



# PERSPECTIVES ON EMERGENCY RESPONSE IN THE CANADIAN ARCTIC

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*Sinking of the MS Arctic Sun in  
Cumberland Sound, Nunavut*

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## **PART C: FINDINGS OF THE HYPOTHETICAL SCENARIO**

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A partnership between the Canada Centre for Global Security Studies at the Munk School of Global Affairs, University of Toronto, and the Walter and Duncan Gordon Foundation, the Munk-Gordon Arctic Security Program's vision "is for peacefully resolved disputes in the Arctic, global environmental security that supports a healthy Arctic environment, and an Arctic foreign policy that centres on the needs of those who live there." To achieve this vision the Program undertakes original research and hosts interactive gatherings.

### *EMERGENCY PREPAREDNESS IN THE ARCTIC*

This paper is one of a three-part series focused on a hypothetical sinking of the MS Arctic Sun in Cumberland Sound, Nunavut, Canada. The series is part of a larger project on Emergency Management Preparedness in the Arctic being undertaken by the Munk-Gordon Arctic Security Program.

By exploring current emergency management preparedness capacity in the Arctic, including methods of communication, collaboration, resource-sharing, authority and jurisdiction, the question "are we ready?" for emergencies ranging in scope from the local to the international will be answered. A combination of baseline issue research, participatory action research and scenario assessment will inform the development of policy recommendations to prepare for emergency management responsibilities in the 21st-century Arctic.



## ACKNOWLEDGMENTS AND THANKS

The author would like to thank all the individuals who contributed to this project. Their insights and candor have ensured a more accurate, and therefore useful, assessment of the gaps and future needs in this important area of public policy. The study is all the stronger for their generous participation.

The author would also like to extend a special thank you to the people of Pangnirtung, NU, and in particular, to its former senior administrative officer (SAO), Ron Mongeau. Pangnirtung's generosity in "hosting" this scenario as well as its citizens' sincere commitment to the safety and well-being of all who enter the waters of Cumberland Sound are a credit to the community and its citizens.

## THE COMMUNITY OF PANGNIRTUNG, NUNAVUT

The sinking of the Arctic Sun takes place 31 kilometres from the hamlet of Pangnirtung, NU. Pangnirtung is a picturesque community of just over 1,400 people, primarily of Inuit origin, situated on the south shore of Pangnirtung Fiord, off Cumberland Sound on Baffin Island, Nunavut. Evidence of Inuit habitation of the Cumberland Sound region dates back millennia to the Thule and Dorset peoples, predecessors of the Inuit, indicating continuous occupation of these lands and waters since time immemorial. The search for the Northwest Passage brought the first European explorer, John Davis, to "discover" this area in 1585. Several centuries later in 1835, a Scottish whaler named William Penny and his guide Eenooolapik "rediscovered" the entrance to Cumberland Sound, triggering an era of Scottish and American bowhead whaling. The Inuit way of life would be forever changed as families left their traditional camps to work at the whaling stations at Nuvuyen and Kekerten Island in Cumberland Sound.<sup>1</sup>

Today the hamlet is a regional centre for the territorial departments of health and education, and boasts an active and growing fishing industry, a new small craft harbour and a fish plant employing 38 people both full-time and seasonally. Also renowned for its artists and craftspeople, the Uqurmiut Centre for Arts & Crafts supports a vibrant arts community and has made Pangnirtung internationally famous for its tapestries, printmaking and crocheted "Pangnirtung hats."

<sup>1</sup> "History," Hamlet of Pangnirtung, accessed February 10, 2014, [www.pangnirtung.ca/history](http://www.pangnirtung.ca/history), 2014.

# THE SINKING OF THE *MS ARCTIC SUN* IN CUMBERLAND SOUND, NUNAVUT: HYPOTHETICAL SCENARIO



*Image courtesy of Mike Beauregard*

Are we ready? This pivotal question launched a year of research into Canada's ability to respond in an effective and timely manner to a major disaster in the Canadian Arctic. The analysis was accomplished through the lens of a hypothetical cruise ship sinking in the waters of Cumberland Sound off Baffin Island near the hamlet of Pangnirtung, Nunavut, Canada. The exercise brought into sharp focus the unique challenges to emergency management posed by the vast geography of the Arctic, the changing social and institutional patterns of its communities and the multi-jurisdictional nature of the authorities that currently govern disaster response in the Arctic.

*A summary of the incident under study is as follows:*

## **CASE STUDY SCENARIO: THE SINKING OF THE *MS ARCTIC SUN***

On the morning of Saturday Aug. 13, 2014, the *MS Arctic Sun* is travelling north up the east coast of Cumberland Sound off Baffin Island, Nunavut, Canada, en route to the hamlet of Pangnirtung. Aboard are 114 passengers – Arctic policy experts, marine biologists and government officials from the eight circumpolar states – all participating in a two week “floating

think-tank” exercise aimed at developing a framework agreement to govern the future commercial fishing industry in the Arctic. Fifty-four crew members are also on board, bringing the total manifest to 168 persons.

On this Saturday morning in August the skies in Cumberland Sound are heavily overcast, the temperature is hovering around 5 degrees C and the winds are blowing out of the east at 14 knots. The Canadian Ice Service (CIS) reports indicate the north end and much of the northwest side of the Sound are solidly blocked with pans of 3/10 to 8/10 ice, forcing the *Arctic Sun* to keep to the far eastern coast of the Sound. The CIS has also reported three large icebergs in the vicinity of the ship, with the most significant one tracking south as it emerges from the mouth of Pangnirtung Fjord. As the ship makes its approach to round the head and travel down the fjord toward the hamlet, the ship's radar picks up the image of an iceberg lying directly ahead in the ship's path; evasive action will be required to avoid a collision.

With extensive ice cover to the north and west, there is not enough open water to manoeuvre the ship far enough to port to safely bypass the iceberg, nor is there sufficient time to turn the vessel around and retreat south. The captain makes the only decision possible: at ship's time 10:21, he orders the

ship's course to be altered further to the east, directing the vessel to the farthest line of soundings possible in an attempt to ensure enough distance from the iceberg and avoid any possibility of collision. Without forward-looking sonar, the instruments on the bridge are only capable of identifying objects above the waterline and with 90 per cent of the iceberg submerged, the captain aims to give it wide berth. The approaching low tide is not in the ship's favour and the vessel crawls forward at a cautious two knots per hour.

At 10:46, disaster strikes. The vessel hits a rocky shoal just beneath the surface, sending a violent shudder throughout the ship. Passengers and crew are jolted by the impact and a 64-year-old professor who is descending a ladder between decks at the time is thrown to the ground, breaking his leg. Other passengers are badly shaken but uninjured. After issuing appropriate orders to the bridge, the captain orders all passengers and crew to muster stations for the roll to be called and instructs the chief engineer to sound all tanks and check for damage.

A quick inspection indicates that tank number 6, carrying 87 m<sup>3</sup> of diesel, has been breached. Not long after, a large fuel slick is sighted off the starboard side to the rear of the ship, but of greater concern is the seawater flooding into the mechanical room. Within an hour of the grounding, despite the use of bilge pumps, the water is threatening to swamp vital electrical and mechanical components. The captain broadcasts a Mayday call and informs MCTS in Iqaluit that they are abandoning ship.

All passengers and crew are instructed to don survival suits and directed into four large 50-man lifeboats. During this process, the 62-year-old cook complains of severe chest pains. The transition into the boats is complicated by the need to accommodate the injured professor. Concern grows over the condition of the cook, but eventually all are secured and the boats move away from the foundering vessel.

### **FURTHER VARIABLES AFFECTING THE RESPONSE**

During the summer in which this incident occurs, the Canadian Coast Guard (CG) is operating five ice-breakers in the Arctic region. On the day of the sinking, the closest of these is in Iqaluit awaiting mechanical parts to be flown in to allow for the repair of an engine. The next closest CG vessel is situated in Hudson Bay, several days' sail away. The three remaining CG ships are on assignment in the western Arctic.

