

# National Roundtable on Arctic Emergency Preparedness: Report of Proceedings



March 2014

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## **ABOUT THE MUNK-GORDON ARCTIC SECURITY PROGRAM**

A partnership between the Munk School of Global Affairs at the University of Toronto and the Walter and Duncan Gordon Foundation, the Munk-Gordon Arctic Security Program is dedicated to studying and promoting four overarching areas of concern:

- Emergency management in the Arctic
- Arctic peoples and security
- The Arctic Council
- Public opinion in and about the North

The Munk-Gordon Arctic Security Program undertakes original research and hosts interactive gatherings to achieve its vision. This paper constitutes part of a larger project on Emergency management in the Arctic.

*The question is, “are we ready?”*

By exploring the current emergency management capacity in the Arctic, methods of communication, collaboration, resource-sharing, authority and responsibility the question of “are we ready” for emergencies the local to international level in the Arctic 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. For more information on the Munk- Gordon Arctic Security Program’s work on Emergency Management, please go to:

<http://www.gordonfoundation.ca/north/munk-gordon-arctic-security-program/emergency-management>

## **ABOUT THE SPONSORING ORGANIZATIONS**

### **MUNK SCHOOL OF GLOBAL AFFAIRS, UNIVERSITY OF TORONTO**

The Munk School of Global Affairs is a hub for scholars and practitioners at the forefront of research, debate, and action in global affairs. It combines training in analytical methods and practical management skills with an immersion in the latest thinking on global issues.

([www.munkschool.utoronto.ca](http://www.munkschool.utoronto.ca))

### **THE WALTER AND DUNCAN GORDON FOUNDATION**

The Walter and Duncan Gordon Foundation was established in 1965 as a private charitable foundation with a mandate to improve public policy in Canada. One of its major programming areas supports northern peoples to participate in and help shape public policy at any level – local, regional, national or international.

([www.gordonfoundation.ca](http://www.gordonfoundation.ca))

## **ABOUT THE CO-CHAIRS**

The Munk-Gordon Arctic Security Program’s project on Emergency Preparedness had two co-chairs: Cindy Gilday and Liane Benoit. This project could not have been a success without their hard work and dedication, as well as their invaluable advice.

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# EXECUTIVE SUMMARY

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This report summarizes the discussions at the National Roundtable on Arctic Emergency Preparedness hosted by the Munk-Gordon Arctic Security Program in Ottawa, February 24-26, 2014. The goal of these discussions was to understand current capacities, future needs and the gaps in between for emergency preparedness in the Canadian Arctic. The report is a synthesis of the discussions that took place at that meeting and aims to reflect the priorities of those present at this meeting. The recommendations flow from these discussions. The meeting was governed by Chatham House rules and therefore speakers are not identified.

## VIEWS FROM THE REGIONAL ROUNDTABLES

The outcomes of the regional roundtables held in the fall of 2013 in each of Canada's three territories were presented. The full reports from these meetings can be accessed at: [www.gordonfoundation.ca/pub/reports](http://www.gordonfoundation.ca/pub/reports). Themes that cut across all three of the discussions were identified as follows:

- The resiliency of northern communities needs to be recognized;
- Local needs and capabilities for emergency management should be emphasized instead of focusing on visitors to the region;
- There is an increasing frequency of emergency incidents;
- Ability to respond has not matched the increase in incidents; and
- Each territory has a different approach to emergency management.

## DEFINING THE DISCUSSION

The needs of the North's residents have often been overlooked in discussions about emergency management in the region. Participants expressed a desire to reorient the discussion towards the needs of those who live there. They were interested in discussing emergency management in the fullest sense — from responding to natural disasters to health emergencies to search and rescue. This framework then informed the baseline discussion of “are we ready for emergencies in the North?” For the majority that responded, unfortunately the answer was “no,” despite the hard work and dedication of thousands of volunteers, military and coast guard personnel, and government officials at all levels.

