kayaks, and paddleboards;
- little submarines;
- bathyscopes from a boat or through the ice; and,
- land-based excursions.

More generally, the experts supported activities that are safe for visitors and the shipwrecks, include a mandatory orientation, benefit the community of Uqsuqtuuq, and are enriched by Parks Canada staff's presence. All the while, ensuring visitors understand the site rules and the impacts of their actions will be important to visitor experience products at the WET NHS.

5.4 VISITOR EDUCATION

Visitor education is the theme that garnered the least attention in feedback from members of the FIAC. Because Parks Canada does not own any of the lands in or around the WET NHS (it is currently Crown Land in midst of devolution to the Government of Nunavut), Parks Canada has no say over its management. Consequently, Parks Canada can only install interpretive signs or other structures underwater unless otherwise cooperatively agreed upon for surrounding land (Expert 2). The permanent cabins being constructed for the Inuit Guardian teams are one example of where cooperative management has resulted in permanent structures on the land. These sites may eventually be used by scientists, elders, youth, and school groups (Expert 2). Beyond the WET NHS, members of the FIAC, once again, prioritized interpretive products within the community of Uqsuqtuuq. Located primarily in the Nattilik Heritage Centre, which is scheduled to receive a six million dollar expansion, possible visitor education experiences include:

- virtual reality experiences;
- artifact viewing;
- tangible 3D replicas;
- videos and documentaries;
- interpretive programming (e.g., "Talks with Props" on the land); and,
- PowerPoint slide shows.

Each of these experiences can be powerful ways to share the Franklin story. Outside the Hamlet of Gjoa Haven, Experts 2 and 4 suggested that the community of Iqaluktuuttiaq (Cambridge Bay), airports in larger cities, and websites act as other spaces for visitor education and interpretation products. Finally, Parks Canada currently leads the development and delivery of interpretation products for the WET NHS in collaboration with Inuit. As time progresses, Inuit staff, the Inuit Guardians, tour guides, elders, and youth will design and deliver interpretation products with support from Parks Canada as needed (Expert 1; Expert 2). Experts 2 and 6 further suggested that the Nattilik Heritage Society, Hamlet of Gjoa Haven, and Kitikmeot Inuit Association be involved in visitor education product development. Experts from the FIAC said that their target audiences include tourists, southerners, workers staying in the communities, cruise passengers, international museums, and other international audiences.

Interviews with members of the FIAC were designed to obtain expert feedback on the four key categories of concern driving this research; their responses demonstrate the significant overlap between the categories. At a broad level, all of the experts' responses necessitate high-quality visitor experiences that ensure visitor safety and local community benefit, including telling the Franklin story through the Inuit perspective, by Inuit themselves. Next, Chapter Six discusses the research findings as they align with the management "best" practices as found in the literature to recommend context-specific management strategies for the WET NHS.

CHAPTER 6: DISCUSSION AND RECOMMENDATIONS

Chapter Four examined the literature to understand concerns related to marine tourism in Nunavut, shipwreck tourism internationally, and management "best" practices that have successfully addressed similar concerns around the world. Then, members of the Franklin Interim Advisory Committee (FIAC) discussed how these concerns and management "best" practices align with the needs and management environment of the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (WET NHS). Chapter Six now brings together these data to discuss a way forward that addresses the unique management needs of the WET NHS and then concludes with context-specific marine tourism management recommendations.

Initially, two meta-analyses identified ten categories of concern related to marine tourism in Nunavut and seven categories of concern about shipwreck tourism internationally (see Figure 18). Significant overlap was apparent between these groups of categories; marine tourism concerns adopted a macro-level management perspective and shipwreck tourism concerns informed the micro-level. Through this approach, eight categories of concern emerged. These

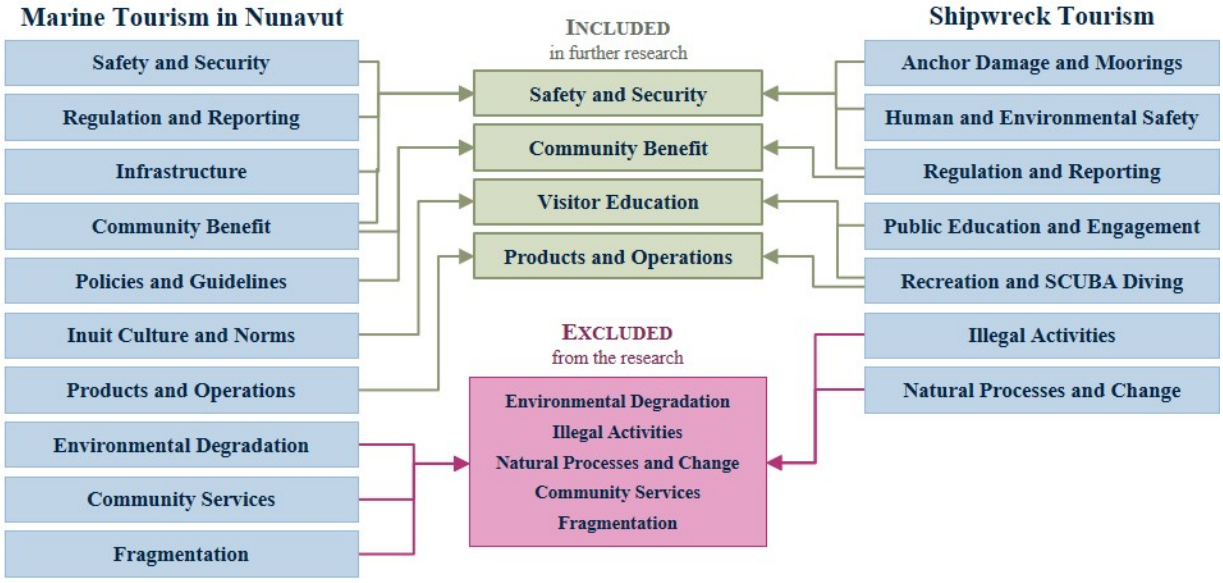


Figure 18: Categories of concern included and excluded from further analysis.

eight categories were then reduced to four key categories of concern (see Figure 18) by removing those that are actively being addressed by the Government of Nunavut and other management stakeholders, included in other categories, not specific to tourism or the WET NHS, or beyond the scope or capacity of this research (see Table 5 on page 83). These four categories answered the first research question: What key marine tourism management concerns need to be addressed for the management of the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site? They also laid the foundation for the remainder of the research.

6.1 DISCUSSION OF THE KEY CATEGORIES

With four key categories of concern forming the focus of the remaining research, a second meta-analysis identified management "best" practices that have successfully addressed similar management concerns to answer the second research question: What Arctic and shipwreck tourism management "best" practices have successfully resolved examples of the key marine tourism management concerns? Then, six members of the Franklin Interim Advisory Committee (FIAC) provided expert feedback on the relevancy of the concerns and feasibility of applying the management "best" practices to the WET NHS, which answered the final research question: What marine tourism management practices and strategies are feasible to address the context-specific management needs for the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site? The findings from each of the stages of data collection and analysis were consistent with each other, adding depth as they grew to be more context-specific. There were no significant outliers or unexpected findings. A discussion of each category of concern, management "best" practices, and feedback follows.

6.1.1 SAFETY AND SECURITY

Ensuring the safety and security of the wrecks of HMS *Erebus* and HMS *Terror* and site staff and visitors is a priority for Arctic marine and shipwreck tourism management. The Canadian Arctic and WET NHS are contextualized by:

- A dangerous and variable environment (Stewart et al., 2007, 2019);
- Limited hydrographic charting (Kelly & Ljubicic, 2012; Lasserre and Têtu, 2015);
- Few search and rescue resources with prompt response times (Kelly & Ljubicic, 2012; Palma et al., 2019; Stewart & Dawson, 2011); and,
- A lack of enforcement, site guidelines, and visitor codes of conduct (Johnston, Dawson, & Maher, 2017).

Consequently, this category was the most important concern identified in the meta-analyses and was addressed with a sense of importance by experts from the FIAC. While a Superintendent's order restricting access to the WET NHS (Parks Canada, 2018d) and Inuit Guardian programming are currently sufficient to ensure the integrity of the two historic shipwrecks, experts from the FIAC acknowledge that careful planning and bolstered monitoring and enforcement will likely be required when the historic site opens to the public. This will be especially true once the archaeological research is complete and the wrecks begin to welcome SCUBA divers, snorkelers, glass-bottom boats, or other on-site visitor experiences. Parks Canada's mandatory permits and briefings, supported by site guidelines developed in collaboration with Inuit, will be essential to macro-level site management. For example, guidelines and spatial or temporal restrictions may be required to avoid conflicts between different user groups such as glass-bottom boats and SCUBA divers or snorkelers (La Roche, 2003). Targeted quality visitor education (see section 6.1.4), mandatory local guides (Edney, 2016; Johnston, Dawson, & Maher, 2017), safe moorings (Anderson et al., 2006; Cuthill, 1998; Edney, 2016; Marano, 2015; McClellan, 1999; Souter, 2006; Viduka, 2011; Vrana & Halsey,

1992), and minimum certifications for SCUBA (Edney, 2016; Lamers & Gelter, 2011) and snorkelling activities will further bolster safety for the wreck, staff, and visitors. While each of these findings and paths forward are consistent with the management of other Arctic and shipwreck tourist attractions, it is important that consistency be maintained across Canadian and other destinations guided by Association of Arctic Expedition Cruise Operators (AECO) and International Association of Antarctic Tour Operators (IAATO) to ensure greater levels of visitor understandings and compliance (Johnston, Dawson, & Maher, 2017; Marquez & Eagles, 2007).

6.1.2 COMMUNITY BENEFIT

Second only to safety and security in the analysis of concerns, ensuring community benefit emerged as the most important area of focus for experts from the FIAC. Amidst a colonial history shaped by misrepresentations of the Franklin story (Parks Canada, 2019c) and Parks Canada's exclusionary relationship with Indigenous peoples (Kopas, 2007; Lemelin, Thompson-Carr et al., 2013), Inuit benefit and control is paramount. The Arctic tourism industry has left many communities with the brunt of negative impacts and minimal economic benefit or development to offset them (Johnston, Johnston et al., 2017; Olsen et al., 2019; Stewart et al., 2005). As non-residents benefit from the industry that simultaneously glorifies European exploration (Lemelin & Baikie, 2012; Lemelin, Thompson-Carr et al., 2013; Reggers et al., 2013), communities feel used, misunderstood, and disrespected (Johnston, Johnston et al., 2012). Because members of the community of Uqsuqtuuq (Gjoa Haven) were instrumental in locating the wrecks of HMS *Erebus* and HMS *Terror*, have an oral history intertwined with the 1845 Franklin Expedition, and is the community closest to the two shipwrecks, Uqsuqtuuq (Gjoa Haven) should be prioritized. This work will be supported by their plans to maximize the

benefits associated with the WET NHS, including employment, economic development, and training (NVision Insight Group, 2017).