Several other cargo and fuel resupply ships are also traveling in the Arctic at this time of the season. An NSSI cargo ship departed Montreal Aug. 4 and is currently off the east coast of Newfoundland. The NEAS freighter left Valleyfield, Que., on Jul. 23 and is 90 kilometres east of Cape Dorset. A Woodward Group fuel resupply ship headed for Pangnirtung is just leaving the dock in St. John's, Newfoundland.

The weather at the time of the ship's evacuation is holding steady around 9 degrees C, but the rain continues. The winds over the course of the afternoon begin to shift to the southwest, gusting up to 20 knots, and interrupting flight service in Pangnirtung, where the location of the airport in relation to the mountains makes landings and take-offs highly subject to weather. Eventually a warm front moves in from the southwest and by 23:00, Cumberland Sound is coated in thick fog. The temperature has risen to 14 degrees C.

The heavy fog blankets Cumberland Sound for three days, cutting off all outside access to the region. Finally, on Aug. 16, a cold front from the north-west pushes in, dispelling the fog but bringing winds that gust up to 30 kilometres per hour.

For a more detailed description of this event and the summary of timelines, please see *Part A: Sinking of the MS Arctic Sun in Cumberland Sound, Nunavut – Hypothetical Scenario*.

### **UNDERLYING PRINCIPLES: SYSTEMS THEORY OF EMERGENCY MANAGEMENT**

The theoretical framework used in the analysis of the response to the hypothetical sinking of the *Arctic Sun* followed the principal tenets of emergency management theory and the Incident Command System (ICS) model. The achievement of these basic principles is recognized in most emergency management theory as the minimum standard for an effective disaster response. They are as follows:

- 1** that leadership be quickly established and recognized by all parties;
- 2** that jurisdiction and response protocols of all responders be clearly understood and their efforts co-ordinated;
- 3** that communications, to the greatest extent possible, be centralized, accurate and consistent through a "one voice" approach; and

- 4 that systems be constantly tested and refined through simulations and tabletop exercises.

## SUMMARY OF PART B: “WHO IS IN CHARGE?”: ISSUES OF JURISDICTION AND AUTHORITY

Part B of the three-part series “Perspectives on Emergency Response in the Canadian Arctic” is based on independent interviews with key stakeholders and first responders responsible for emergency management in Nunavut. All were presented with the “Arctic Sun” scenario and asked a standard set of questions. The responses were later collated and compared to identify any misalignment or areas of potential dissonance in the policies or protocols of the various actors. In some cases agencies were contacted a second time electronically or by telephone for clarification. Part B focused primarily on issues of authority and jurisdiction and the challenges related to the response to the *Arctic Sun* scenario. Who would take charge of the incident? What role would they expect their agency and others to play? How would they expect the response to unfold?

*The following is a summary of that analysis:*

### EM RESPONSIBILITIES AND MANDATES

Responsibility for emergency management in the Arctic is a spread among a wide array of federal, territorial and municipal agencies supported by a patchwork of legislative authorities and mandates. Several branches of the Department of National Defense, the Coast Guard (Ministry of Fisheries and Oceans), the RCMP and the Government of Nunavut, as well as volunteer organizations such as the Canadian Coast Guard Auxiliary and community Search and Rescue teams all play a role. Who has the authority to respond to an Arctic event, and when, depends to a large degree on whose territory and under whose jurisdiction — federal, territorial, municipal or Inuit-owned lands — that event might fall.

The primary mandate for marine and aerial search and rescue (SAR) belongs to the Department of National Defense (DND) with the support of the Canadian Coast Guard and the volunteers of the Coast Guard Auxiliary. SAR is administered through three Joint Rescue Coordination Centers (JRCCs) based across southern Canada; responsibility for the Arctic is divided among these three Centres, with Cumberland Sound falling within the jurisdiction of JRCC Halifax. In Nunavut, the territory where this hypothetical

incident is situated, responsibility for ground search and rescue (GSAR) has traditionally fallen within the purview of the RCMP but since the 1980s has been carried out by volunteer search and rescue teams in each community under the authority of the territorial government. Should a search exceed the capacity of community resources or should community SAR volunteers be unavailable to conduct a search, the Canadian Rangers, a military reserve under the direction of DND’s Joint Task Force North (JTFN), and the JRCC can be called on to assist. All communities in Nunavut are prepared for the management of local emergencies with Emergency Response Plans (ERPs) that are territorially-registered documents outlining the roles and responsibilities of all municipal actors. The Emergency Management Office (EMO) of the Government of Nunavut supports and oversees all incidents that fall within territorial jurisdiction.

### SUMMARY OF THE RESPONSE

Members of the community of Pangnirtung, who would be first on scene in the case of this hypothetical sinking, very much saw this incident as a local emergency and would respond immediately and independently to save the lives of the passengers and contain the fuel spill. The local authorities would activate their community Emergency Response Plan (ERP), placing the Senior Administrative Officer (SAO) in charge of co-ordinating the response with the support of the Community Control Group (CCG) comprised of the representatives of all key responder agencies (RCMP, Health Centre, Public Works, etc.). The main contingent of first responders would have been local volunteers, including three Coast Guard Auxiliary members resident in the community.

At the time of the interviews, officials in Pangnirtung were aware of JRCC’s mandate for SAR, but did not see an immediate role for that agency given the many hours it would take for their SAR techs to arrive on scene, and were resistant to the notion of officers in Halifax taking command of the rescue from thousands of miles south. Their reluctance to submit to that authority was based primarily on the absence of any knowledge of, or established working relationship with, the officers of that JRCC. Any requirement for local officials to fall under JRCC’s direction in co-ordinating the search was perceived by some in the community as “paternalistic” and a manifestation of a “colonial mentality.” Given the extent of community involvement and the location of the incident, officials felt that trusted, local leadership and judgement would be paramount

to the success of the rescue. While support and advice would be welcome, any requirement to vet actions or defer to the authority of southern agencies not on scene would represent an impediment to the efficiency of the operation and therefore would be inappropriate to the immediate circumstances.

JRCC Halifax, supported by their national mandate for SAR, would also respond immediately to this incident once informed of it by the Iqaluit Marine Communications and Traffic Service (MCTS) centre. Air assets, equipment and SAR technicians would be launched from Canadian Forces Base Greenwood, N.S. within two hours of the call-out and could be expected to arrive on scene in Cumberland Sound anywhere from 13 to 27 hours later, depending on travel conditions.<sup>2</sup> Following national protocol, they saw command of the incident emanating from Halifax with the officer-in-charge (OIC) co-ordinating the rescue. Direction of responders on scene by JRCC would be exercised through the Canadian Coast Guard Auxiliary members or the RCMP in the community. At the time of the interviews, JRCC were not familiar with Pangnirtung's municipal Emergency Response Plan or the role it prescribes for municipal officials and other local responders, and were averse to the notion of a local official directing the response without the appropriate training and mandate.

It was clear in the interviews that both the JRCC and the officials in Pangnirtung were responding in good faith to their respective mandates; how these divergent perceptions of command might be resolved in the heat of the crisis remains one of the central questions of this study. Part B summarized the potential issues that were suggested by the analysis of the response and potential areas for further study and consideration, as follows:

- 1 No clarity of command, i.e., no immediate consensus among responders as to who should take charge of the rescue and spill;
- 2 Lack of awareness and/or understanding among the various responders of each other's obligations, mandates, and protocols;
- 3 Absence of SAR and ER personnel and/or assets located in the Arctic capable of effecting a timely response to a major disaster;
- 4 Insufficient Coast Guard Auxiliary personnel in the community to adequately respond to a major marine disaster;
- 5 The absence of Coast Guard Auxiliary membership on the municipality's emergency response Community Control Group (CCG), thus complicating the communication and co-ordination between JRCC and local EM officials;
- 6 No established working relationship between community officials and JRCC Halifax that would foster mutual trust and support cooperation in responding to a major marine disaster;
- 7 A lack of continual opportunity for communities, JRCCs and other EM agencies to work through jurisdictional issues through tabletop or simulation exercises in the Arctic; and
- 8 Differences in attitude, culture, language, local knowledge, education, and life experience that would foster distrust and suspicion among different responding agencies and individuals

For further discussion of this analysis, please see Part B of this series.