## BEING READY

Since the regional roundtables determined that the North is not as ready as it could be for emergencies, the national discussion turned to how to increase the state of readiness; recognizing that it will never be possible to be perfectly ready. Increased training opportunities not only for volunteers and community members, but also for government officials on the particularities of the region, were seen as the best means to increase readiness. Training opportunities need to be matched with a greater emphasis on prevention, preparation and planning to increase the state of readiness of northern communities and the government agencies responsible for emergency management. The current structure of funding was seen as the main barrier to achieving this goal.

## BUILDING RELATIONSHIPS

Responsibility for emergency management in the North is shared by many, including international bodies, First Nations governments and organizations, territorial governments, the federal government, and volunteer organizations. As a result of this complex jurisdictional map, the national roundtable saw building strong relationships among the various responders as essential. It also recognized the important role played by industry and the necessity of building strong relationships with this sector. Lessons from the United States, and Alaska in particular, with whom cross-border collaboration is strong, can aid Canadians in understanding how other jurisdictions are responding to similar challenges.

## SUPPORTING RESILIENCE

All participants recognized that there are particular challenges for emergency responders and policymakers in the North, because of the lack of infrastructure available. Many previous reports have highlighted significant infrastructure gaps and called for major investments in assets such as ports, icebreakers, roads, etc. However, participants recognized that in the current era of spending restraint big projects — no matter their value — may not be immediately achievable. Instead, participants concentrated their discussion on smaller investments that were considered to have the greatest impact for local responders and communities. Investments in technology, monitoring systems, and infrastructure were identified as best able to help to support resilience in communities in the face of emergencies.

## RECOMMENDATIONS

The recommendations presented in each section of the report flow from the discussions at the National Roundtable on Arctic Emergency Preparedness. To be true to those discussions, all recommendations offered are presented in each section. However, it may not be possible to tackle all of these recommendations at once. Which then, should be given priority? Seven top recommendations, therefore, are offered for consideration.

1. National authorities should place needs of northern residents at the forefront in policy discussions at the national level, as opposed to focusing exclusively on visitors to the region.
2. The Joint Emergency Preparedness Program should be reinstated to full capacity. Territorial governments should make training available and encourage skill development among community members and volunteer responders. This should include the following:
  - Traditional and local knowledge instruction for newcomers;
  - Basic and wilderness first aid training;
  - CPR training, including the use of automated external defibrillators (AEDs);
  - Radio operator training;
  - Use of the Incident Command System (ICS);
  - Emergency Operating Centre (EOC) training;
  - Ground search and rescue (GSAR) training;
  - Use of the global positioning system (GPS), as well as how to use a map and compass;
  - Boat operator licensing;
  - Snowmobile operator training;

- ATV operator training;
  - Small engine mechanics;
  - Training in technical rescue skills, such as swift-water rescue, crevasse rescue, avalanche rescue;
  - Environmental response training.
3. Training at all levels should follow a “two-way knowledge exchange” model, where training is not just provided by official organizations to community members and volunteers, but opportunities are also provided for traditional and local knowledge holders to share their knowledge with territorial and federal-level officials. In addition, training programs should reflect northern realities and be offered in indigenous languages.
  4. All communities should complete emergency plans based on the unique situation of their community. However, these plans should be more than a “book on the shelf,” and funding should be provided for their regular review and updating, including training new personnel on how to use the plan.
  5. The call from the Government of the Northwest Territories, to place some federal search and rescue assets in Yellowknife closer to the communities that they serve, which was endorsed by the regional roundtable held in that territory, should be answered. The federal government should also provide for adequate manpower for the aircrafts already based in the territory.
  6. Territorial and First Nations governments should make SPOT or other devices readily available to community members, building on the program already established in Nunavut. These should ideally be two-way devices.
  7. Cross-border initiatives between the Government of Canada and the Government of the United States of America should be considered and existing co-operative arrangements between sub-state actors, such as the State of Alaska and the Territory of Yukon, supported. To this end, Canada and the United States should fully explore setting up a Canada/U.S. Coast Guard Forum for the Arctic.

