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The Sinking of the MS *Explorer*: Implications for Cruise Tourism in Arctic Canada

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INTRODUCTION

Built in 1969, and affectionately known as "the little red ship," the MS *Explorer* was the first vessel specifically designed for transport of passengers in the polar regions (Fig. 1). Under the name *Lindblad Explorer*, she took passengers to Antarctica in the 1969–70 austral summer (Splettstoesser, 2000), and in 1984 she was the first ship to take visitors through the Northwest Passage in the Canadian Arctic. These achievements earned the *Explorer* an esteemed reputation in the niche polar travel sector. Ironically, however, the *Explorer* was also the first cruise ship to sink in polar waters, off the coast of the Antarctic Peninsula, in November 2007 (see Fig. 2). This incident is a sad tribute to the veteran polar cruise ship and a concern for all who support responsible tourism in Antarctica and who care about the conservation of the Antarctic environment.

A major incident involving a cruise vessel, such as this, came as little surprise; it was an accident some observers had predicted was waiting to happen (Stewart and Draper, 2006). This prediction was premised on the facts that the number of cruise vessels operating in both the Arctic and Antarctic had been increasing and that, since 2000, large cruise liners that were not ice-strengthened had entered the Antarctic cruise market. What came as a surprise was that the first sinking was of a veteran ice-strengthened vessel designed and purposely outfitted for polar travel. Even more surprising was that, at the time of the incident, the cruise ship was operating in seemingly benign ice and calm weather conditions. This essay provides an overview of polar cruise tourism trends, highlighting the important role played by the ill-fated *Explorer* and describing briefly what happened to her in Antarctica, and comments on the implications of the incident for cruise tourism in light of climate warming in the Arctic.

FIG. 1. The Explorer in Antarctica (Photo: Mark Nuttall).

OVERVIEW OF POLAR CRUISE TOURISM

Cruise tourism in Antarctica began in 1957, when Argentinean and Chilean naval ships first transported tourists to the continent to help pay the costs of operating national expeditions (Reich, 1980). In 1966, the first U.S.-operated cruise was offered aboard the Argentinean chartered ship, the *Lapataia* (Enzenbacher, 1992). With the advent of the International Geophysical Year (1957–58) and the dual availability of commercial aircraft and purpose-built cruise ships, it was not long before entrepreneur Lars-Eric Lindblad developed the concept of "expedition cruising" (Bertram, 2007). In 1969–70, the ice-strengthened *Explorer* (at that time named *Lindblad Explorer*) made her first expedition cruise with tourists to Antarctica, combining brief shore visits via small inflatable craft with environmental and historical education (Mason and Legg, 1999; Splettstoesser, 2000).

Since those formative polar cruises, the number of tourists visiting Antarctica has been variable, but the general trend has been upward (Splettstoesser, 2000). With the collapse of the Soviet Union in 1991, the availability of ice-breaking vessels for ship-based polar tourism increased rapidly, enabling tourists to visit polar places in relative safety and comfort (Jones, 1999; Grenier, 2004). During the 2006–07 austral summer, 37 552 seaborne tourists either had landed on the continent or had visited as cruise-only passengers, i.e., without making any