## PRINCIPAL FINDINGS OF THE RESPONSE TO THE HYPOTHETICAL SINKING OF THE ARCTIC SUN:

"Are we ready in Canada to respond to a major, mass casualty disaster in the Arctic?" was the driving line of inquiry behind the sinking of the *Arctic Sun* exercise. While other studies on emergency preparedness in the North have focused on issues of aging SAR equipment, location of SAR assets and geopolitical considerations, this study attempted to give voice to the perspectives and opinions of those living in the Arctic and to analyze the impact of a major disaster with a focus on their concerns and viewpoints.

### FINDING 1: CONFUSION OVER COMMAND

On the critical question of "who is in charge?" there was evidence that the triggering of both national and municipal protocols in response to this emergency might, on this (hypothetical) occasion, have led to tensions over command of the response, creating confusion among responders, straining relations at several levels of local, territorial and federal government and impeding the efficiency and effectiveness of the response.

<sup>2</sup> Kennedy, Alison Kennedy, ; Jack Gallagher, Jack; Aylward, and Katie Aylward, "Evaluating Exposure Time until Recovery by Location", Technical Report (Ottawa, Ontario, National Research Council Canada, Ocean, Coastal and River Engineering Division, 2013). Pg. 52.

## **FINDING 2:** **INTEGRATION OF LOCAL ERPS INTO NATIONAL RESPONSE STRATEGY**

The creation of Emergency Response Plans (ERPs) by the communities in Nunavut should significantly improve co-ordination of emergencies at the local level. However, the integration of these plans into the broader national response strategy and the opportunity for all responders in the North and south to work out any jurisdictional issues or anomalies through tabletop and simulation exercises in advance of a major incident would encourage a common understanding and approach among all actors.

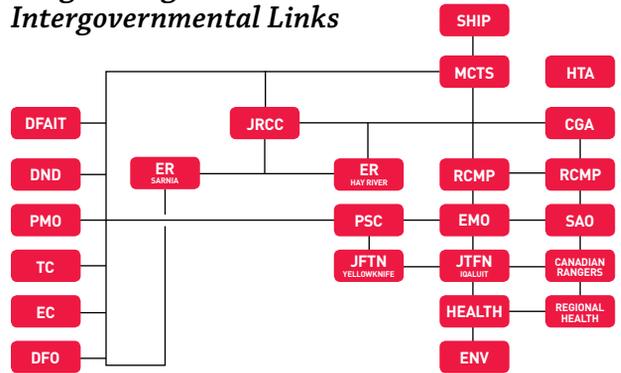
The first two findings of the study flow directly from the analysis found in Part B and relate to the central question of clarity of command summarized above. Based on the interviews, the study found that there were multiple perceptions among stakeholders and responders as to who would, and should, take the lead in co-ordinating this hypothetical rescue effort. In a real emergency, lack of clarity over “who is in charge” can create confusion among responders and result in conflict between authorities over matters of jurisdiction and mandate. Clarity of command being a basic tenet in all models of good emergency management, clarification of this important element among the relevant first responders and communities would be critical to the future management of a mass casualty incident such as this cruise ship sinking.

## **FINDING 3:** **IMPROVE THE AWARENESS OF NORTH- ERN ERPS BY EXTERNAL EM AGENCIES**

The establishment of the Emergency Response Plans (ERPs) at the territorial, regional and community levels in Nunavut and the resulting formalization of EM roles and responsibilities, such as that of Community Emergency Management Co-ordinator, are not as yet well understood by external EM agencies such as MCTS, ER, CG, etc., and could have implications for other important aspects of emergency response such as notification and communications.

Diagram I attempts to illustrate the associations between responding agencies and departments that were identified by those interviewed for this study in response to the *Arctic Sun* sinking. It is a “mind map” diagram and may not reflect all linkages found in official EM protocol. It does nonetheless provide some preliminary insight into the complexity of relationships that would be established in the course of this response

## **Pangnirtung Scenario** **Intergovernmental Links**



as identified and described by the participants.

The Coast Guard’s Marine Communication and Traffic Services (MCTS) office based in Iqaluit, Nunavut monitors all Arctic shipping, receives all marine communications, including distress calls, and is charged with informing all responsible parties in the event of a marine disaster. It is one of the best facilities of its kind in the world. MCTS follows a very precise program of call-outs, beginning with the appropriate JRCC, and including all key federal and territorial agencies or outside stakeholders who would play any role in the event of a major marine rescue or environmental disaster. Information is conveyed first by phone and then through a combination of telephone, radio and e-mail. Multiple templates are relied upon to record appropriate information and ensure consistency and accuracy, and the information is shared with the appropriate responders. Included in the MCTS call-out in an incident such as this would be the community of Pangnirtung. When asked who in the community MCTS would contact, MCTS identified the RCMP and the Hunters and Trappers Association (HTA) as the appropriate contacts. This was the only occasion in this study where the Hunter and Trappers Association was identified as an official point of contact, and while this organization does play a significant role in many communities, it is not identified as a key responder in the communities’ new response plans.

This would suggest the MCTS and other federal agencies involved with marine response are not as yet aware of the design of the territory’s new Emergency Response Plans. Clarification of the primary civic contact (in addition to RCMP) for MCTS would allow critical information regarding such details as the number of passengers aboard the ship, the number of casualties, etc., to flow directly to responsible officials in the community (SAO or Mayor) and might avoid any delays or confusion that might result from that information

being transferred through other local organizations or individuals. It might also remove any perception or confusion on the part of the Hunters and Trappers Association that they were being tasked in some way to respond to this incident.

This lack of awareness of how Nunavut emergency plans interface with other EM call-out protocols was not exclusive to MCTS, indicating that there is a general lack of awareness among DFO, DND and other responding agencies regarding the most appropriate point of contact within communities during an emergency. Clarification of these details among responding agencies might avoid confusion in future and help streamline communications and liaison among all responding parties.

**FINDING 4:**  
**ENSURE ARCTIC COMMUNITIES HAVE ADEQUATE TRAINING, ASSETS AND RESOURCES FOR SAR**

Assuming most major emergencies/mass casualties in the Arctic will occur in, or close to, remote communities, given the distance military/CG SAR technicians must travel from southern airbases to respond to Arctic emergencies and recognizing that northerners will respond to these disasters whether or not they have the appropriate expertise and equipment, the top priority of leaders in the Arctic is for their communities to be given adequate training, assets and resources to appropriately manage these emergency situations and support successful outcomes.

The findings of this study suggest that northerners would respond to a major disaster such as this hypothetical sinking regardless of their level of emergency response training. Those interviewed on this scenario were very clear on what they felt was needed to increase the odds of successful outcomes to emergencies in the North:

*“If the reality is that northern communities are going to be, in general, the first responders, then give us the resources and give us training to do the job and actually, we could be a bulwark for the government in terms of SAR.”*

While the degree of investment that would be required to adequately prepare remote communities in the North to respond to a major incident might seem disproportionate to the actual likelihood of a disaster occurring in or near an Arctic community, officials felt very strongly that such training would be worth-

while, providing skills and experience that would prove relevant or transferable to many other situations and circumstances. In the opinion of one medical officer in Pangnirtung:

*”This (the provision of training and equipment) is how the south can truly make a contribution because all the skills would be in the community.... Hopefully they will be used, hopefully not in a disaster, but they really come in useful in our day-to-day minor issues and so it should not be looked at in terms of investment. What is the likelihood of a disaster up here? Oh well, it’s one in 10,000 that there’s going to be an emergency happen right out there.... At the same time, when we are prepared for that, we will be prepared for years for minor emergencies, whether it’s a ship with 150 people or a pulke with two people – we have to be ready to respond equally well to both ...Whatever we invest will be of great benefit to the people in this community....”*

It should be emphasized that training in all aspects of emergency response emerged as the number one priority for northerners during this study. With all JRCC facilities and assets concentrated in southern Canada and little evidence of any significant change to the current SAR strategy on the horizon, it was felt the burden of first response to emergencies of all magnitudes would likely continue to fall to the citizens of the North. They therefore saw a critical need for training — first aid, spill response, marine rescue, etc. — supported by the federal government as part of a larger, integrated northern first response strategy.