# INTRODUCTION

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Every day, from the Yukon-Alaska border across to Baffin Bay, emergency responders on the front line put their lives at risk to save the lives of others. These responders are in many cases volunteers, but they are also RCMP, Coast Guard and Canadian Forces personnel. While this report highlights some of the challenges of the existing systems, only experience teaches what a phenomenal a job these responders do every day.

## ABOUT THE NATIONAL ROUNDTABLE



*Participants of the National Roundtable on Arctic Emergency Preparedness, Ottawa Conference Centre, Feb. 25, 2014.*

The National Roundtable is the final of four discussions on emergency preparedness in northern Canada hosted by the Munk-Gordon Arctic Security Program, in collaboration with the Arctic Athabaskan Council and Dene Nation. The goal of these discussions was to understand current capacities, future needs and the gaps in between. Understanding the tools at hand and the risks that northern Canadians will face in the future can guide how to prepare for emergencies in Canada's North.

The national roundtable looked at the overall policy environment governing emergency preparedness and the related issue of search and rescue (SAR). The report is a synthesis of the discussions that took place at that meeting and it aims to reflect the priorities of those

present. The recommendations presented flow from these discussions. All agreed that the jurisdictional landscape for emergency management in Canada is complex, with multiple actors. The recommendations are therefore targeted at a variety of levels of governments and departments, which have been identified where possible.

## RULES OF PROCEEDINGS

The proceedings, with the exception of the presentations on the evening of Monday, February 24 were governed by Chatham House Rules. Therefore no attribution is given to the speakers or their organizations, in order to encourage free-flowing and frank discussion.

## DISCUSSION SESSIONS

Following the presentations of the findings of the regional roundtables, as well as a presentation on "Emergency Preparedness in Canada's North: An Examination of Community Capacity," the sessions took the form of facilitated discussions. Out of these discussions the following themes emerged:

### 3. Defining the Discussion

- Are we ready for emergencies in Canada's North?
- What is the appropriate balance between emphasizing the needs of visitors to the region versus the

needs of northern residents?

- Should the emphasis be on emergency management as a whole, or should search and rescue be given priority?
- Are policies suitably matched to northern realities?

#### 4. Being Ready

- What training programs are available and what are the training requirements?
- What funding mechanisms are available? Are they suitable to the needs?
- What policies can best support prevention, preparedness, and planning?
- Building Relationships
- What are the boundaries between the different jurisdictions and government departments involved? How can co-ordination be achieved amongst these multiple actors?
- What is the role of private industry?
- What are the lessons from other jurisdictions?

#### 5. Supporting Resilience

- What technological solutions exist to overcome some of the challenges around distance, environment, and infrastructure?
- What kinds of infrastructure are needed to address emergency management needs?

## OTHER STUDIES OF INTEREST

Participants also highlighted recent studies of interest:

- The National Search and Rescue Secretariat released the Quadrennial Search and Rescue Review in December 2013.
- A sub-group of the Arctic Security Interdepartmental Working Group, which is co-chaired by the Department of National Defence and Public Safety Canada, published the Report on Northern Connectivity on the state of communication needs in the North. The report was released early in February 2014.
- The Government of Yukon has recently completed a Capability-based Risk Assessment of Search and Rescue, reviewing the past 10 years of SAR tasks in the territory.

# SUMMARY OF PRESENTATIONS

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## INTRODUCTION

The evening reception welcomed participants to the National Roundtable on Arctic Emergency Preparedness. Liane Benoit (Co-Chair, Emergency Preparedness, Munk-Gordon Arctic Security Program) welcomed participants to the proceedings.

## THE LAND OF OUR FUTURE



Screenshot from *The Land of our Future*.

This film is available for online streaming at <http://gordonfoundation.ca/publication/695>

to show how climate change is affecting communities in the NWT through the lens of the youth who worked diligently outside of their school hours to put film together. Attendees then viewed the film.