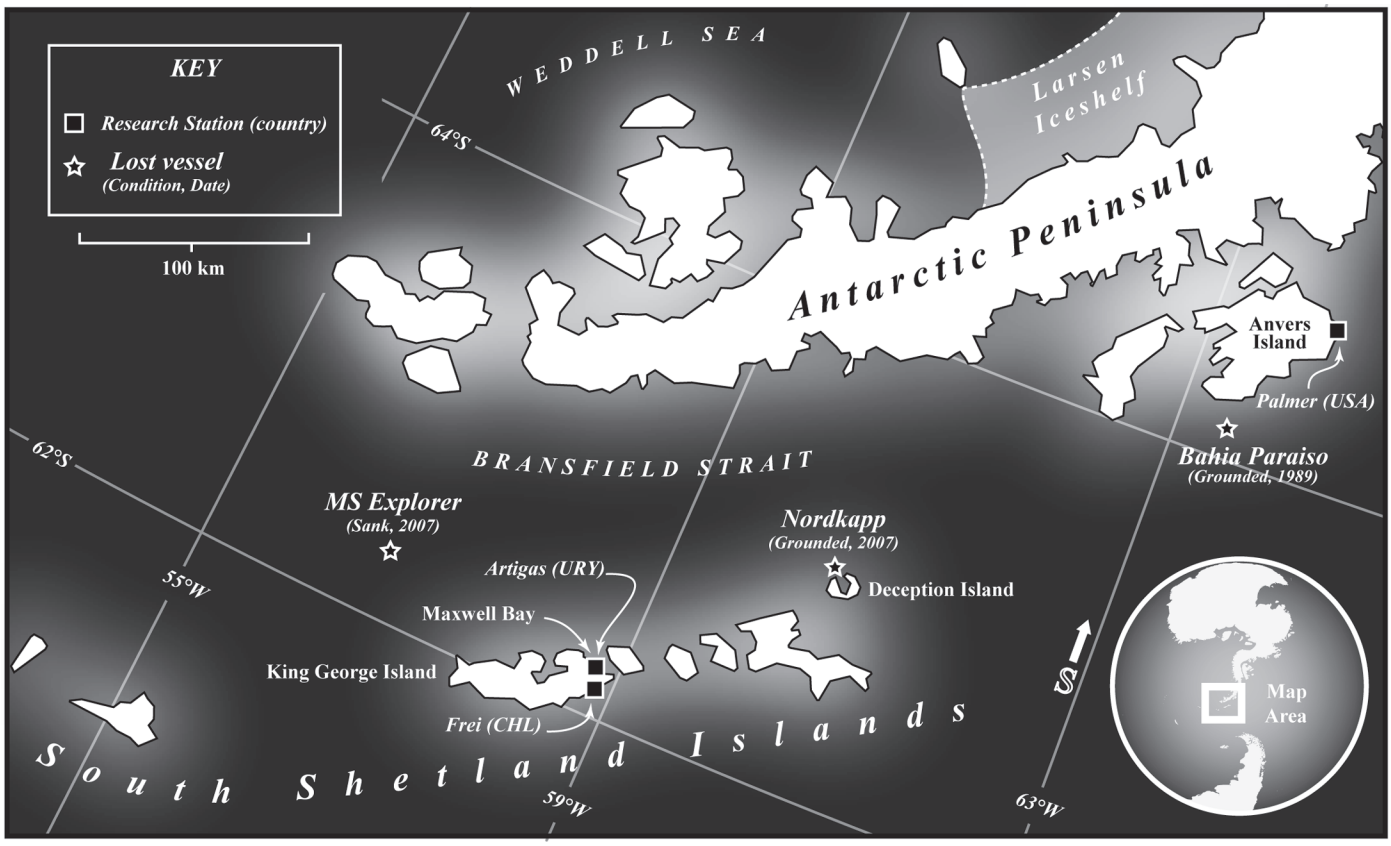

FIG. 2. Locations of major incidents involving vessels that carry tourists along the Antarctic Peninsula.

landings on shore (IAATO, 2008a). These tourists were in addition to the 22 320 staff and crew supporting the expeditions on board the cruise vessels. Approximately 55 different vessels, including icebreakers, ice-strengthened ships, non ice–strengthened cruise ships, yachts, cutters, and tall sailing ships, carried these tourists (IAATO, 2008a). Collectively, these vessels completed approximately 278 separate journeys to Antarctica, and the vast majority visited the Antarctic Peninsula (IAATO, 2008a), the location where the *Explorer* sank. In the season before the incident (2006–07), the *Explorer* successfully visited Antarctica on 12 occasions, carrying a total of 1180 tourists (IAATO, 2008a).