One option that emerged as a practical means to address this deficit was to substantially increase the number of Coast Guard Auxiliary units in Nunavut, ideally to establish a unit in each coastal community. While the skills taught by CGA are directed primarily to marine events, most, such as first aid, are readily transferable to other emergency situations and this organization has the advantage of close integration and interoperability with the national JRCCs. This leads to another key finding of the study:

**FINDING 5:**  
**NEED FOR CGA UNITS THROUGHOUT THE ARCTIC**

The distribution of Canadian Coast Guard Auxiliary units throughout the Arctic does not adequately reflect the number of coastal communities geographically situ-

ated in each territory. New units should be created to support community SAR capacity.

There may be many reasons to explain the current distribution of Coast Guard Auxiliary units across the Arctic at the time of this study, but it seems clear that the number and locations of units as they currently stand does not adequately serve the marine SAR needs of Nunavut. The Northwest Territories has three coastal communities and 13 Coast Guard Auxiliary units. Nunavut, by comparison, has 25 coastal communities and only three CGA units. There was no record of any CGA units in the Yukon, possibly reflecting its lack of coastal communities, although like the Mackenzie in the NWT, the Yukon River represents a major marine corridor for that territory.

It should be noted that the Coast Guard Auxiliary in Canada is a federally-incorporated, not-for-profit (NFP) organization dedicated to marine search and rescue and marine disaster prevention. It derives its funding through a contribution agreement with the Department of Fisheries and Oceans. CGA members in the communities serve as volunteers, although there are other benefits as well as provisions for insurance, equipment, fuel, and other costs associated with the use of the members' personal equipment in conjunction with CGA activities. CGA likewise owns some marine assets (boats, motors, etc.) outright. As a volunteer-driven, not-for-profit corporation, the CGA's financial structure and reporting mechanisms differ significantly from those of other organized responder groups in the North, for example, the Canadian Rangers, who are military reserves and part-time members of the Armed Forces. The Coast Guard Auxiliary nonetheless enjoys an active working relationship with the Canadian Coast Guard and are an integrated part of the overall marine SAR framework in Canada. CGA members are often the first responders to local marine incidents and, as previously indicated, are formally linked to the JRCC's through the Canadian marine SAR structure.

Some challenges are being faced by the CGA in Nunavut. EM officials in the territory expressed frustration over their inability to access information on the distribution of funding among the three territories following the consolidation of all three budgets into one "Arctic" envelope, as well as their lack of opportunity to discuss Nunavut's CGA requirements with those responsible for the region. As one indicator of adverse fortunes, the CG Auxiliary unit in Iqaluit had recently been forced to disband due to a lack of funds.

The relative dearth of CG Auxiliary units in Nunavut has significant consequences for the territory's capacity to undertake marine search and rescue and supports

the municipal leaders' strong concerns over the lack of SAR training among local community members. JRCC's identification of Coast Guard Auxiliary personnel as their primary community contact and proxy until such time as their own SAR techs can arrive on scene also suggests this situation could have critical implications for the JRCC's ability to co-ordinate a major marine response in the absence of any community CGA members. With no CGA presence in the majority of coastal communities in Nunavut, JRCC's alternative contact remains the RCMP, whose members are tied to the community during an emergency and have no marine training or equipment to support a rescue at sea. Given this situation, the JRCC could face significant challenges in directing a spontaneous rescue by local community members in the event of a major marine incident in many locations throughout Nunavut.

A greater balance of units among the territories and an emphasis on the establishment of units in coastal communities would be a positive step toward improving Nunavut's marine rescue capacity, provide much-needed training and ensure a more robust marine response capacity.

### **FINDING 6:** **EFFECT OF GEOGRAPHY ON THE CULTURE OF RESPONSE**

Any gulf in the culture of responders – social, corporate or political – that became evident throughout this exercise followed geographic rather than institutional lines. In some cases, these differences in approach and attitude were significant and potentially disruptive to a multi-jurisdictional system where authority and proximity to the incident do not always align.

One of the most difficult observations to define in this study was the perceptible difference in the approach and culture of EM officials and responders who live in the south of Canada and those who are resident or who have had extensive experience in the North. This gulf was nuanced, but real. It was not necessarily tied to ethnicity, position or institutional affiliation; in fact, there could be significant differences in culture within the same departments or agencies depending on their geographic location. Simply put, everyone in the Arctic seemed to share a common sensibility, whether they were military, territorial officials or community SAR volunteers, and it was a sensibility not shared by their southern colleagues.

Responders in Nunavut placed far greater emphasis on personal contact and acquaintance and the need to build trust through working relationships than did

responders in the south. One practical manifestation of this was the reluctance of Pangnirtung officials to cede control of the response to the JRCC in Halifax, primarily on the grounds they had never met the officer in charge and had no measure of him or of his experience.

By contrast, many of those responsible for northern emergency management based in the south “did not know what they did not know” when it came to approaches and conditions in the North. Indigenous knowledge and experience were not held in the same regard in the south. While there was obviously great competence and professionalism among southern EM experts, they responded to the scenario with an approach based more on policy and credentials than those who were engaged in the response in the North, creating the potential for “two solitudes” in the event of a complex, multi-jurisdictional response.

Significantly, there was a strong sense among many of those interviewed that the federal government’s closing of emergency management-related offices and facilities in the Arctic (Coast Guard, for example) and the relocation of these employees responsible for the Arctic to offices in southern Canada would have a negative impact on emergency response in the Arctic. These critics emphasized how valuable the experience of living in remote northern communities was to public servants’ understanding of the conditions and culture of the North and, by extension, their ability to work effectively with northern responders and communities.

### **FINDING 7: INTEGRATION OF ER RESOURCES AND TRAINING INTO THE COMMUNITY IS REQUIRED**

The caching of oil spill equipment in select communities around the Arctic is recognized as a useful resource. However the guarding of the keys to these assets at Environmental Response headquarters thousands of miles from where the equipment is located, as well as the lack of training of local citizens in the appropriate use of this equipment, limits its utility. Integration of ER resources and training into the community is required.

One of the more curious issues to emerge in the course of this study revolved around the oil spill remediation equipment that was delivered in locked sea-cans to select communities, including Pangnirtung, by the Environmental Response (ER) division of the Coast Guard. The disposition of this oil spill remediation equipment in communities in the Arctic, including several warehouses of equipment in Iqaluit, would seem to be a positive and logical step by ER to ensure a

timely and appropriate response to marine oil spills in the Arctic region. In reality, its arrival has precipitated several issues that suggest a breakdown in communications between southern officials and northern communities that largely negates the value of this initiative.

The first issue identified around the disposition of these ER sea-cans in the communities related to notification, and more specifically, the apparent lack of notice given to officials regarding its arrival. As one official in Pangnirtung recalled:

*“I can’t tell you how it landed on the beach because I was never informed; I presume it came off one of the sea lift vessels...that’s about as much as I know – we now have it verified that it’s physically on the beach but we can’t get into it because it’s got a bizarre padlock on it that nobody can crack and nobody informed me officially that (a) the equipment is here and (b) what they are going to do about it...”*

This lack of prior consultation or permission from municipalities for federal equipment to be stored on municipal land raised many questions. There were issues of land use and access and a general resentment of ER’s presumption that they could store federal equipment on Nunavut land without requesting permission. Some municipalities threatened to charge the Department of Fisheries and Oceans (DFO) as much as \$40,000 a year as rent for the land on which the ER sea-cans were placed. Government of Nunavut EM officials eventually intervened to resolve these issues, but not without some frustration expressed on the part of municipalities over the federal government’s use of municipal property for their own purposes.