Management of the WET NHS will adopt a cooperative management approach, guided by the Inuit Impact and Benefit Agreement, scheduled to be signed later this year. Cooperative management refers to parties respectfully and sustainably sharing decision making power for the management of an environment and its resources (Berkes, 2009; Clark & Joe-Strack, 2017; Craig, 2002; Jacobson et al., 2016; Lemelin et al., 2016; Martin, 2016). While Parks Canada does not have an articulated structure for Indigenous cooperative management, the WET NHS has an important precedent to set as Canada's first national historic site cooperatively managed with Inuit, and Nunavut's first national historic site (Parks Canada, 2019g). To genuinely manage the WET NHS effectively and ethically, their cooperative management should operate:

- by consensus;
- on a basis of long-term relationships;
- through the coevolution of perspectives;
- by sustaining indigenous culture;
- through indigenous ownership; and,
- by maintaining indigenous rights.

Management by consensus must share power between an equal number of Indigenous and Government representatives and have the authority (i.e. the Minister's representative) at the table (Dearden & Langdon, 2009; Berkes, 2009; Craig, 2002; Herrmann et al., 2017; Jacobson et al., 2016; Nesbitt, 2016; Thomlinson & Crouch, 2012). Representatives for all parties should be predominantly Indigenous (see Lemelin, Dawson, Johnston et al., 2012; Sandlos, 2014). Management should also be based on long-term relationships that are founded on mutual respect and trust, and driven by common purposes and principles (Berkes, 2009; Jacobson et al., 2016;

Herrmann et al., 2017; Martin, 2016; Nesbitt, 2016). These long-term relationships also enable the coevolution of differing perspectives from a breadth of institutions and governance levels that learn and adapt together (Berkes, 2009; Jacobson et al., 2016; Stevens, 2014). As a priority, management must also sustain Indigenous cultural heritage and publicly communicate their contributions to the establishment and continuity of the protected area (Finegan, 2018; Herrmann et al., 2017; Martin, 2016). Cooperative management should also operate through Indigenous ownership and empowerment with direct, equitable economic benefits (Dearden & Langford, 2009; Herrmann et al., 2017; Lemelin et al., 2016 Thomlinson & Crouch, 2012) while maintaining Indigenous rights. Indigenous rights include continued hunting (Craig, 2002; Kopas, 2007; Sandlos, 2014; Spaeder & Feit, 2005; Stevens, 2014) and the refusal of arrangements that are not in their best interest (Herrmann et al., 2017).

Most importantly, the elements above cannot simply be worked into existing colonial management structures; they must become "an Indigenous-centred agenda" (Finegan, 2018, p. 2). Experts from the FIAC spoke to many of these key cooperative management guidelines. Through a cooperative management structure, smaller-scale efforts such as funding a year-round Inuit Guardian program, mandating local guides and requiring a minimum number of local staff, enforcing guidelines and codes of conduct, coordinating a single point of contact to schedule community visits and events (Johnston, Dawson, & Maher, 2017), and developing high-quality visitor experiences to lengthen tourists stays in the community will all support community benefit from the WET NHS.

6.1.3 PRODUCTS AND OPERATIONS

Marine tourism in Nunavut is challenged by a limited diversity of opportunities from which local communities can develop unique quality products and visitor experiences

(Government of Nunavut, 2015; Nunavut Tourism, 2016; Stewart et al., 2015). For example, many communities offer cultural performances like drumming and throat singing; while enjoyed by cruise passengers, there is limited interest in participating in such similar experiences in each community (T. Tarasoff, personal communication, February 27, 2019). A lack of unique experiences available in Canadian Arctic communities is further compounded by insufficient modern infrastructure to host cruise passengers and other visitors for extended periods of time (Dawson, Johnston et al., 2014; Dawson et al., 2016; Johnston, Dawson, De Souza et al., 2017; Johnston, Dawson, & Maher, 2017; Johnston, Johnston et al., 2012; Kelly & Ljubicic, 2012; Nunavut Tourism, 2016). This absence extends to shipwreck management concerns about a lack of quality museum displays of artifacts and other resources from neighbouring shipwrecks to curb the perceptions of governments locking artifacts away from the public eye and resulting scavenging of wreck sites (Marano, 2015). Now, the WET NHS offers the opportunity for the community of Uqsuqtuuq (Gjoa Haven) to capitalize on the unique and internationally renowned resources located in their back yard.

There are four types of visitors that make up Nunavut's tourism market (Table 6, Nunavut Tourism, 2016), each with their own characteristics affecting tourism growth in communities like Uqsuqtuuq (Gjoa Haven). In 2015, there remained another one percent of Nunavut's tourism market, categorized as other visitor types. Among them are pleasure craft visitors, who make up the fastest-growing contingent of vessels in Arctic Canada (Johnston et al., 2013; Johnston, Dawson, De Souza et al., 2017; Orams, 2010). While pleasure craft visitors are invisible in the four categories described in Table 6, they should be represented in Nunavut's tourism market planning and management. Visitor experience products must, therefore, cater to a broad and encompassing audiences (Klein, 2011; Manley et al., 2017; Têtu et al., 2019) to

Table 6: Types of visitors that make up Nunavut's tourism market and their respective characteristics.

Visitor Type	Number in 2015 (Nunavut Tourism, 2016)	Market Portion (Nunavut Tourism, 2016)	Characteristics
Business travellers	11,550	69% and 77% of spending	• Could prove to be a lucrative market for the territory • Difficult to motivate through tourism advertising (Nunavut Tourism, 2016)
Cruise-based leisure travellers	2,750	16% and 5% of spending	• Fastest growing segment • Growing benefit from them requires products that extend the period that cruise passengers spend in the community, supported by a greater variety and availability of souvenirs and information on where to buy them (Goodwin, 2002; Nunavut Tourism, 2016; Vrana & Halsey, 1992) • Typically, older visitors who prefer easy access to passive observation activities (Grenier, 2018; Klein, 2011; Nunavut Tourism, 2016; Stewart et al., 2007)
Land-based leisure travellers	1,130	7% and 8% of spending	• Growing this sector represents the best opportunity for growing Nunavut's tourism industry (Nunavut Tourism, 2016) • Uqsuqtuuq (Gjoa Haven) has identified the need to expand their runway to accommodate jets and has turned to Parks Canada to support the project since the recent discovery of the Franklin shipwrecks (Neary, 2019)
Visiting friends and relatives	1,155	7% and 8% of spending	• Difficult to motivate through tourism advertising (Nunavut Tourism, 2016) • Marketing initiatives demonstrate that social media is a successful platform through which local residents encourage friends and relatives to attend special events (Nunavut Tourism, 2016)

benefit from each area of potential tourism growth.

A diversity of unique visitor experience products in the WET NHS and the communities of Uqsuqtuuq (Gjoa Haven) and Iqaluktuuttiaq (Cambridge Bay), available throughout the

changing seasons, will help maximize local community benefits and quality of visitor experiences. Figure 19 illustrates some of the potential tourism products, as discussed in the analysis of the literature (see, for example, Bruno et al., 2018; Cuthill, 1998; La Roche, 2003; Marano, 2015; Pater & Oxley, 2014; Souter, 2006; Têtu et al., 2019) and interviews with members of the FIAC. The Nattilik Heritage Centre will be an important attraction involved in many tourism products that will help extend visitor stays in Uqsuqtuuq (Gjoa Haven), make experiences available to less-mobile visitors and visitors unable to travel to the WET NHS, connect the public with artifacts and the importance of archaeology, and share the Franklin story through multiple narratives. The importance of personal connections is reinforced by the first

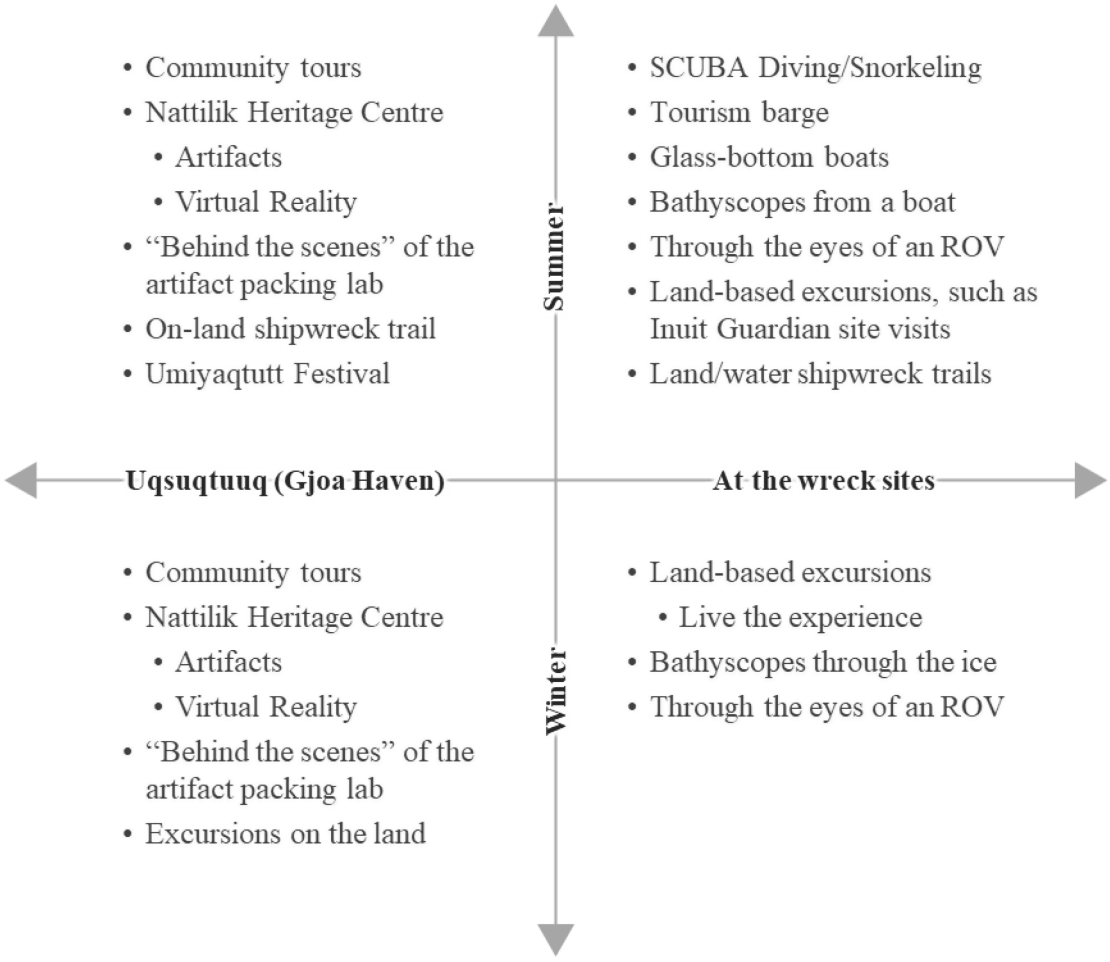


Figure 19: Visitor experience product opportunities in Uqsuqtuuq (Gjoa Haven) and the WET NHS.

visitors to the HMS *Erebus* wreck site, who said that seeing personal artifacts make the Franklin men seem real and helped them connect with the wonder of the story and place (Parks Canada, 2019b). This feedback aligns with Scuri and Calabi's (2015) emphasis on the importance of first-hand experience-based tourism products.