In the Arctic, ice conditions have historically precluded most commercial shipping, and cruise tourism did not get under way there until 1984, when the *Explorer* first carried passengers through the Northwest Passage. With 98 passengers aboard, the cruise ship traversed the Passage in 23 days, only the 33rd full passage ever, and thereby started cruise tourism in the Canadian Arctic (Marsh and Staple, 1995; Jones, 1999). There was sufficient tourist interest in the fabled Northwest Passage to warrant similar transits; however, only two crossings were successful during the next four years (Marsh and Staple, 1995). From these modest early developments, however, a more regular pattern of cruise activity emerged; from 1992 to 2005, cruise ships not only completed one to three successful voyages of the Northwest Passage each year, but also visited other locations in the Canadian Arctic, such as Baffin Island, Hudson Bay, and Ellesmere Island. Twenty-two ships operated in the Canadian Arctic during the 2006 season, double the number in the previous year (Buhasz, 2006). During this record-breaking season, the *Explorer* operated three different cruise tours in Arctic Canada, which included shore visits to the communities of Arctic Bay, Grise Fiord, Pond Inlet, Kimmirut, Cape Dorset, Pangnirtung, Clyde River, and Iqaluit. She also visited some of these northern communities in the summer in 2007, during her last Arctic journey (for more detail on cruise trends in the Canadian Arctic, see Stewart et al., 2007).

These trends suggest that the cruise tourism industry in Arctic Canada has moved beyond its infancy and is now entering a maturing phase, with increased numbers of vessels, more regular and predictable patterns of activity, and the forging of new and more demanding routes (Stewart et al., 2007). However, the current volume of cruise traffic through Arctic Canada is still nowhere near the level of cruise activity currently experienced in Antarctica. We suggest that decision makers in Arctic Canada be mindful of the explosive pattern of cruise activity development in Antarctica and be alert to the implicit dangers associated with commercial travel through polar waters, evidenced by the sinking of the *Explorer* in November 2007.

SINKING OF THE MS *EXPLORER*

Cruise tourism in Antarctica had a reasonable environmental record and a good human-safety record up until the sinking of the *Explorer*, with only two major incidents involving cruise vessels reported since cruising began in 1957 (see Fig. 2). The first incident involved an Argentinean navy resupply ship, the *Bahía Parasío*, which grounded off Anvers Island in 1989 after a tourist visit to the U.S. Palmer Station. The second incident, which involved the Norwegian ship *Nordkapp*, occurred in the South Shetland Islands in January 2007. Approximately 350 tourists and crew were aboard when the *Nordkapp* ran aground in Whalers Bay, in the caldera of Deception Island. The ship was able to pull off the rocks under her own power, and no one was injured, but light blended marine diesel oil leaked into the ocean. The *Nordkapp* was assisted by her sister ship, the *Nordnorge*, the same vessel that helped the *Explorer* only nine months later.

According to the International Association of Antarctica Tour Operators (IAATO) (IAATO, 2008c) the *Explorer* had a double hull with a high ice class rating (ice class 1A). She was certified to operate by numerous international regulations, including the ship's registry, Det Norske Veritas (DNV), and received her full-term (five-year) International Safety Management Certificate (ISM) from Lloyd's Register, the ship classification society acting on behalf of Liberia, the Flag State. The *Explorer* had completed a scheduled dry dock examination in Las Palmas, Spain, on 21 October 2007. As far as IAATO knew, all safety features had been checked and any necessary work carried out under the supervision of DNV. This work included a five-year test of lifeboats and lifeboat davits, including weight tests. A Passenger Ship Safety Certificate was then issued by DNV (IAATO, 2008c).