Another of the main issues to arise around ER’s management of this environmental response equipment related to access, and specifically, to the disposition of the keys to the sea-cans. Inquiries to all the federal agencies that might be associated with a spill clean-up (CG, CG Auxiliary, MCTS, etc.) as well as Government of Nunavut Emergency Management officials and local authorities revealed that none of these responder organizations, including members of the other branches of the Coast Guard, had any knowledge of where Environmental Response held the keys to this critical spill response equipment. The majority of those interviewed speculated they might be stored at ER centers in Hay River, NWT, or at the Ontario ER centers in Sarnia or Prescott. All these locations are thousands of miles away from the cached ER equipment. Still other responders believed the local RCMP were the custodians

of the keys, but in the case of Pangnirtung that proved not to be the case. At the time of writing and despite persistent efforts, the location of the keys to the Pangnirtung ER sea-can had not been confirmed by ER.

The logical question arising from this seemingly inefficient arrangement is why the keys are not kept in the community where this equipment might prove vital to the timely containment of a spill? According to Government of Nunavut officials and members in other branches of the Coast Guard, the explanation revolves around issues of trust and security. It was presumed the ER policy-makers felt that if the keys were left with officials in each community, the equipment (boats, motors, ATVs, etc.) might be used for purposes other than emergency spill remediation. It raised the spectre of these items not being available to incoming ER personnel who would be counting on that equipment being present at that location in the event of a spill. ER would also be accountable to Treasury Board for the disposition of this equipment and in the absence any ability by the department to ensure its security or supervise its use in the communities, they appear to have chosen to secure their assets by maintaining the keys thousands of miles away from the sites. While this seems counter-intuitive for equipment that might be required in an emergency, it no doubt ensures that nothing is disturbed.

Frustration among northern officials over the community's lack of access to these supplies and, more critically, the lack of appropriate training in its use in the event of a spill, was palpable. As one federal government employee located in Iqaluit put it:

*“Why are the keys not here? – it’s like in government - everybody is preserving their little power....before they are thinking of efficiency [in spill response] they are thinking ‘I’m in power.’ Those keys should be in Iqaluit or wherever they have equipment sitting. They should train a couple of people in those settlements and they would take the first action before those guys from the south come flying in...so many planes from the south are cancelled because of the fog and so if something like that [oil spill] happened it could have taken days and days before someone would have reported there... and it’s even more obvious in a place like Pang or Resolute where it’s even more difficult to get into and nobody can open those things...”*

He then went on to identify the main crux of the problem in developing an effective oil spill response system for the Arctic:

*“Nobody’s thought it through because there’s no connection between people here in Iqaluit, for example, and the people responsible for this (spill response).”*

Officials pointed to other pragmatic reasons for allowing local, authorized people access to this ER spill equipment. Much of what is in these sea-cans is mechanical — boats, pumps, ATVs, etc. — and these machines require regular use and maintenance to ensure their operability. Equipment left idle for any time in the extreme conditions of the Arctic is rarely found to be reliable when needed. Years after ER deposited this equipment, they have yet to undertake that critical maintenance. This raises the very real possibility that in the event of a spill, ER personnel would arrive from afar only to discover their equipment was all present, but largely inoperable, a circumstance that would greatly impede the effectiveness of a response.

One recent incident related in the course of interviews provided clear evidence that this was a very real possibility: during a local marine rescue in one of the communities in Nunavut where ER equipment is cached, the Nunavut EMO in Iqaluit made an extraordinary request to ER through JRCC Trenton to use the boat in the ER sea-can to assist in a local marine rescue. After much inter-jurisdictional discussion, permission was granted to local officials to break off the lock and access the ER boat. When the necessary pieces were extracted, it was discovered that the shaft for the motor, a piece essential to its operation, was the wrong size. “If they (ER) had needed it, that outboard wouldn’t have worked” was the obvious conclusion of one official.

Of greater concern to the communities was the need for appropriate training for local citizens to prepare them to deal effectively with an environmental catastrophe. The marine environment provides many people in Pangnirtung with their livelihood and virtually all are dependent on it for some level of sustenance. A large oil or fuel spill that would pollute local waters would have a very direct economic and social impact on the community. In the context of this scenario, there was no question that once the passengers were safe, the next immediate preoccupation for the local people would be the containment of the fuel and oil leaking from the ship. It was also evident that in a crisis such as this, the lock on the ER sea-can would not present much of a deterrent. Still, questions arose around how useful those supplies would be in the absence of appropriate knowledge:

*“We’d probably at that point get bolt cutters and go and try and take a look. Presumably the use of*

*some of it [ER equipment] would be self-evident – containment booms and things like that — but if it’s anything that goes beyond that we would need training. And even with the container booms: what’s the best way to use them? Is wind an issue? Is tide an issue? What are the factors that we have to consider? The majority of people in the community do not have the training to use that equipment, even the fire department.”*

Similar sentiments were echoed by a federal government employee living in Iqaluit:

*“I think the question is how is this equipment going to be used and who is going to use it and how long will it take to use it... This is the crazy thing – they [ER] do have [some] people here [in the North] but they don’t train the local people. I know there is a lot of politics going on with the Government of Nunavut and the NWT [ER in Hay River]...they are trying to be responsible, take responsibility...they still have to develop a great deal of expertise and I don’t know if there is good communication and a good relationship between the federal Government people and the government of Nunavut people...”*

In the case of this incident, there was strong consensus in Pangnirtung that regardless of the lack of expertise, local people would be out doing their best to contain the spill. They would be doing so without protective gear or appropriate training and using unfamiliar equipment. What implications this would have for liability and/or relations between the government of Nunavut and the Coast Guard’s ER division is not entirely clear but demonstrates a significant gap in planning vis-à-vis community response. In this instance, ER could potentially consider the oil spill equipment taken without authorization from the sea-can to have been vandalized. Any accidents that were to occur with its use, or liability related to its not being available for use by ER personnel when they arrived in the community, would likely lead to future inter-jurisdictional wrangling.

The concept of ER having a few well-trained individuals in each community responsible for first response to environmental spills made good sense to northern residents, considering the distance ER experts have to travel to respond to a spill and the time lag involved. One southern source confirmed that training packages for local communities have been designed, but no funding had as yet been allocated by the Coast Guard

for their delivery. Also conceded were the frustrations experienced by some southern-based agencies who provide such training services in the North — negative experiences where courses were scheduled for local participants and no one from the community showed up — that discourage further funding and efforts.

This apparent contradiction between the communities’ desire for training and the challenges with participation in the past can likely be linked to issues of communications and culture: differences in language and approach to education, unfamiliarity with the organizing institution, or simply poor timing, i.e., the scheduling of sessions when most candidates are out on the land or fishing. It was emphasized by northerners that training designed in the south for urban audiences can rarely be transferred directly into remote communities in the North. It was also acknowledged that many individuals in small communities are already stretched by volunteer activities and, in some cases, may require some financial compensation for time spent in upgrading skills and participating in lengthy training sessions. It was suggested that challenges to the delivery of federal government EM training could potentially be overcome by greater consultation with communities, by adaptation of programs and materials to recognize and respond to Arctic conditions, and by the integration of local instructors and indigenous knowledge into the programs. By working incrementally with communities over time in a culturally-sensitive and respectful manner, a significant improvement in EM capacity could be achieved, to the benefit and greater security of all.