Both in and beyond the Nattilik Heritage Centre, local employees and guides will play a key role in offering unique experiences that facilitate important and desired (Parks Canada, 2019b) connections with local peoples. In the Galápagos National Park, for example, all visitors are required to visit with a certified naturalist guide (see Drumm et al., 2004; Galapagos Conservancy, 2019; Galapagos Travel Center [GTC], 2019; Heslinga, 2003; Martha, 2012). In recent years, the certification has only been open to residents of the Galapagos Islands (Cole, 2019; GTC, 2019). While these guides make for some visitors' fondest memories, it is also important to recognize that allowing only local guides has led to a decrease in the quality and number of highly trained and experienced guides (Cole, 2019; GTC, 2019; Heslinga, 2003; Martha, 2012). According to the Galapagos Travel Centre (2019), the best and most sought out guides "speak several languages, are knowledgeable about the plants, animals and ecosystems of the Galapagos and… routinely receive high ratings from visitors for their friendliness and attitude" (para. 5). Highly rated cruise operators will "go out of their way" (GTC, 2019, para. 5) and pay more to hire these guides (Cole, 2019). Similarities exist, for example, in ecotourism offers in Brazil (see Periera, 2005) and in one of Canada's sub-Arctic national parks where guides have also become the attraction (see Lemelin, Dawson, Johnston et al., 2012).

I have been fortunate to visit the Galápagos National Park and other international destinations in the company of a local guide. Especially as a child, my time with these passionate, knowledgeable, and engaging local peoples enriched my experiences tremendously

and opened my eyes to their cultures and unique challenges and opportunities they face. I strongly believe that my time with local guides has increased my awareness of and enriched my appreciation for diverse cultures and ways of life. As Stewart et al. (2011) report, some Inuit fear "Greenpeace" tourists who lack understanding of and, therefore, may jeopardize local ways of life. Local guides and other opportunities for visitors to make meaningful connections with local peoples may help foster visitors' cultural understandings, respect, and appreciation of Inuit ways of life.

6.1.4 VISITOR EDUCATION

Visitor education, in its broadest sense, is a tourism management "best" practice that successfully addresses visitor behaviours (Mason, 2005; Periera, 2005; Price, 2013; Scott-Ireton & McKinnon, 2015) by promoting understanding of site values and conducts expected of visitors (Cuthill, 1998; Pater & Oxley, 2014; Viduka, 2011). Visitor education will be an important tool to address issues: lack of awareness of and preparation for the dangers and challenges of travel in the Canadian Arctic; understanding and respecting Inuit culture; and, SCUBA divers' impact on shipwreck structures. Visitor education is especially important in the complex social and cultural context, and remote environmental setting of the WET NHS. Voluntary compliance is a preferred management approach in remote and difficult to access environments with limited monitoring and law enforcement resources (see Edney, 2016). When successful, voluntary compliance enables other management strategies to be more effective while requiring fewer resources, and allows visitors enough freedom that results in higher quality experiences (Edney, 2016). Voluntary compliance is maintained by participation in decision making (Andrade & Rhodes, 2012) and transparent information flows between government management bodies and the public (Marano, 2015) that explain the need for and impacts of the fair rules it encourages

(Stern, 2008). Permitting processes and local guides will help facilitate important pre-visit briefings; and, multi-lingual guides, websites, social media, and other visitor education products will be important means of distributing important messages and updates that promote self-sufficiency in and protection of the WET NHS. Specific to the site's resources, visitor education products such as virtual reality and "through the eyes of" experiences promote the importance of archaeology and the resource (Bruno et al., 2018, 2019). Its high emotional impact helps visitors personally connect with the site. For the first visitors to the WET NHS seeing the live feed from the archaeologists SCUBA diving above the wreck of HMS *Erebus* was highly memorable and impactful. Many explained that it helped them tie together the interpretive information they had learned leading up the site visit and connect with the site and story (Parks Canada, 2019b). Experiences at the Franklin wreck sites and the Nattilik Heritage Centre will be instrumental in hosting these unique and developing experiences that foster personal connections to the two shipwrecks and their lost men.

Visitor education is a vital tool to develop understanding and respect for the WET NHS's complex social and cultural history. A colonial narrative is apparent in the Franklin story: the 1845 Expedition dismissed Inuit help; Lady Jane Franklin and racist works by authors like Charles Dickens attacked John Rae's report of the crew's cannibalistic demise in attempt to blame the Inuit and protect the Franklin men's reputations; the search of the Franklin wrecks marginalized Inuit oral histories; and, the Canadian Government used the efforts to locate the shipwrecks as a demonstration of Arctic sovereignty. More recently, Parks Canada and other organizations have begun to value Inuit oral histories more explicitly, recognizing their importance and accuracy. Initiatives such as the Franklin Expedition Inuit Oral History Project (Parks Canada, 2018b) record the Inuit version of events and the 1845 Expedition's impact on

Inuit peoples and ways of life. Having local Inuit share their part in and perspectives of the Franklin story can contribute to "creating a collective memory that gives new insights and multiple perspectives, [rather than] only serving to reinforce tradition and assimilation" (Hvenegaard et al., 2016, p. 54). Heritage interpretation in Canada has historically grown from written colonial documents and material evidence (see, for example, Hvenegaard et al., 2016; Neufeld, 2001; Scott, 2003), which corroborates a selective understanding of histories and events. Consequently, interpretation "of past events for current commemorative and commodification purposes [makes…] all heritage… competing, conflicting and dissonant" (Tunbridge & Ashworth, 1996, as cited in Lemelin, Whyte et al., 2013). However, when done well, visitor education products can be a gesture in support of overcoming the perpetual omission of Indigenous narratives (see Lemelin, Whyte et al., 2013; Trau & Bushell, 2008) while building ethical relationships with Indigenous peoples. Therefore, the development of visitor education products in the WET NHS should be Inuit led (see discussions by Thimm, 2019; Trau & Bushell, 2008) while integrating multiple perspectives, following, for example, Ballantyne et al.'s (2012) five strategies for "hot" interpretation:

1. Narrative and personal storytelling should occupy a central place in hot interpretation and should provide multiple points of personal connection with visitors.
2. Despair should be balanced with hope, providing visitors with a way to deal with their feelings and move forward.
3. Presentation of historical evidence and balanced interpretation should leave visitors feeling educated, rather than persuaded.
4. Providing a place or space for reflection should encourage visitors to personalize and internalize their learning.
5. Focusing on the past to inform the future should provide visitors with a way of learning from the mistakes of others and contribute to building a better future for all. (p. 164)

Experts from the Franklin Interim Advisory Committee (FIAC) are supportive of Inuit control of the development and delivery of visitor experience products. This is an important step towards recognizing and changing the colonial history of the Franklin story and setting an important precedent to the management and interpretation of historic sites based on mutual respect. Based on these understandings, the following sections make context-specific marine tourism management recommendations for the WET NHS and then present the study limitation and areas for future research.

6.2 TOURISM MANAGEMENT RECOMMENDATIONS FOR THE WET NHS

Management of the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (WET NHS) need to specifically address concerns related to safety and security, community benefit, visitor education, and products and operations. Findings from the meta-analysis of management "best" practices that have addressed similar marine and shipwreck tourism management concerns help us learn from past challenges, and the expert feedback from members of the Franklin Interim Advisory Committee (FIAC) address the feasibility of these strategies in the WET NHS. Working from macro- to micro-scale, Table 7 presents ten context-specific recommendations and the key concerns they help address for the management of marine tourism in the WET NHS.

Table 7: Context-specific marine tourism management recommendations for the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site.

Management Recommendations	Safety & Security	Community Benefit	Visitor Education	Products & Operations
Create visitor guidelines and codes of conduct Visitor guidelines and codes of conduct for the WET NHS and surrounding communities, informing visitors of what practices they should follow to protect the sites and respect/support local communities	•	•	•	•
Prioritize Inuit voices Inuit should make up most management positions, informing decision and leading interpretation products Engage, mentor, and employ local Inuit, especially youth		•	•	•
Require local guides and certifications Require all visitors to hire a local guide (with small groups) to visit the WET NHS. *SCUBA Diving* Work towards having local recreational SCUBA diving guides who maintain advanced, shipwreck, cold water, and dry suit certification and have site-specific archaeological training Require all clients to have minimum certifications, e.g. advanced, cold water, and dry suit Develop a “look but don’t touch” ethic that voluntarily encourages visitors not to approach the wrecks Diver-specific education, such as guidelines, pre-dive checklists, guidelines, and interpretive guides Prohibit night and penetration dives	•	•		•
Develop anchoring restrictions Prohibit anchoring within the WET NHS. Provide alternatives such as permanent moorings at the wrecks, safe attachments to the tourism barge (see below) and moorings in nearby safe harbours for smaller vessels Chart safe paths of travel within and around the WET NHS and update nautical charts with the site boundaries and other important locations within it	•			•
Expand the Inuit Guardian Program Expand and fund the Inuit Guardian Program to include the winter months Install underwater “watchdog” cameras to monitor the wrecks and provide live views for visitor experience products	•	•		•