An IAATO press release (IAATO, 2008c) states that the *Explorer* issued a distress call at 03:20 GMT on 23 November 2007, from the Bransfield Strait, close to the South Shetland Islands and north of the Antarctic Peninsula (Fig. 2). Reports indicated that the ship was holed by ice on the starboard side. If the hull is breached, watertight compartments are supposed to contain the water to allow the vessel to stay afloat, but for some unknown reason, this did not happen. After initial attempts failed to contain the damage, the order was given to abandon ship. All 154 people on board (91 passengers, 54 crew and 9 staff) were evacuated safely to the ship's lifeboats and zodiacs (small inflatable boats). The *National Geographic Endeavour*, *Nordnorge*, and *Antarctic Dream* were approximately 40 miles away. The *National Geographic Endeavour* and the *Nordnorge* both arrived on the scene within a few hours, which meant that passengers, staff, and some crew awaited rescue in lifeboats for four to five hours. Fortunately the weather was reasonable and seas were calm. The *Nordnorge* provided the initial command response control centre, and all *Explorer* personnel were subsequently transferred to the *Nordnorge*. The *Nordnorge* proceeded to Maxwell Bay, King George Island, where all of the *Explorer*'s passengers, staff, and crew disembarked. The Chilean and Uruguayan governments granted permission and assistance for all passengers, staff, and crew to stay until onward travel arrangements could be made (IAATO, 2008c).

In terms of environmental implications, the *Explorer*'s fuel tanks held an estimated 190 cubic metres of Marine Gas Oil (MGO). As the incident occurred in open water with an estimated depth of 500 m, it was expected that the leaked fuel would disperse promptly with no adverse effects on the environment (IAATO, 2008c). However, there was concern that residue from the evaporated MGO might be toxic and that other pollutants, such as lube oil and various plastics, might be present. IAATO requested that vessels passing the area monitor, report, and collect any marine debris, flotsam, or pollution, and report landing sites for any debris that reached shore. This request remained in place for the duration of the season. The *Professor Molchanov* (Oceanwide Expeditions) reported on 24 November 2007 that there was an oil spill of approximately one square nautical mile in the vicinity of the sinking. The *Explorer*'s Canadian owners and advisors were in touch with environmental experts at the International Tanker Owners Pollution Federation (ITOPF) in order to develop an action plan that would address potential pollution issues (IAATO, 2008c). Anecdotal evidence indicates that flotsam (such as life rings and decorative gourds) has been found close to where the *Explorer* sank.

IMPLICATIONS OF THE INCIDENT FOR ARCTIC CRUISE TOURISM

It was fortunate that the sinking of the *Explorer* occurred in good weather conditions and that other vessels were in the vicinity and available for assistance. It also was fortuitous that IAATO members previously had agreed to an emergency contingency plan to ensure the safety of passengers and crew, and these procedures were enacted at the time of the distress call. There is no equivalent of IAATO for cruise ships operating in the Canadian Arctic, although many of the vessels plying Arctic waters are already members of IAATO since they operate in Antarctica during the austral summer. IAATO is a member organization founded in 1991 to advocate, promote, and practice safe and environmentally responsible private-sector travel to the Antarctic. IAATO currently has just over 100 members, who work together to develop, adopt, and implement operational standards that mitigate potential environmental impacts (IAATO, 2008b). The development of an equivalent body for the Arctic has been discussed for many years, but no clear path of action has been determined (Geitz, 2005; Marquez and Eagles, 2007). The closest parallel organization is the Association of Arctic Expedition Cruise Operators (AECO, http://www.aeco.no), who work to ensure that voluntary codes of practice are adhered to in the European Arctic, but

Arctic Canada falls outside of the regional remit of AECO. The sinking of the *Explorer* should provide impetus to create a new body, or extend the remit of IAATO or AECO to the Canadian Arctic. Such action is critical because it is clear that emergency contingency response plans followed during this incident contributed toward the successful rescue operation (IAATO, 2008c). If a similar incident were to occur in Arctic Canada, would the outcome be as favourable?