### **FINDING 8: EFFECTIVE COMMUNICATIONS AND CONSISTENT MESSAGING ARE NEEDED TO AVOID THE PERCEPTION OF A TWO- TIER GSAR SYSTEM**

The presence of the Canadian Rangers and Junior Rangers in Nunavut communities has had many positive benefits for the territory, among them an increase in local GSAR resources and capacity, greater links with southern EM organizations, training and employment. However, one unintended consequence of this evolution has been to discourage the participation of some community members in voluntary, municipal-led GSAR teams by creating a tacit “two-tier” system. More effective communications and messaging are needed.

The Canadian Rangers and Junior Rangers are members of the Canadian Forces Reserve and report through Joint Task Force North (JTFN) headquartered

in Yellowknife, with a Commander in Iqaluit. The Rangers have many duties as the military’s “eyes and ears” in the Arctic but also function as a back-up level of SAR response. There can be no question that the introduction and expansion of these reserve Forces into the Arctic over the past decades has been an important step in building emergency response capacity. The presence of the Rangers improves official linkages between northern responders and federal EM agencies (DND, JRCC, Coast Guard) in the south, brings employment, opportunity and money into the region and improves the level of training, education and expertise available within these remote communities.

According to the current policy on GSAR in Nunavut, the Rangers are to be called upon to assist only when the demands of a search or emergency exceed the capacity or resources of the communities’ volunteer GSAR teams. They can also be tasked if there is an insufficient number of SAR volunteers available to undertake a search.<sup>3</sup> Should both local and Ranger capacity be exhausted, the JRCC can be asked to assist and provide aerial support for the search.<sup>4</sup>

While this policy would appear to provide a logical system of triage for community-based ground searches, in practice it has not been well understood within all communities. EM officials reported some confusion among citizens regarding the roles and jurisdictions of the various responders and under what circumstances it would be appropriate or necessary for them to be called. There was also some currency to the notion that responsibility for GSAR now lies primarily with the Rangers. Where Rangers also serve as GSAR volunteers, there have been reports of some individuals holding back from the initial community call-out for volunteers until the Ranger unit is officially tasked and the searchers paid for their efforts. The disparity between the benefits of participating in a search as a paid Ranger or as an unpaid community GSAR team member has likewise led to some resentment between the various groups of responders and in some cases, served to discourage regular community members from volunteering for community SAR teams.

As a result of all these variables, the management of ground searches and the involvement of the Rangers can vary substantially from community-to-community. As with the rest of society, there is a growing tendency to look to paid professionals and recognized organizations in a crisis. As more young Inuit move away from traditional lifestyles to pursue education, employment or more urban interests, there are fewer available in the communities equipped to volunteer in GSAR activities,

leaving a smaller pool of candidates from which to draw GSAR volunteers and therefore resulting in a greater reliance on Ranger support.

Although the tendency to defer to SAR “professionals” is not yet pervasive in the Arctic, as was indicated by the spontaneous response of the community to the Pangnirtung scenario, there is some evidence that norms are beginning to shift. The establishment of a system of “professional” responders, such as the Rangers and the Coast Guard Auxiliary, amidst a voluntary community system can create a perception of two tiers and, where pay is concerned, diminish the inclination to volunteerism. Effective communications and consistent messaging were identified as the principal requirements to ensure that the roles and jurisdictions of all responders were clearly understood and all systems.

### **FINDING 9:** **THE PROCESS FOR REQUESTING THE ACTIVATION OF THE CANADIAN RANGERS NEEDS TO BE STREAMLINED**

The process currently in place to process a request from the director of protection services in the Government of Nunavut (EMO) to activate the Canadian Rangers in an emergency is bureaucratically onerous and contrary to the spirit of efficient emergency response.

The protocol that must be followed by the Director of Protection Services in the Nunavut Emergency Management Office to request the assistance of the Canadian Rangers in any emergency, while perhaps logical from a jurisdictional point of view, appears highly inefficient in the context of any crisis that might precipitate its need. Currently, this request requires an exchange of letters at the highest ministerial levels. The Director of EMO in Iqaluit must go up through several levels in the Government of Nunavut to submit a request to the Nunavut Minister of Community and Government Services to write a letter to the Minister of National Defence in Ottawa requesting the activation of the Rangers. If that activation is approved, the Minister of Defence then contacts the Chief of the Defence Staff, also in Ottawa, who passes the request on to the Commander of JTFN in Yellowknife, who would in turn contact the JTFN Commanding Officer in Iqaluit, who would call up and task the appropriate Rangers in Nunavut.

The burden of this formal process in an emergency is obvious. In practice, the EMO can circumvent this procedural nightmare by requesting that the RCMP make a federal department-to-department request to JTFN for

<sup>3</sup> This situation of community volunteers being unable to participate in searches has arisen more frequently in recent times as local GSAR volunteers take on full-time jobs and are unable to afford the loss of income or time away from their employment that a search might require.

<sup>4</sup> For a complete discussion of GSAR in Nunavut, please see Part B

Ranger activation. The activation can be accomplished within minutes if handled in this manner, and needless to say, is the preferred option when time is of the essence in an emergency. Nonetheless, a more expedient process to enable the territorial EMO to request Ranger assistance directly from JTFN might be worthy of future consideration.

**FINDING 10:**  
**THE IMPACT OF AN INFLUX OF RESCUED PASSENGERS ON REMOTE COMMUNITIES NEEDS TO BE CONSIDERED AS PART OF CONSEQUENCE MANAGEMENT**

Northern officials expressed a need for greater consideration of the impact on remote communities of the arrival and off-loading of those rescued by JRCC/CG, especially in the case of major incidents; this should include timely notifications and communications with the destination community prior to the deposition of those rescued to ensure the community has the capacity and resources to accept the arrivals without depleting reserves of food or equipment, overwhelming medical services or imposing undue risks or hardship on the local population.

In 2010, when the CG vessel the Amundsen arrived in the remote and isolated Nunavut community of Kugluktuk to offload the 128 passengers and 69 crew rescued off the MV Clipper Adventurer, the hamlet's SAO called the Nunavut Emergency Management office in desperation. As one EMO official recalled:

*"I got a call [from Kugluktuk] saying that they were offloading all these people into the community – nobody had called them and they call me and say 'what am I supposed to do with them?' Coast Guard had come in and off-loaded them on the community, so there you had 160 people, an increase of about 10% into the community.... People don't understand that our communities are unfortunately becoming 'just in time' communities. You add a number of people into the community, you've overwhelmed their ability to supply themselves with basic items.... In Pang, if you lost a plane for a week, you wouldn't have milk. You know how bad it is here [Iqaluit]? If we miss flights for two days, we're on bread and water...."*

The current SAR mandate of the JRCC provides for the rescue of victims of aeronautical and marine emergencies and their care, medical and otherwise, until they can be brought to the closest hamlet, town or city with

an airstrip. The rationale for this practice is sound. The SAR techs' role is to rescue those in distress from potentially dangerous circumstance and deliver them to safety as expeditiously as possible. Once that is accomplished, they must return to base to be available for the next emergency or, in the case of CG vessels, to continue whatever primary task they were pursuing prior to the rescue. From a military and CG perspective, the nearest available community with an airport presents the most reasonable and efficient option for delivery of those rescued.

Most subjects of JRCC rescues are released on their own recognisance once they are safely landed in a community or, if required, into the care of local health care providers. In the case of larger, organized groups, such as the passengers of the Clipper Adventurer, they remain the responsibility of the ship owner and tour operator once landed, but the real burden of their immediate care falls to the receiving community. In the case of the Clipper Adventurer, the passengers were not in any significant distress. However, even this relatively benign situation had a serious impact on the resources of the community in terms of lodging and food. If the impact of an influx were severe enough, the situation could create a local emergency. In the case of the *Arctic Sun* scenario, the passengers would have been reasonably well accommodated by Pangnirtung, as it is relatively well-resourced community compared to the smaller, more remote hamlets scattered throughout the territory. However, even a small number of casualties from a SAR event could quickly overwhelm the system.

"So much depends on what's going on at the health centre at the time. One critically injured patient can overwhelm resources. It's really hard to say how many they could accommodate.... An earlier [SAR] incident with five people — two with severe head injuries — it took every resource — we called in everyone in the community — anybody that had first aid because the victims were so unstable."