Management Recommendations	Safety & Security	Community Benefit	Visitor Education	Products & Operations
Develop a tourism barge A summer on-site product at the wreck of HMS *Erebus* where small vessels can attach themselves alongside and board the barge for interpretation products, to view the wreck below, and interact with Inuit Guardians or other Parks Canada staff Easier access to the site for visitors with limited mobility or advanced resources like SCUBA gear	•		•	•
Separate conflicting visitor experiences Spatially or temporally separate potentially conflicting user types, such as SCUBA divers and snorkellers from glass-bottom boats and ROVs	•			•
Expand the Nattilik Heritage Centre Artifacts on display and behind the scenes experiences of the artifact packing lab Virtual reality and/or "through the eyes of" experiences Gift shop with unique Franklin souvenirs, replicas, and products from local artists		•	•	•
Develop a visitor guide A "one-stop-shop" for all WET NHS tourism information, including: • Guide businesses • Equipment and training recommended when visiting the WET NHS • Site and community guidelines • Itinerary ideas and/or shipwreck trail visitors can follow to visit locations tied to the WET NHS like Beechey Island, Uqsuqtuuq (Gjoa Haven) and places within like the Nattilik Heritage Centre, the two wreck sites, Cambridge Bay, and other sites tied to the Franklin story See Gwaii Haanas' Trip Planner for an example www.pc.gc.ca/en/pn-np/bc/gwaiihaanas/visit • Parks Canada site that has a cooperative management approach • A remote and dangerous environment where they highly encourage the use of local guides	•	•	•	•
Develop an interactive online ArcGIS StoryMap Online shipwreck trail including sites connected to the Franklin story Spatial story of Inuit place names and associated stories through which Inuit culture and norms are shared See www.esri.com/en-us/arcgis/products/arcgis-storymaps/overview		•	•	•

6.3 STUDY LIMITATIONS AND FUTURE RESEARCH

Substantial research has examined community, operator, and management concerns related to marine tourism in Nunavut, which allowed this research to build on past studies. In contrast, no examples of shipwreck tourism management in polar waters were found. While limiting, this also highlighted the need for this study to examine the applicability of shipwreck management practices from southern waters in a polar environment. In effect, the expertise of members of the Franklin Interim Advisory Committee (FIAC) was essential. The FIAC has 11 positions, but seats from the communities of Uqsuqtuuq (Gjoa Haven) and Iqaluktuuttiaq (Cambridge Bay) were vacant at the time of the research. Therefore, nine representatives made up the expert group, six of whom participated in the research. However, a few email interviews were returned with limited detail; coupled with two vacant community representative positions, this resulted in a favouring of government voices. While telephone interviews may have fostered more in-depth responses, it is suspected that doing so may have decreased the response rate.

As the management of WET NHS develops and begins to welcome tourists, further study of their site-specific challenges and adaptation methods would support the body of research and knowledge about shipwreck management in their unique remote Arctic environment. A multi-day scenario planning workshop would allow members of the FIAC, or the Franklin Implementation Committee and other cooperative managing bodies, to brainstorm and discuss adaptive management options. While a similar approach was initially planned for this research, time and research funding limited its feasibility. A parallel study with local tourism employees, operators, and local peoples would contribute a community perspective to the impacts and ongoing challenges of a unique site and its precedent as Nunavut's first national historic site and Canada's first to be cooperatively managed with Inuit.

CHAPTER 7: CONCLUSION

The 1845 Franklin Expedition is part of a romanticized interpretation of Arctic exploration that continues to stir a sense of awe and wonder in audiences around the world. Locating the wrecks of HMS *Erebus* and HMS *Terror* off the coast of Qikiqtaq (King William Island) in 2014 and 2016, respectively, added another dimension to the challenging context of marine tourism management in the Canadian Arctic. To both the potential benefit and detriment of Inuit economy, ways of life, and traditional territories, climate change-induced increases in open water have made access to "unexplored" waterways possible to commercial cruise ships and pleasure craft (Dawson, Pizzolato et al., 2018; Johnston, Viken et al., 2012; Serreze et al., 2007; Stewart et al., 2007). Seeking unique natural and historical experiences, it is expected that the WET NHS will become a popular tourist attraction (Stewart et al., 2010). Yet, there existed a lack of research to inform the management of this unique site in a polar environment. Therefore, this study examined the interacting challenges of marine and shipwreck tourism management in the Canadian Arctic to address relating concerns and develop context-specific management recommendations for the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (WET NHS). To do so, the study was guided by three research questions:

1. What key marine tourism management concerns need to be addressed for the management of the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site?
2. What Arctic and shipwreck tourism management "best" practices have successfully resolved examples of the key marine tourism management concerns?
3. What marine tourism management practices and strategies are feasible to address the context-specific management needs for the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site?

The answers to each are presented in summary below.

Through a meta-analysis, ten categories of concern were identified pertaining to marine tourism in Nunavut; they were: community benefit, community services, regulation and reporting, policies and guidelines, products and operation, safety and security, infrastructure, fragmentation, Inuit culture and norms, and environmental degradation (see Table 3 on page 61). Then, a second analysis identified seven categories of concern related to shipwreck tourism: public education and engagement, anchor damage and moorings, regulation and reporting, natural processes and change, illegal activities, human and environmental safety, and recreation and SCUBA diving (see Table 4 on page 74). After identifying significant overlap in these categories that came together in a macro to micro-structure, they were reduced to eight categories, four of which were deemed within the scope and capacity of the research and requiring further attention (see Figure 18 on page 118). Another meta-analysis explored international literature for examples of management "best" practices that have successfully addressed these four key categories of concern: safety and security, community benefit, visitor education, and products and operations. Again, the management "best" practices echoed the macro- to micro-scale management strategies, ranging from a shared management approach, visitor guidelines, mandatory local guides, to requiring minimum diver certification, installing permanent moorings, and delivering high-quality visitor products like museums equipped with interactive virtual reality systems (see Figure 12 on page 86). This phase answered the second research question. Finally, the findings from these two phases were brought to six members of the Franklin Interim Advisory Committee (FIAC) for their expert feedback on the feasibility of applying the management "best" practices to address concerns specific to the WET NHS. Their comments, in conjunction with a return to the literature, answered the third research question,

and resulted in ten context-specific marine tourism management recommendations for the WET NHS, as summarized in Table 7 on page 132 and listed below:

- Create visitor guidelines and codes of conduct;
- Prioritize Inuit voices;
- Require local guides and certifications;
- Develop anchoring restrictions;
- Expand the Inuit Guardian Program;
- Separate potentially conflicting visitor experiences; and,
- Develop high-quality visitor experience products.

These recommendations can support the context-specific management of marine tourism at the WET NHS.

There was a lack of research on marine and shipwreck tourism management in an Arctic environment to support the development of a site management plan that prioritizes ethical and sustainable protection and presentation of the Franklin shipwrecks for the education and enjoyment of future generations (Lasserre & Têtu, 2015; Marquez & Eagles, 2007; McCole & Vogt, 2011). This gap was further contextualized by a changing climate, a growing demand for marine tourism in the Canadian Arctic, and internationally significant historic resources located in a complex environmental, social, and cultural landscape. This research analyzed literature from these diverse fields of study and management while applying a marine cultural landscape approach to identify large-scale patterns and important interconnectivity between each unique management concerns that affect the WET NHS. As a process and findings, this work makes the following contributions to marine tourism management in a changing climate, cultural landscape approach, growing demand for Arctic tourism, and renowned shipwrecks.

Climate change is reshaping environmental and social landscapes in the Canadian Arctic (Dawson, Pizzolato et al., 2018; Johnston, Viken et al., 2012; Lamers & Amelung, 2010; Stewart et al., 2007). While "unexplored" waterways are becoming increasingly accessible and attractive to cruise and pleasure craft tourists (Dawson, Pizzolato et al., 2018; Serreze et al., 2007; Stewart et al., 2007), little is known about a changing climate's impact to heritage tourism – an economy built on the consumption of valued resources and the intertwined cultural landscapes (Hall et al., 2016). In the WET NHS, climate change is enabling access to what is expected to become an important tourist attraction. Hall et al. (2016) beg the question of how climate change will affect heritage resources, cultural landscapes, and tourism in environments of rapid change. This research supports the context-specific management approaches required to work adaptively within times of rapid change while fulfilling benefit priorities to the community of Uqsuqtuuq (Gjoa Haven) under an ethic of cooperative management and Parks Canada's mandate to protect and present the WET HHS. Key to this success is the integration of interdisciplinary ideas while prioritizing the voices and benefit of local communities – those whose culture and histories are intertwined with the Franklin Expedition and who experience the direct impacts of a changing Arctic climate and growing marine tourism industry.

A marine cultural landscape approach guided this research, intertwining the tangible artifacts remaining from the 1845 Franklin Expedition and the intangible socio-cultural aspects of a still-developing landscape. Throughout this work, it was important to acknowledge the colonial history that affects the socio-cultural landscape around the 1845 Franklin Expedition and remaining artifacts, and Parks Canada's historically exclusionary relationship with Indigenous peoples (Kopas, 2007; Lemelin, Thompson-Carr et al., 2013). Effectively, the management recommendations that resulted from this research prioritize cooperative-

management with Inuit to ensure their foundational involvement and benefit. Seven of the ten recommendations for the management of the WET NHS stem from this priority. Cooperative-management of the WET NHS through a marine cultural landscape approach is especially important as the WET NHS sets a precedent as Nunavut's first national historic site, presenting an opportunity to write a new story that addresses colonial histories and shapes a social and cultural landscape built on ethical relationships with and benefit to Inuit.

Finally, there is a growing demand for cruising and pleasure craft travel in the Canadian Arctic (Johnston et al., 2013; Johnston, Dawson, De Souza et al., 2017; Orams, 2010). Aboard small sailboats through luxury cruises, visitors come seeking unique natural, cultural, and historical experiences (Barr, 2017; Stewart et al., 2007), and the WET NHS is expected to become a popular attraction. Following Antarctic trends (Liggett et al., 2011; Lück et al., 2010), the Canadian Arctic is witnessing growing numbers of vessels with non-ice-strengthened hulls (Stewart & Draper, 2008) and other under-prepared vessels and inexperienced crew (Goegebeur, 2014; Johnston et al., 2013; Johnston, Dawson, De Souza et al., 2017; Lamers & Gelter, 2011; Liggett et al., 2011; Stewart et al., 2019). Compounded by the challenging and dangerous environment in which the WET NHS rests, the literature analyzed in this research and expert feedback from members of the Franklin Interim Advisory Committee (FIAC) necessitated that visitor safety be addressed in the Canadian Arctic and WET NHS. Seven of this study's context-specific management recommendations address this important need while further supporting local community benefit. Examples include mandating local guides and certifications, implementing visitor guidelines, providing safe harbours, and safe visitor experiences. Further, this research contributes to addressing a gap in the literature about shipwreck tourism management in a polar context. Closely related to visitor safety and wreck security, the

recommendations made for the management of the WET NHS provide context-specific examples of shipwreck tourism management in Arctic waters, like permanent moorings and diverse products like a tourism barge and interactive virtual reality experiences.