The chances that a similar cruise-related accident will happen in Arctic Canada are increased by climate change in this region, though determining the implications of a warming climate for cruise tourism in the region is problematic. Given the reported decreases in Northern Hemispheric sea-ice extent in almost every month of the year since 1979 (Serreze et al., 2007), some commentators suggest that receding ice across the Arctic promotes better ship access, and despite reduced opportunities to see ice-dependent wildlife, cruise tourism inevitably will continue to increase, possibly to the extent witnessed elsewhere in the polar regions (Pagnan, 2003; Johnston, 2006). However, changing sea-ice conditions are particularly worrisome for cruise operators in Arctic Canada because under climate warming, denser, hull-penetrating, multiyear ice may present navigational hazards for ships in certain regions of the Canadian Arctic (Howell and Yackel, 2004). Not only would cruise tourism be affected by retreating and thinning ice conditions, but favorable transits of the Northwest Passage by commercial vessels would become attractive. Commercial transits could create an incident of grounding or other cause for release of petroleum products, thus impacting large populations of wildlife. Ice hazards may be most challenging in the fabled Northwest Passage, which is traversed by two or three cruise ships each year. In other areas, such as Baffin Bay, increasing open water could promote safer traveling conditions, making these areas more attractive to cruise operators (for a fuller discussion see Stewart et al., 2007).

Climate change in Antarctica will also present navigational challenges to all vessels sailing there. According to some observers, the number of icebergs in the region fluctuates annually, but growing numbers of icebergs are calving from disintegrating ice shelves along the Antarctic Peninsula. The impact of such an iceberg is possibly what sank the *Explorer*, although an investigation of the cause is still pending. But while the reason for its sinking is currently a matter for speculation, the *Explorer* incident has given rise to pressing questions for the cruise industry in the Arctic. For instance, how can the industry minimize risk for the increasing numbers of cruise ships and tourists visiting the Canadian North (and indeed other polar locations)? What can be learned from the unfortunate and accidental sinking of the *Explorer* that will help improve future cruise operations in the Arctic? What voluntary and regulatory mechanisms are required to ensure that the Arctic cruise industry meets appropriate safety and environmental protection standards?

CONCLUSION

The growth in cruise tourism presents many challenges to Arctic Canada, particularly because, to date, there has been little coordinated, trans-regional planning for the sustained development of cruise tourism in the region (Stewart and Draper, 2006). Clearly this needs to change. Although the officers, staff and crew of the *Explorer* were commended for their timely, professional and effective evacuation of the ship (IAATO, 2008c), the sinking of the *Explorer* shows the stark reality of the individual, cultural and environmental risks associated with polar travel. Fortunately, human life was spared in this incident, but the environmental consequences of *Explorer*'s sinking remain unknown. It is clear that what happened to the ice-strengthened *Explorer* in the Antarctic could happen to ships operating in the Canadian Arctic as well, and without adequate policy and planning in place, the outcome might be much worse.

Arguably, the changing global climate should deepen existing concerns about cruise travel in the polar regions. To date, fortunately, cruise operators in Arctic Canada possess a good human safety record, although there is a "lengthy record and anecdotal history of groundings and other bumbles" (Jones, 1999:31). However, like all polar waters, the Canadian Arctic remains a place of danger. To ensure that risk is minimized, it is crucial that decision makers be proactive (Stewart and Draper, 2006). Our intention here is not to sensationalize or act as scaremongers, but to draw attention to the possible implications of increased cruise tourism in Arctic Canada. We hope our comments will help tour operators and governmental and community decision makers to ensure that the development of cruise tourism in Arctic Canada continues to proceed with caution. Also, we hope that tourists will demand more information and assurances about how risk is managed through ship operations. Individual, cultural, and environmental safety issues need to remain at the forefront of planning efforts so that tourists can continue to enjoy and learn from the splendors of Arctic Canada and indigenous people can benefit from the economic possibilities that tourism presents (Stewart and Draper, 2006).

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