The experience of the Clipper Adventurer incident suggests that the issue of transfer is one that might merit further consideration in all discussions of consequence management. Greater consultation and collaboration between levels of government, deliberation of issues related to budgets and jurisdiction and ongoing simulation or tabletop exercises that bring together JRCCs and communities to work through the logistics and communications necessary for the efficient transfer of victims, might ensure that no SAO is caught off guard again in the event of a mass rescue.

## **FINDING 11:** **TOURISM IN CANADA'S ARCTIC WATERS POSES AN INCREASING RISK OF DISASTER**

The lack of significant federal regulations to govern the activities of cruise ships, tourists and adventurers in Canada's Arctic waters increases the likelihood of a significant or fatal incident.

It is no accident that high among the list of potential disaster scenarios in the Arctic played out in tabletop exercises across the North is that of a cruise ship sinking. In an article entitled "Every Arctic voyage is a potential disaster," Professor Michael Byers summarized "dodged bullet" outcome of the now infamous grounding of the Clipper Adventurer:

An uncharted rock could have killed 200 people last week, had the weather in the Northwest Passage been poor.

Instead, passengers on the MV Clipper Adventurer, an ice-strengthened cruise ship travelling from Greenland to western Nunavut, were able to enjoy the sunshine on deck while waiting two days for rescuers to arrive. Just a few days earlier, an Arctic storm had grounded Prime Minister Stephen Harper's plane, with winds approaching hurricane strength.

Winds like that — and the resulting ocean swells — can tear a grounded ship apart. Just imagine scores of ill-equipped passengers, many of them elderly, being forced to abandon ship in stormy conditions. How long would they last in lifeboats being tossed around in near-freezing water?

And imagine the crew of a Canadian Forces Cormorant search and rescue helicopter at Comox, on Vancouver Island, 2,500 kilometres away. For it is they who would receive the call, being the closest ones with the equipment and training to conduct a maritime rescue in the middle of an Arctic storm.<sup>5</sup>

While there may have been a happy ending for the Clipper Adventurer, the fact remains that travel in the waters of the Canadian Arctic remains a dangerous proposition. Only 10% of the region has been charted to modern standards and even these lines of sounding leave gaps of roughly 10 miles (16.09 kilometers) between each. John Falkingham, a veteran of the Canadian Ice Service, speculated to the Nunatsiq News at the time of the Clipper Adventurer incident that at the current rate of charting of the Canadian Arctic, it would take three centuries to complete the job, making inadequate navigation

charts the "single biggest issue in the Arctic."<sup>6</sup> While most commercial vessels tend to follow well-traveled and relatively straightforward shipping routes, that is not always the case for cruise ships. One expert in marine travel in the north put it this way:

*"The scary things are the cruise ships. The commercial ships go from A to B and they know where they are going and what they are doing, except if there is ice, but on the cruise ships, they [the guests] pay up to \$30-40,000 and after two days of looking at icebergs, they want to look at something else so they [the ships] start to take chances.... They go into uncharted waters or try getting close to an island where they can see birds and this is where they get into trouble...."*

Of equal concern, the Coast Guard has also noted an exponential increase in the number of adventurers testing their mettle against the challenges of the Northwest Passage. These individuals are often ill prepared and lack knowledge and experience in the Arctic. A member of the Coast Guard reflected:

*"Four or five years ago you had what we call the "cowboys," maybe 4 or 5 a year...adventurers doing the Northwest Passage. Last year (2012) we had 30 of them and those guys, they don't want to report their adventures and they don't want to be told by anyone, but when you ask them, "could you as a safety measure provide us with a position report at least once a day?" they say, "go to my web site and you will see it" and you don't hear from them again until they have a problem. "I'm stuck on the ice. I need some help!.."*

The extent of "adventure" going on in the Northwest Passage, and its accompanying risks for SAR personnel and cost to the government, was writ large in the summer of 2013 by a group of adventurers attempting to traverse the Passage on personal watercrafts. The seven-man crew, part of a reality television show called *Dangerous Waters*, found themselves coping with plummeting temperatures, wet clothing and a polar bear attack that left one tent in shreds. Thickening ice finally made it impossible to continue on personal watercrafts. The CG vessel Wilfred Laurier was tasked to respond to their call for help at a cost of approximately \$80,000 per day. It was an expensive ending to their expedition for the taxpayers of

<sup>5</sup> Michael Byers, "Every Arctic voyage is a potential disaster," Michael Byers On Politics last modified September 3, 2010, , accessed September 18, 2013, <http://byers.typepad.com/politics/2010/09/every-arctic-voyage-is-a-potential-disaster.html>.

<sup>6</sup> Jane George, Nunatsiq News, "Expert sounds alarm about dangerous Arctic waters - Most charts years out of date", accessed September 18, 2013, [www.nunatsiqonline.ca/stories/article\\_print/19588/13](http://www.nunatsiqonline.ca/stories/article_print/19588/13).

Canada, since the Government of Canada assumes all marine SAR costs. The expedition leader, Stephen Moll, admitted to being “humbled, 110 per cent... Everyone has a point where you’re going to break. And Mother Nature here in the Arctic can break you like nothing else I’ve ever seen.”<sup>7</sup> He nonetheless pledged that he, his crew, and their personal watercrafts would be back to the Arctic to try their luck again next year.

Members of the Coast Guard have many stories of the bizarre and curious things that have taken place in the Northwest Passage, but with no financial penalty to be paid as a deterrent to irresponsible actions that lead to the need for rescue, there is little to dissuade anyone from taking the challenge, regardless of how futile.

There are other negative consequences associated with the uncontrolled access of adventurers and tourists to remote areas of the North. Some famous sites, like Parks Canada’s Beechey Island, where the remains of three Franklin crew member can be found, are slowly being ransacked. With as many as two hundred passengers and crew aboard a cruise ship, even one small piece of wood apiece taken as a souvenir can eventually result in the degradation of the site. One incident recalled during interviews was of a boater who stripped the wood from a building at a national historic site to build a ramp for his boat so he could haul it ashore without a scratch; another where a group of tourists disembarked at the old Whaling Station on Kekerton Island in Cumberland Sound and wandered around that polar-bear-infested site without anyone armed or on bear watch. One elderly gentleman amused himself by following a set of bear tracks down the beach. Such lack of supervision of historic sites or adequate safety measures for tourists poses serious concerns.

Attempts to regulate adventure tourism in Nunavut have been discussed and shelved repeatedly over the past decades. Among the main challenges to developing appropriate regulation are such questions as “What is the difference between an adventurer and a researcher? How can regulations be made consistent among responsible jurisdictions, and adequately policed? Who is best placed to administer and manage permits?” There are also legitimate concerns among Inuit who fear that the development of such regulation might affect their use of Nunavut’s land and waters. The World Wildlife Fund has developed a code of conduct for Arctic tourists and tour operators, but its provisions are in no way binding or enforceable. Policies employed at comparable adventure sites, such as Mount Everest, where climbers must put down a deposit of \$50,000 before they climb, are not easily transferable to this part of

the world, in part because the Northwest Passage is a legitimate thoroughfare for shipping and scholarly research, as well as an adventure and tourism destination. The unintended consequence is that the Canadian Arctic remains one of the last “unregulated” frontiers for adventurers and thrill-seekers.

The issue of protecting Arctic tourists from both the vagaries of the sea and climate and, in the case of many adventurers, their own ignorance and hubris, is one worthy of attention. The potential for a future disaster in Arctic waters is becoming increasingly real and there are very few requirements beyond the filing of a route with, and daily calls to, NORDREG in Iqaluit for vessels over a certain tonnage (thus largely unenforceable for small craft). Currently, neither the Coast Guard or the RCMP can do anything to stop anyone from heading out onto Arctic waters or, as the Jet Ski enthusiasts have demonstrated, from coming back to try their folly again. Stronger regulation of, and attention to, the prevention of marine disasters should be considered as important in SAR as the capacity to respond and must therefore be given serious consideration before a tragedy further demonstrates its necessity.