The knowledge and experiences shared by experts from the FIAC and the resulting study findings and recommendations help address important gaps in research on marine and shipwreck tourism management in an Arctic environment. In addition to regular academic dissemination, the knowledge and experience garnered throughout the research process have been shared with the Franklin Interim Advisory Committee (FIAC), Parks Canada, and the community of Uqsuqtuuq (Gjoa Haven) to support their management process. It was also shared with the broader academic and Arctic communities at the 2019 ArcticNet Annual Scientific Meeting in Halifax, with the Nunavut Research Institute, and through this thesis. Reports generated for the community of Uqsuqtuuq (Gjoa Haven), the FIAC, and Parks Canada are available online here: www.arcticcorridors.ca/reports. It is my hope that this study's process and findings support the successful cooperative management of the Wrecks of HMS *Erebus* and HMS *Terror* National Historic for their protection and the benefit and enjoyment of present future generations.

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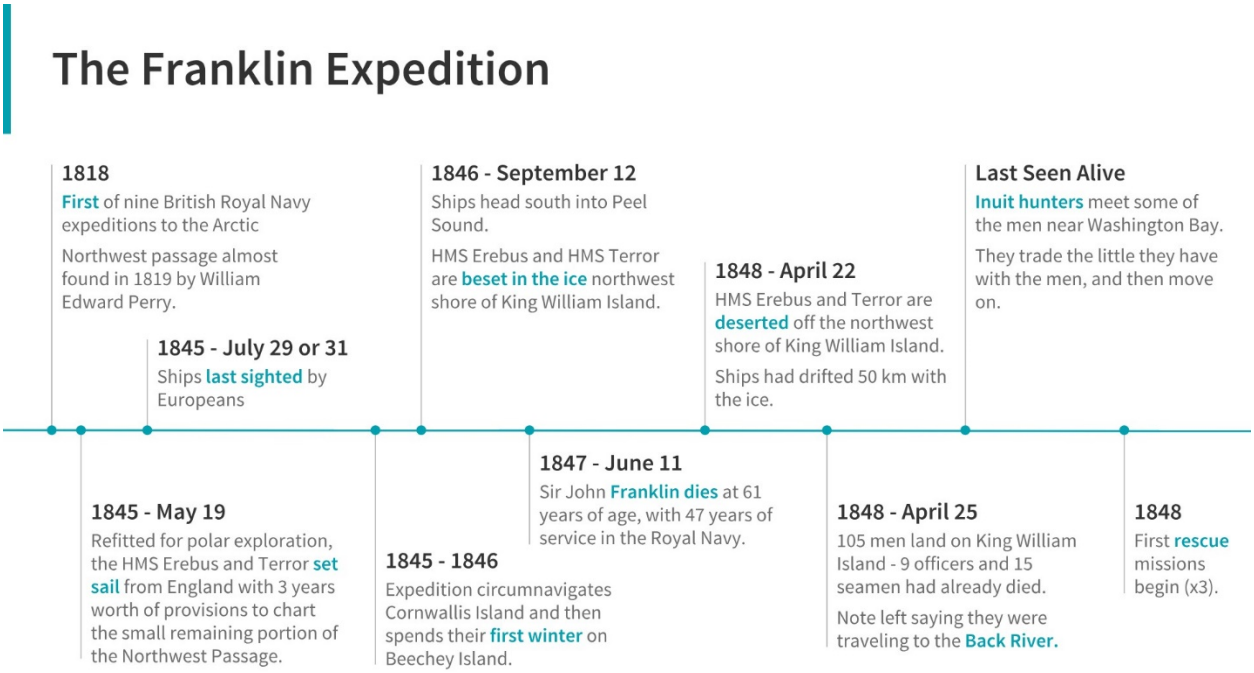
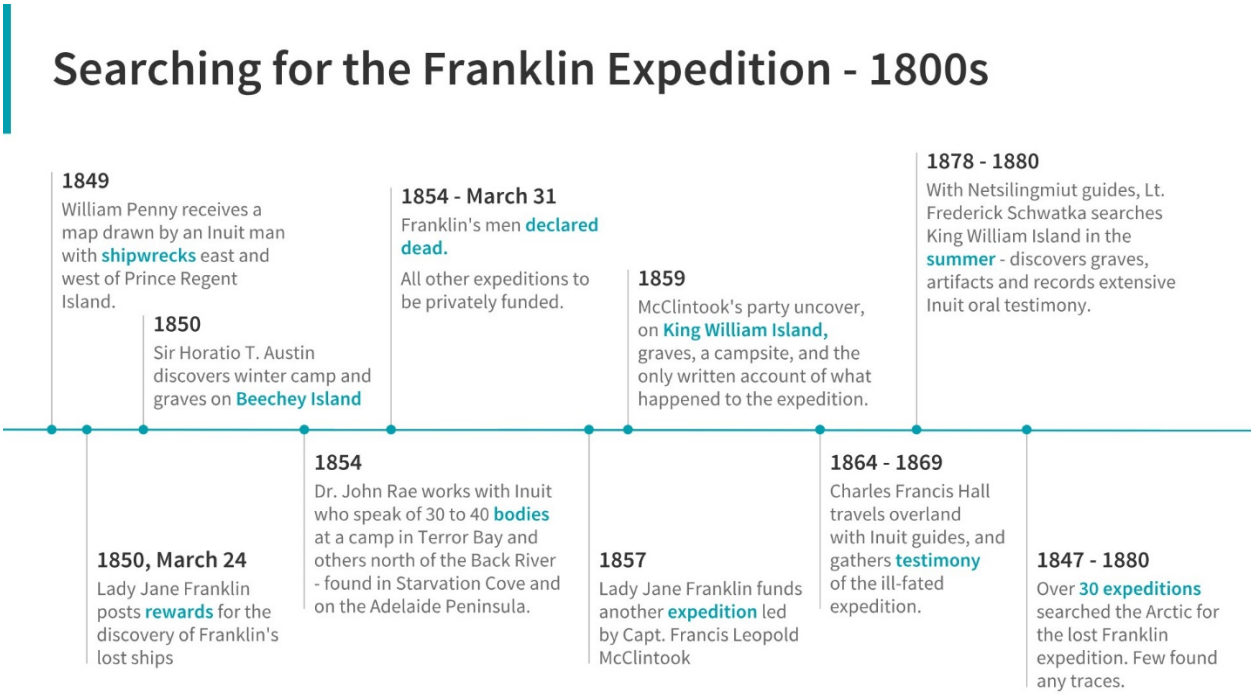
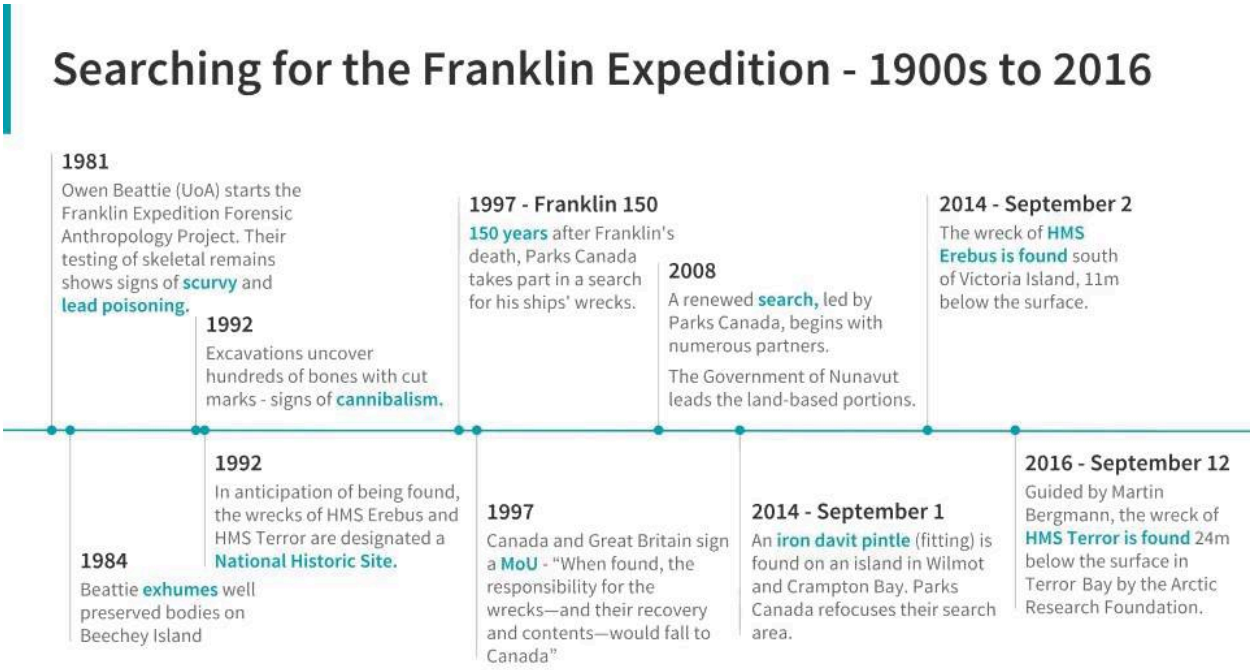
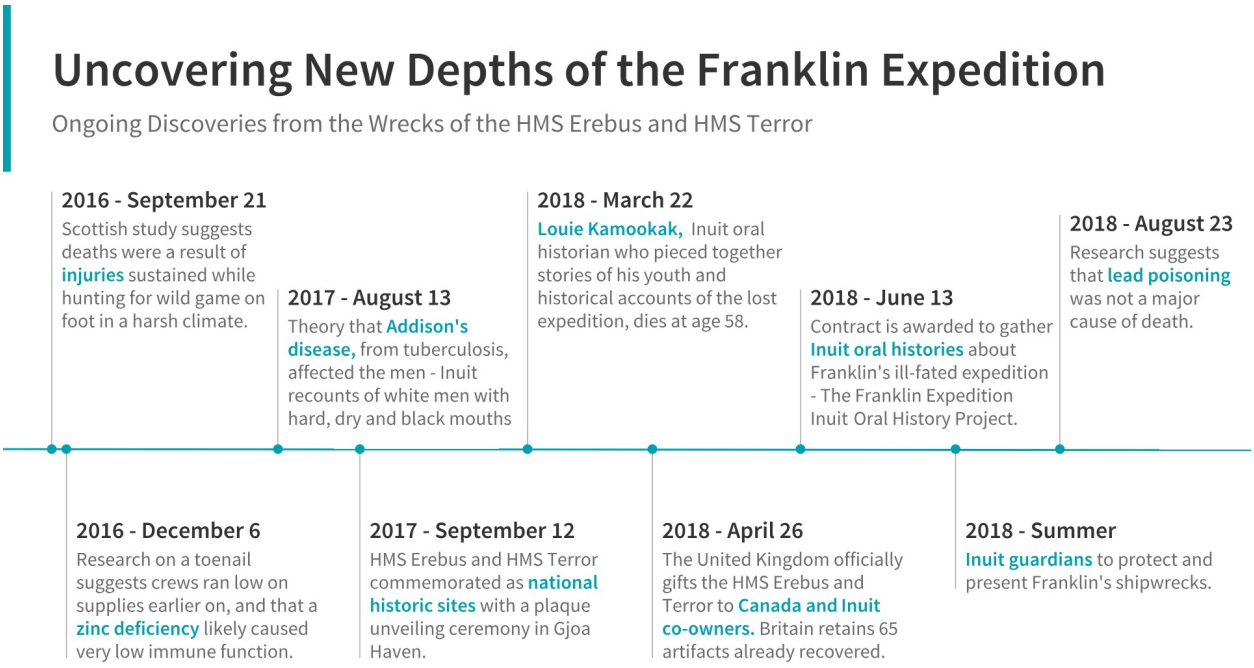
APPENDICES