## CONCLUSION

To the question of whether the passengers aboard the *Arctic Sun* would be saved after grounding in Cumberland Sound, the answer is, in all likelihood, “Yes.” There is a chance the professor with the broken leg and the cook with the chest pains might have passed away from complications in the time it would take for local mariners to transfer them out of lifeboats and convey them to Pangnirtung an hour away, but that would depend on the seriousness of their conditions and any difficulties encountered in the transfer. The remainder of the passengers would experience a few hot and miserable hours crammed into survival suits and lifeboats, and possibly suffer sea sickness or heat exhaustion, but in all likelihood would survive thanks to the intervention of the local responders.

In the opening pages of this study, we briefly explored the elements that contribute to a successful outcome of an emergency. The theory of emergency management suggests that a well-integrated and acquainted team representing all the main responder groups, under the leadership of one recognized commander located at a command post central to the scene, provides the best structure for success. The opportunity to test response plans through simulations and tabletop exercises prior to an actual

<sup>7</sup> Bob Weber, “Ice foils Jet Ski adventurers in Northwest Passage,” last modified September 6, 2013, accessed February 10, 2014, [http://home.mytelus.com/p/news/source/news\\_cp/category/national/article/24842503](http://home.mytelus.com/p/news/source/news_cp/category/national/article/24842503).

emergency is also a significant factor in ensuring everyone understands their respective roles and jurisdiction in a crisis.

Sadly, the geographically dispersed and multi-jurisdictional nature of emergency response in the Arctic defies this ideal. While strong and appropriate protocols for emergency management do exist at all levels, this study has found that they are not as yet seamlessly integrated and are, in some cases, potentially incompatible. Interestingly, almost all those interviewed for this study expressed frustration at the complexity of the northern EM system and the petty infighting, jurisdictional conflicts and lack of interagency transparency that aggravates an already challenging structure. On the flip side, almost equal mention was made of the strength and trust of interagency relationships, of how even the most rigid departments can turn a blind eye to “procedure” when circumstances demand, and of how national policies inappropriate to Arctic circumstance can be effectively and creatively circumvented with the willingness of all parties.

Emergency management theory also highlights the value of simulation and table top exercises as a way to allow any deficiencies in an EM plan to be identified prior to an incident. Although there was some evidence that exercises had been run within various departments, communities and agencies, these were generally localized or single-agency events and rarely reflected the complex nature of a major disaster response. The one significant exception is the advent of the annual Operation Nanook exercises that occur each summer in differing parts of the Arctic. As effective as these exercises are in introducing the various actors from different departments and communities, itself a worthwhile accomplishment, the very presence of the military equipment and personnel flown in in advance of the exercise imposes a false reality on the process and discounts any chance of these being a true test of capacity and response. As one critic commented:

*“You should just grab the phone one day and have a cruise ship on fire – now what do you do? –and not have three months to be ready for that time... because the day that something is going to happen in the Arctic, it’s going to be big and it’s not going to be nice....”*

The capacity of Canada to respond to a major disaster in the Arctic is arguably limited. With all major SAR assets based in the south, the 13 to 27 hours it might take a SAR aircraft to arrive on scene at a major disaster are too long to ensure the survival of

all victims. Private assets located in the Arctic can be chartered, but would lack the SAR techs and specialized equipment. Local communities, should they be in proximity to the event, might provide the bulwark of the response, but training and supplies are significantly lacking and there are few or no redundancies. This represents a significant vulnerability in the Arctic’s EM system.

Likewise, the convoluted system of emergency management in the Arctic frustrates all theories of sound public administration. It is a patchwork that includes myriad actors, authorities and governments, multiple jurisdictions, assets geographically dispersed throughout the country, and a plethora of policies and corporate cultures unique to each agency. Given the local or straightforward nature of most emergencies — overdue hunters or families, medical evacuations, disabled boats, stranded adventurers, etc. — the system has to date responded at least adequately and in many cases, exceedingly well. As statistics reveal, most incidents have a positive outcome and resources might therefore appear sufficient to the task. But these results belie the thinness of the blanket that shields the elephant and masks the many points of vulnerability that would cripple the system in the event of a mass casualty situation or complex emergency. Most vulnerable are the people of the Arctic themselves — a fact of which they are acutely aware.

Whether trained or not, the communities in the North are often the bulwark of emergency response. Their recommendations on what was needed to bolster SAR in the North gleaned through this study were both modest and practical:

- training in SAR, first aid, and spill response;
- a sea-can of emergency medical supplies in each community;
- eight 35-38 ft. CG boats with twin outboards stationed across the northern coastline with two crews running 24/7 throughout the summer;
- reactivation of the Inuit radio transmissions out of MCTS headquarters in Iqaluit that in the past provided Inuit mariners with local weather and tide information and gave them an Inuktitut speaking contact for emergencies;
- check lists with EM protocols that include contact numbers.

The last word from the North on this subject was a plea for some rationalization of the “hodge podge” governance structure of existing SAR policies and programs into one national SAR strategy. It speaks

to both the frustration of northerners over the current situation with SAR and the potential for a better, more coherent approach. In summarizing this request, this Nunavut official referenced the National Search and Rescue Secretariat (NSS), the body established under DND to accomplish that mission.

*“It [NSS] has never fulfilled its mandate, it’s never been allowed to fulfil its mandate and it will never do it as long as there is political interference from DND and from the PMO’s office about what’s going on with search and rescue. It’s all about money and position – who’s responsible for what – and if you are going to allow politics and money to respond to people’s lives then people are going to die.... You can’t prevent all deaths, but you have a system right now that’s a hodge podge and in my opinion Canada has done a horrible job.... If Canada had the moxie to develop a national search and rescue program, it would be an outstanding program that all other countries could use as a model for SAR.... We have the people, we have the ability, we may not have the equipment but we*

*have the people who can do it and we just have to come up with a national program and fund it.”*

In the meantime, Canada must find a way to muddle through with the complex, disjointed, under-resourced system as it stands. Fortunately, within all the silos are excellent people dedicated to SAR, there are communities willing to respond en masse to the cries for help of strangers and “old northern personage” on the ground prepared to do what it takes to get the job done. From this alchemy of formal and informal systems emerges what stands for SAR in the Arctic today. It is an imperfect system: it is culturally misaligned; the protocols of the south are sometimes irrelevant in the North; the expertise of the North is not valued in the policies of the south. The system of emergency response in the Arctic is both achingly basic and frustratingly complex. It is sufficiently convoluted that many within it are themselves unfamiliar with all its moving parts.

Are we ready for a cruise ship to sink near Pangnirtung today? The answer may be “not nearly ready enough.” Thankfully, to date, that has not mattered. Only time will tell if the future will prove us so lucky.

## ABOUT THE AUTHOR

Liane Benoit, B.A., B.Ed, M.P.A., F.R.C.G.S. is founder and President of Benoit & Associates, an Outaouais-based public affairs company which for 25 years has worked with senior clients in government, aboriginal and Arctic communities and the corporate and non-governmental sectors on issues of public policy and accountability, environmental management and social justice. Liane has participated in several royal commissions and legislative reviews, including two studies published by the Royal Commission of Inquiry into the Sponsorship Program and Advertising Activities (“The Gomery Commission”). In 1996, Liane was elected a Fellow of the Royal Canadian Geographical Society in recognition of her expeditionary work in the Far North, and in particular, her role in re-establishing traditional Inuit sled dogs in the Nunavik region of Northern Quebec. A former attaché to the governor general, ministerial aide to the speaker of the House of Commons, writer and teacher, Liane has played a role on numerous national boards, advisory councils and committees, and was instrumental in founding both the Jeanne Sauve Youth Foundation and the Arctic Children and Youth Foundation. She currently resides with her son and husband on a farm near Wakefield, Quebec.