APPENDIX A: ABBREVIATED FRANKLIN EXPEDITION TIMELINE






Searching for the Franklin Expedition - 1900s to 2016
1981
Owen Beattie (UoA) starts the Franklin Expedition Forensic Anthropology Project. Their testing of skeletal remains shows signs of scurvy and lead poisoning.
1984
Beattie exhumes well preserved bodies on Beechey Island
1992
Excavations uncover hundreds of bones with cut marks - signs of cannibalism.
1992
In anticipation of being found, the wrecks of HMS Erebus and HMS Terror are designated a National Historic Site.
1997 - Franklin 150
150 years after Franklin's death, Parks Canada takes part in a search for his ships' wrecks.
1997
Canada and Great Britain sign a MoU - "When found, the responsibility for the wrecks—and their recovery and contents—would fall to Canada"
2008
A renewed search, led by Parks Canada, begins with numerous partners.
The Government of Nunavut leads the land-based portions.
2014 - September 1
An iron davit pintle (fitting) is found on an island in Wilmot and Crampton Bay. Parks Canada refocuses their search area.
2014 - September 2
The wreck of HMS Erebus is found south of Victoria Island, 11m below the surface.
2016 - September 12
Guided by Martin Bergmann, the wreck of HMS Terror is found 24m below the surface in Terror Bay by the Arctic Research Foundation.


Uncovering New Depths of the Franklin Expedition
Ongoing Discoveries from the Wrecks of the HMS Erebus and HMS Terror
2016 - September 21
Scottish study suggests deaths were a result of injuries sustained while hunting for wild game on foot in a harsh climate.
2016 - December 6
Research on a toenail suggests crews ran low on supplies earlier on, and that a zinc deficiency likely caused very low immune function.
2017 - August 13
Theory that Addison's disease, from tuberculosis, affected the men - Inuit recounts of white men with hard, dry and black mouths
2017 - September 12
HMS Erebus and HMS Terror commemorated as national historic sites with a plaque unveiling ceremony in Gjoa Haven.
2018 - March 22
Louie Kamookak, Inuit oral historian who pieced together stories of his youth and historical accounts of the lost expedition, dies at age 58.
2018 - April 26
The United Kingdom officially gifts the HMS Erebus and Terror to Canada and Inuit co-owners. Britain retains 65 artifacts already recovered.
2018 - June 13
Contract is awarded to gather Inuit oral histories about Franklin's ill-fated expedition - The Franklin Expedition Inuit Oral History Project.
2018 - Summer
Inuit guardians to protect and present Franklin's shipwrecks.
2018 - August 23
Research suggests that lead poisoning was not a major cause of death.

APPENDIX B: DISCOVERING THE HMS *EREBUS* AND HMS *TERROR*

During the few short ice-free weeks in late August and early September 2008, the Parks Canada Underwater Archeological Team and the Canadian Hydrographic Service set the stage for the renewed search for HMS *Erebus* and HMS *Terror* by charting a 65-kilometre long corridor in Wilmot and Crampton Bay (Parks Canada, 2018c). While the 2009 season brought poor weather conditions and vessel shortages, search efforts resumed in 2010; Parks Canada and partners surveyed over 150 square kilometres of the seafloor and found the wreck of the HMS *Investigator*. While in search of the Franklin Expedition, the HMS *Investigator* was abandoned in 1851/1852 after becoming beset in the ice on the northeast shore of Banks Island (Parks Canada, 2018c). In 2011, Inuit oral histories led Parks Canada to adjust their field season plans and head to the northern portion of the study area where they surveyed 140 kilometres of seafloor alongside a team from the University of Victoria. Still, with no sign of the HMS *Erebus* or HMS *Terror*, the Arctic Research Foundation and the Canadian Space Agency joined Parks Canada and the University of Victoria's efforts in the summer of 2012. With simultaneous interests in charting the Northwest Passage to increase transportation safety and support climate change research efforts, these agencies charted 419 square kilometres of the seafloor in 2012 (Parks Canada, 2018c). Even after expanding the search area for 2013, there was still no sign of the lost ships. But, all changed in the late summer of 2014.

By September 2014, crews had searched 1,601 square kilometres of seafloor to no avail. Bad weather forced the season's search into the southern portion of the study area, around the west of Illuiliq (the Adelaide Peninsula), where Inuit knowledge and a place name called Umiaqtalik spoke of the place where a boat likely sank (Inuit Heritage Trust, 2016; Parks Canada, 2017g). On September 1st, archaeologists from the Government of Nunavut made a

breakthrough when they helicoptered to a small island to investigate an Inuit tent ring. Pilot Andrew Stirling saw a piece of rusted metal, found to be a davit pintle, a mechanism used on the HMS *Erebus* to raise and lower small boats from the main ship (Figure 20). Nearby, Douglas Stenton also found a wooden deck hawse plug, used to waterproof a rope-hole. Examined more closely that evening, these finds matched those in the plans of the HMS *Erebus*. Based on the previous day's finds, senior Parks Canada underwater archaeologist Ryan Harris adjusted his search area the following morning. Just minutes later, his team passed right over the wreck of HMS *Erebus* - "You can't imagine how incredible it felt when, not even halfway on the screen, the shipwreck emerged perfectly recognizable (Parks Canada, 2017g, para. 3). It was like "winning the Stanley Cup" (Parks Canada, 2017g, 2:10). Parks Canada quickly confirmed the wreck's identity by comparing the ship's plans with images of the wreck captured using high definition video cameras mounted on an underwater remotely operated vehicle. The first dives occurred in the few following days before the ice returned. The team confirmed the ship sits largely intact, upright on the seafloor, just 11 metres below the water's surface (Koellner, 2017; Parks Canada, 2017g; Zachary, 2018).

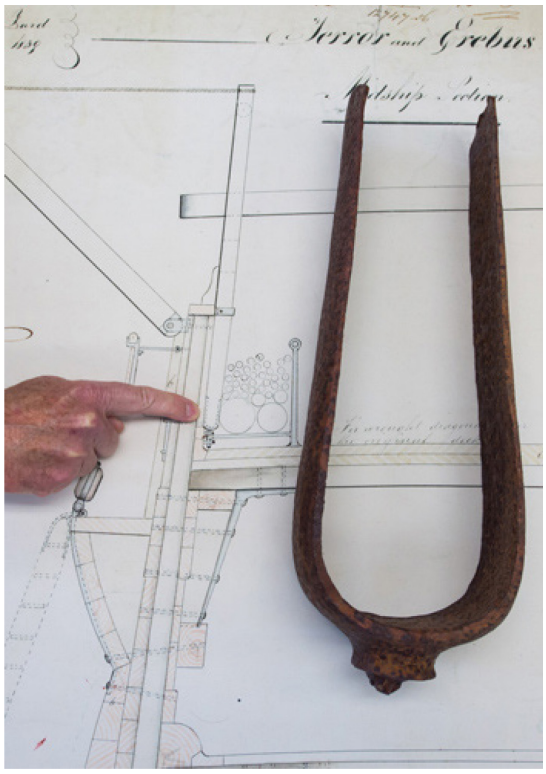


Figure 20: The davit pintle, which led to the discovery of the HMS *Erebus*, with the ship's plans (Parks Canada, 2017g).

While teams explored the wreck of HMS *Erebus*, others continued the search for the HMS *Terror* further north, nearer to where the Expedition abandoned the ships in 1848. On September 6th, 2016, the Arctic Research Foundation's ship was travelling to the northern part of

the search area from Uqsuqtuuq (Gjoa Haven). Aboard the vessel was Sammy Kogvik, a lifelong resident of Uqsuqtuuq (Gjoa Haven). As they neared Terror Bay, Sammy told a "fellow crew member about seeing a large piece of wood sticking up through the ice in Terror Bay some six years ago while on a hunting trip" (Parks Canada, 2017h, para. 5). They made a stop in Terror Bay, nearly 100 kilometres from where the other crews were searching and dropped a sonar scanner to see what they could find: a three-masted ship sitting upright on the seafloor. Through the images of a remote-controlled underwater video camera, the crew discovered "intact crew quarters, a mess hall, and a food storage room" (Parks Canada, 2017h, para. 6) sitting 24 metres below them. On September 11th, the Arctic Research Foundation crew notified the Government of Canada of their discovery, who verified the wreck once bad weather abated. Confirmed on September 18th, 2016 as the wreck of HMS *Terror* (Figure 21), Parks Canada noted that the ship sits largely intact, deep in the calm waters of the sheltered bay, with many windows and hatches still closed. Four of the anchors sit attached in position, and a small boat rests close by off the port stern of the vessel (Parks Canada, 2017h, 2018f).

The 2017 field season took place at the wreck of HMS *Erebus*, where Parks Canada's underwater archaeologists were joined by the Inuit Guardians from Uqsuqtuuq (Gjoa Haven, Parks Canada, 2018f). Together, they set up a shore camp near the wreck site from where they

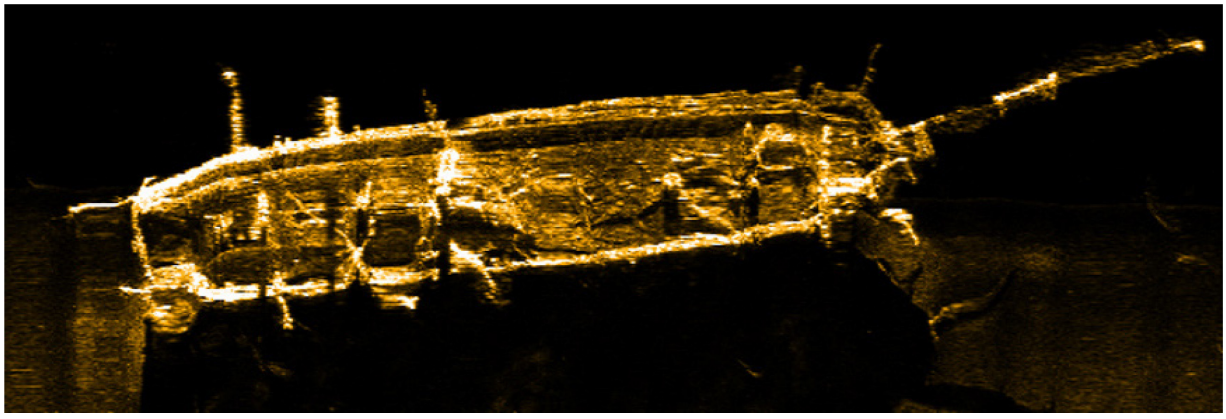


Figure 21: Side-scan sonar image of the HMS *Terror* (Parks Canada, 2017f).

staged their work exploring deeper inside the wreck with a remotely operated vehicle (ROV), retrieved smaller artifacts, and planned for the ship's excavation the following summer. In September 2018, Parks Canada underwater archeologists continued their dives to examine and document the wrecks of HMS *Erebus* and HMS *Terror*. Their plans included recovering artifacts from the *Erebus*' living quarters, including Franklin's cabin, which included hopes of finding records such as the ship's log or captain's journals (Parks Canada, 2018g; Rabson, 2018; Zachary, 2018). Unfortunately, challenging weather and ice conditions shortened their six-week field season to two days and thwarted all plans for assessing the condition of the HMS *Terror* (Beeby, 2019). The team also found that storm swells have significantly deteriorated the HMS *Erebus* and suggest that it remains their focus. According to Jarred Picher, director of archeology and history at Parks Canada, "[they] are two years behind schedule on Erebus, [and] have not started on Terror" (Beeby, 2019, para. 5). Later that month, Parks Canada issued a news release celebrating the recovery of the first jointly owned artifacts by Canada and Inuit, which included a pitcher, a mercurial artificial horizon roof, as well as multiple rigging artifacts (Parks Canada, 2018g). While some of these were retrieved in fear of them falling deeper into the less-accessible parts of the HMS *Erebus*, Picher said that teams will only remove artifacts that can help tell the story of the ill-fated expedition (Beeby, 2019; Rabson, 2018).

The summer of 2019 brought exciting discoveries. At the HMS *Erebus*, 93 dives amounting to approximately 110 hours underwater allowed the archaeology team to conduct in-depth studies to map and document the area around the ship and excavations in select areas focused on uncovering over 350 artifacts (Parks Canada, 2020a) that relate "to the officers, specific individuals, the crew and the Royal Mariners" (Parks Canada, 2019g, para. 5). The Parks Canada underwater archaeology team was supported by Jonathan Puqiqnak, an archaeological

Figure 22: A Parks Canada archaeologist inserts a small ROV (underwater drone) into the HMS *Terror's* intact hull alongside its upright wheel (Parks Canada, 2019j).

assistant from Uqsuqtuuq (Gjoa Haven) who helped catalogue and record artifacts recovered from the wreck (Parks Canada, 2020a; Tranter, 2020). This year, the Parks Canada's barge named Qiniqtiryuaq was anchored above the wreck of HMS *Erebus* (see Figure 16 and Parks Canada, 2020c) and helped facilitate the research and lengthen dives by, for example, feeding warm water into the team's dive suits and providing air to breath from the surface (Tranter, 2020). To learn more, see Parks Canada (2020c) for stunning video footage and interpretation of the team's 2019 dives season on the HMS *Erebus*.

Extraordinary discoveries also happened further north in Terror Bay. Here, Parks Canada mapped a safe marine route into Terror Bay and studied the condition of the ship, its environmental setting, and the archaeological objects contained within (Parks Canada, 2019g, 2019h). The ship sits level on the seafloor with its bowsprit attached, its wheel upright (Figure

22), and propeller in place (Parks Canada, 2019j). The HMS *Erebus* and HMS *Terror* were the Royal Navy's first propeller-driven steamships to enter the Arctic (Parks Canada, 2019c). Before their venture north, a railway locomotive engine and retractable propeller were installed on each vessel. Ryan Harris explained that they were surprised (Davison, 2019) to find the HMS *Terror's* propeller in place "as if in operating condition" (Gannon, 2019, para. 10).

> We know that it had a mechanism to lift it out of the water during winter so that it wouldn't be damaged by the ice. So, the fact that it's deployed suggests it was probably spring or summer when the ship sank. So, too, does the fact that none of the skylights were boarded up, as they would have been to protect them against the winter snows. (Smith, 2019, para. 22)

While fascinating, ground-breaking discoveries continued below the main deck.

Through the eyes of an ROV, the first images of the HMS *Terror's* interior showed the ship "frozen in time" (Smith, 2019). Parks Canada's archaeology team found most of the doors on the lower deck open. Ryan Harris explained that,

> It looks like the ship, in many ways, was fully operational and then suddenly deserted. [Except Crozier's,] all the cabin doors were opened, almost as if there was a rush to see if anyone was on board as it sank. We don't know." (Weber, 2019, para. 20)

Harris and his team used the melon-sized remotely operated vehicle (ROV) to systematically explore 20 cabins (Figure 23) and compartments over seven dives, amounting to clear images of 90 percent of the lower deck (Parks Canada, 2019j, 2019k). Many of the ship's contents still sit upright and in place and protective sediment creating anaerobic conditions has preserved the wreck and its contents well, especially Captain Crozier's cabin. However, his cabin lies tantalizing behind the only door left closed on the lower deck. Inside Captain Crozier's cabin, his desk, map cabinets, and drawers remain sealed (Figure 23), which makes it highly probable that Parks Canada's archaeologists will eventually find written documents preserved in a near-perfect

state (Parks Canada, 2019j, 2019k). Now, the team turns to a careful analysis of the hundreds of hours of video and other data to develop a plan for their continued study of the shipwreck and the stories it may hold (Parks Canada, 2019g).

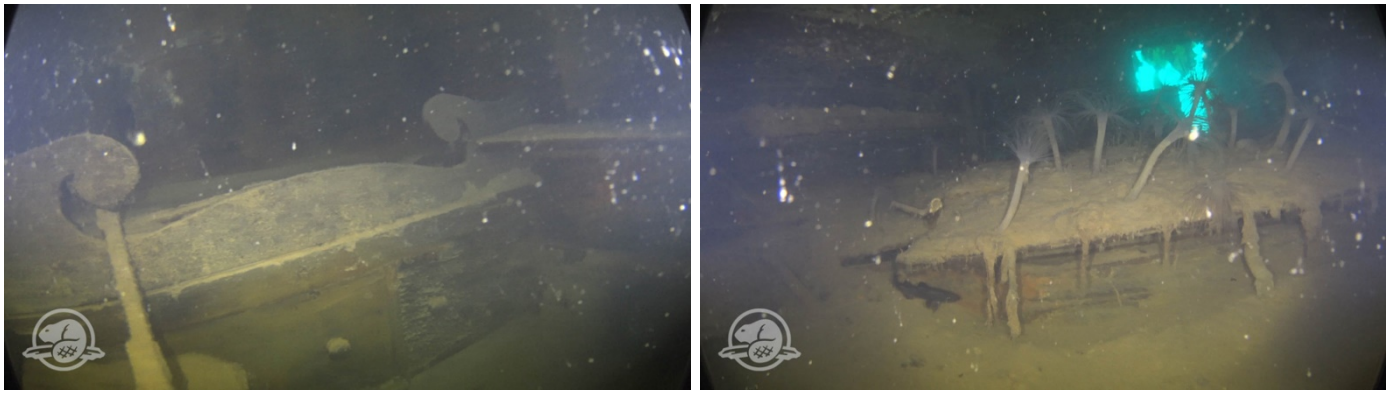
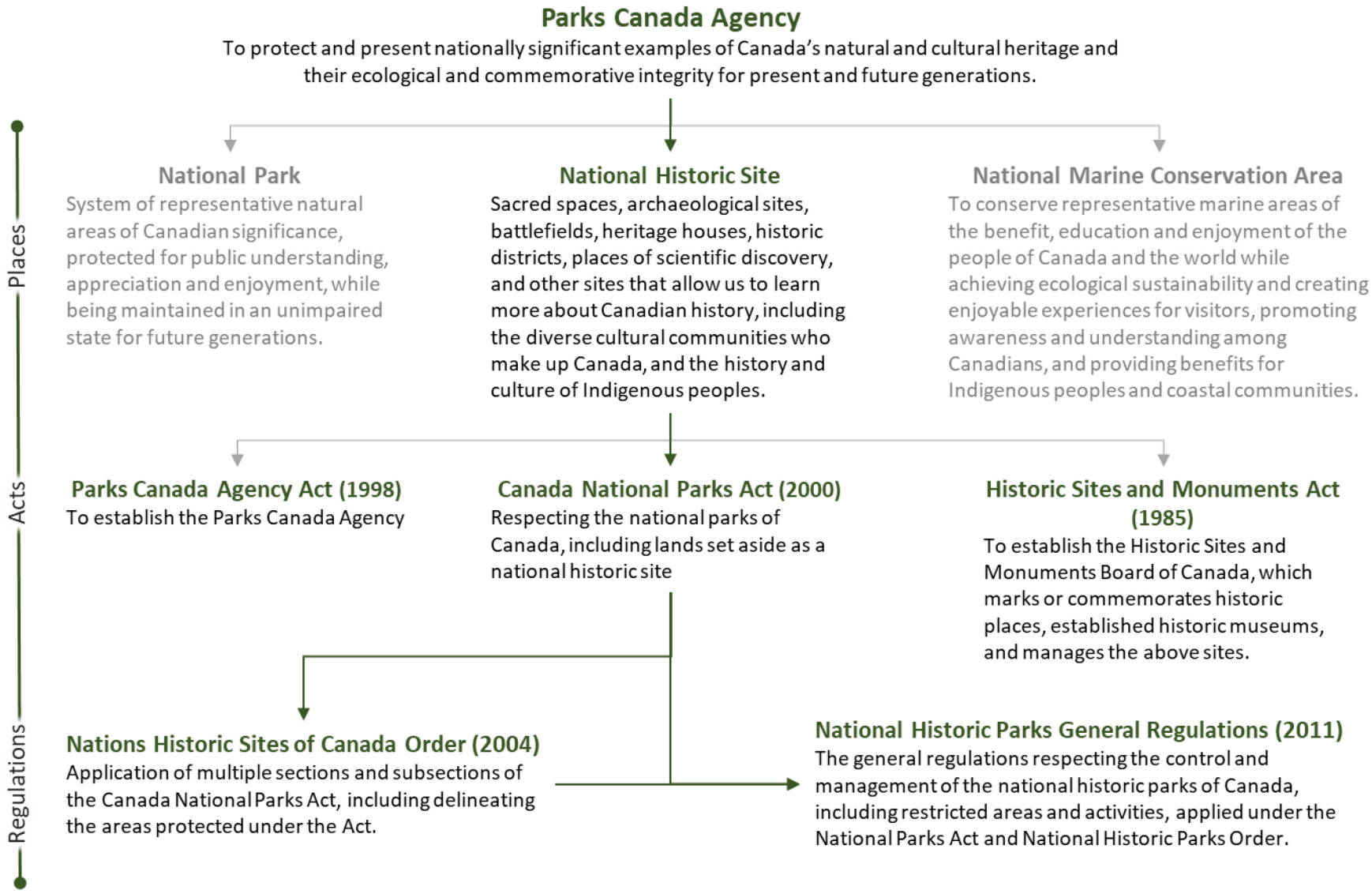


Figure 23: Left, a bunk (bed) with drawers and a shelf in a cabin on the HMS *Terror's* lower deck (Parks Canada, 2019j); right, a closed storage compartment in Caption Crozier's cabin sealed in a layer of protective silt (Parks Canada, 2019j).

APPENDIX C: PARKS CANADA'S PROTECTED AREAS AND ASSOCIATED ACTS AND REGULATIONS



Sources: Parks Canada, n.d., 2018

APPENDIX D: FRANKLIN INTERIM ADVISORY COMMITTEE (FIAC) ORGANIZATION MANDATES

AGENCY	MANDATE
Parks Canada	On behalf of the people of Canada, we protect and present nationally significant examples of Canada's natural and cultural heritage, and foster public understanding, appreciation and enjoyment in ways that ensure the ecological and commemorative integrity of these places for present and future generations.
Inuit Heritage Trust	The Inuit Heritage Trust is dedicated to the preservation, enrichment and protection of Inuit cultural heritage and identity embodied in Nunavut's archaeology sites, ethnographic resources and traditional place names. The Trust's activities are based on the principle of respect for the traditional knowledge and wisdom of our Elders. The Inuit Heritage Trust receives its mandate from the Nunavut Land Claims Agreement, the largest aboriginal land claim settlement in Canadian history, signed in 1993.
Nattilik Heritage Centre	To preserve and promote the culture and heritage of Nattilingmiut, to lead initiatives that generate social, cultural and economic benefit in the community, and present an account of the Nattilik people through their stories, images and local Inuit art and craft.
Government of Nunavut – Department of Economic Development And Transportation	To create a healthy, strong, and flourishing Nunavut. We are committed to taking actions that will lead to real and visible progress for Nunavummiut by providing quality education and training opportunities. In the Department of Economic Development and Transportation, we put people first, helping to build healthy communities and the infrastructure they need to link to each other, to the rest of Canada, and to the world.
Government of Nunavut – Department of Culture And Heritage	To create a healthy, strong, and flourishing Nunavut. We are committed to taking actions that will lead to real and visible progress for Nunavummiut by providing quality education and training opportunities. We work towards ensuring that the Government of Nunavut preserves, develops and enhances Nunavut’s culture, heritage, and languages for all Nunavummiut.
Nunavut Tourism	Travel Nunavut is a not-for-profit membership association that encourages tourism development by providing specialized knowledge and expertise in four key areas: Marketing and Research, Communication, Market Readiness and Advocacy. Travel Nunavut seeks partnerships with governments, regional Inuit associations, communities and tourism operators to promote tourism opportunities that encourage sustainable economic growth, cultural preservation and social benefits of Nunavummiut.
Kitikmeot Inuit Association	To defend, preserve, and promote social, cultural, and economic benefits for Kitikmeot Inuit.
Hamlet of Gjoa Haven	*Vacant*
Hamlet of Cambridge Bay	*Vacant*

APPENDIX E: RESEARCH INFORMATION LETTER

Research Information Letter

Towards Tourism Management Recommendations for the Franklin Wrecks

Dear Potential Participant,

You are invited to participate in an interview for research being conducted by Stephanie Potter as part of her master's thesis, supervised by Dr. Margaret Johnston from Lakehead University, and funded by MEOPAR. The purpose of this research is to gain an understanding of what practices and strategies that are appropriate for the management of marine tourism and the Franklin Wreck Sites. We value your input, as the information you provide will be used to develop context-specific tourism management recommendations to help support the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site.

What is Requested of You as a Participant?

1. About 20 to 30 minutes of your time to participate in a telephone interview with one researcher. We would like to audio record the interview but will only do so with your consent. – OR – About one hour of your time to complete an email interview.
2. Your willingness to discuss management practices and strategies related to marine tourism and the Franklin shipwrecks.

What are Your Rights as a Participant?

1. Your participation in this research is voluntary and you may choose to withdraw at any point before February 2020, as it is not possible to remove your data once the thesis has been submitted.
2. You may choose not to answer any question(s).
3. Your information will remain confidential and will be used solely for the purposes of this research. Any information collected (including your consent, interview, and transcript) will be kept in a secure manner by Dr. Margaret Johnston at Lakehead University for five years. Only Stephanie Potter and Margaret Johnston will have access to the research material.
4. You will have the opportunity to review your interview transcript to ensure an accurate representation of your views and decide what material, if any, may be used in direct quotes in presentations and/or publications.
5. With your permission, quotations may be used in presentations and/or publications. Unless you specifically request to be identified for any quotes, neither you nor your organization will be identified directly. We will maintain anonymity to the extent we can; however, we cannot guarantee complete anonymity given the small cohort that makes up current and recent members of the Franklin Interim Advisory Committee.
6. You will be provided with the research results by email.

What are the Benefits and Risks to Your Participation?

The benefits associated with your participation in this research include your contribution to the development of context-specific management recommendations to support the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site. There are no known risks associated with this study.

This research has been approved by the Lakehead University Research Ethics Board. If you have any questions related to the ethics of the research and would like to speak to someone outside of the research team, please contact Sue Wright at the Research Ethics Board at 807-343-8283 or research@lakeheadu.ca

What's Next?

If you wish to participate, please reply to this email and clearly indicate that you would like to participate. Please note that by doing so, you are acknowledging that you have read and understood the details included above and that you agree to participate in this study. If you wish to participate in a telephone interview, please include a phone number where we can reach you and your preferred date and time (include your local time zone) between Thursday, October 3rd and Monday, October 14th, 2019 to schedule an interview. If you prefer to participate in an email interview, written questions will be emailed to you on Wednesday, October 2nd, 2019. Please try to reply with your completed response by Friday, October 11th, 2019.

Please keep this letter for your records. Thank you for your time and consideration.

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Lakehead UNIVERSITY

School of Outdoor Recreation,
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APPENDIX F: INTERVIEW PROTOCOL

Interview Questions

Thank you for providing your input to help develop context-specific management strategies for the Wrecks of HMS *Erebus* and HMS *Terror* National Historic Site (WET NHS). Please return your completed interview to sepotter@lakeheadu.ca by **Friday, October 11th** if possible. Please let me know if you would prefer to participate in a telephone interview.

Site Management	
1. Should **both** the wrecks of HMS *Erebus* and HMS *Terror* be open to tourism? Why? Please consider: ▪ Cruise ship and pleasure craft (non-commercial) tourists; and ▪ Seasonality	**Yes** ☐ **No** ☐ Please explain your response. Click 'here' and begin typing.
2. Is existing legislation and regulation adequate to account for potential impacts at the WET NHS? ▪ What else is needed?	**Yes** ☐ **No** ☐ Please explain your response. Click 'here' and begin typing.
3. Do you think that it is feasible to require tourism operators and visitors to hire a local guide at the WET NHS? ▪ If so, what challenges exist? and, ▪ How could this approach benefit local communities?	**Yes** ☐ **No** ☐ Please explain your response. Click 'here' and begin typing.
4. Anchor damage is one of the most destructive and common impacts to shipwrecks worldwide. Permanent moorings are used to manage this threat; however, above-water components must be removed each winter. Do you think moorings are a feasible strategy in the WET NHS? ▪ What other approaches may be superior?	**Yes** ☐ **No** ☐ Please explain your response. Click 'here' and begin typing.
5. What benefits and/or challenges exist with the Franklin Guardian monitoring program? ▪ What other monitoring approaches could help with the security of the WET NHS?	Please explain. Click 'here' and begin typing.
6. How should visitor safety be ensured in the WET NHS?	Please explain. Click 'here' and begin typing.
Visitor Experience Products and Education	
7. Do you think that scuba diving should be allowed at the Franklin shipwrecks? ▪ If so, what should be required of individuals or commercial operators to allow them to dive?	**Yes** ☐ **No** ☐ Please explain your response. Click 'here' and begin typing.
Should recreational dive guides in the WET NHS be required to acquire specialized site or archaeological training?	**Yes** ☐ **No** ☐ Please explain your response. Click 'here' and begin typing.

8. Do you think that snorkelling should be allowed above the Franklin shipwrecks? ▪ If so, what should be required of individuals or commercial operators to allow them to snorkel?	**Yes ☐** **No ☐** Please explain your response. Click 'here' and begin typing.
9. What other viewing activities should be allowed around the Franklin shipwrecks? ▪ If so, what should be required of individuals or commercial operators to allow them to do so?	Please explain. Click 'here' and begin typing.
10. Who should be included in the design and delivery of interpretation at the WET NHS?	Please explain. Click 'here' and begin typing.
11. Do you think that there should be permanent interpretation or other facilities installed in the WET NHS? ▪ If so, what types of facilities? and, ▪ Who should be responsible for them?	**Yes ☐** **No ☐** Please explain your response. Click 'here' and begin typing.
12. What off-site visitor experiences are suitable for the interpretation of the WET NHS? ▪ Who should they target? ▪ Where should they be located?	Please explain. Click 'here' and begin typing.
Community Benefit	
13. How can the cooperative management of the WET NHS move forward to ensure local benefit? ▪ What challenges exist?	Please explain. Click 'here' and begin typing.
14. What opportunities exist for face-to-face relationship building between WET NHS staff and local community members?	Please explain. Click 'here' and begin typing.
15. Is there local interest in additional tourism training opportunities in Gjoa Haven? ▪ If so, what kind? and, ▪ Who should provide it?	**Yes ☐** **No ☐** Please explain your response. Click 'here' and begin typing.

Comments:

Optional - Please provide any other comments or feedback.
Click 'here' and begin typing.

Thank you for your time and participation!