Liane introduced Cindy Gilday (Co-Chair, Emergency Preparedness, Munk-Gordon Arctic Security Program), who spoke about the importance of being ready to respond to emergencies for Dene as they travel on the land. She also spoke about the positive role that indigenous peoples have played in pushing for the issues that are important to them on the national and international stage and that she saw this policy area as another example of where it is important that this take place. She introduced the film, *The Land of our Future*, explaining that this project aimed

## KEYNOTE ADDRESS: OFFICE OF THE AUDITOR GENERAL OF CANADA

Gordon Stock (Principal, Office of the Auditor General of Canada), who was the author of “Chapter 7: Federal Search and Rescue Activities” of the 2013 Spring Report of the Auditor General of Canada, gave the keynote address.<sup>1</sup> Explaining the many search and rescue challenges in Canada, including unforgiving weather conditions and a vast geographic operational environment, Stock remarked on the unrealistic expectation that the same level of service can be maintained, since government cuts to the operating budgets of search and rescue agencies only add extra stresses to a complex system.

The audit examined readiness, personnel, vessels, information management, prevention and governance. The

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<sup>1</sup> Office of the Auditor General of Canada. “Chapter 7: Federal Search and Rescue Activities” in *2013 Spring Report of the Auditor General of Canada*, last updated April 30, 2013, accessed February 25, 2014, [http://oag-bvg.gc.ca/internet/English/parl\\_oag\\_201304\\_e\\_38212.html](http://oag-bvg.gc.ca/internet/English/parl_oag_201304_e_38212.html).

audit found there was a need to invest in new equipment, as well as to ensure proper staffing of assets by improving access to training and accreditation for search and rescue personnel. Two recommendations from the audit report proposed updating the Search and Rescue Mission Management System and completing the tender on the fixed-wing search and rescue aircrafts.

Many layers of governance cover search and rescue activities in Canada, but the audit restricted this report's scope to federal activities.

The National Search and Rescue Secretariat (NSS)<sup>2</sup> was established in 1986, under a heightened sense of awareness of the complexities of search and rescue in Canada following the Royal Commission on the Ocean Ranger Marine Disaster.<sup>3</sup> Government tasked the NSS with creating a National Search and Rescue Strategy to establish performance indicators, as well as develop a prevention strategy to alleviate stress on the system. According to the audit, neither of these objectives has been met. In the absence of a federal search and rescue strategy, future federal investments may not reflect growing needs.

Since the audit, the examination of search and rescue activities has continued. Canada readily participates in exercises organized under the auspices of the Arctic Council's *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue* to improve circumpolar readiness<sup>4</sup>. Lastly, Mr. Stock addressed the *Quadrennial Search and Rescue Review*,<sup>5</sup> positing that the findings of the report did not reflect the complexity or urgency of the current search and rescue landscape in Canada.

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2 See: Canada. National Search and Rescue Secretariat. *National Search and Rescue Secretariat*, last modified December 20, 2013, accessed March 13, 2014, <http://www.nss-snrns.gc.ca/en/index.page>.

3 Archives Canada. "CAIN No. 257713, Royal Commission on the Ocean Ranger Marine Disaster fonds [multiple media]," *Canadian Archival Information Network*, accessed March 13, 2014, [http://www.archivescanada.ca/english/search/ItemDisplay.asp?sessionKey=1143412449030\\_206\\_191\\_57\\_196&itm=257713](http://www.archivescanada.ca/english/search/ItemDisplay.asp?sessionKey=1143412449030_206_191_57_196&itm=257713)

4 *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue*, Can.-Den.-Fin.-Ice.-Nor-Rus.-Swe-U.S., 2011, accessed March 5, 2014, <http://www.ifrc.org/docs/idrl/N813EN.pdf>.

5 Office of the Auditor General of Canada. "Chapter 7: Federal Search and Rescue Activities."

# VIEWS FROM THE REGIONAL ROUNDTABLES

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## INTRODUCTION

The findings of the regional roundtables held in Nunavut (October 2013), Northwest Territories (November 2013) and Yukon (December 2013) were presented.

## YUKON

The Arctic Athabaskan Council hosted the regional roundtable held in Whitehorse on December 11, 2013.<sup>6</sup> Twenty-eight individuals representing a variety of organizations ranging from municipalities, First Nations governments, the RCMP, territorial government, and federal departments and agencies attended. *Are We Ready: Search and Rescue and Emergency Preparedness in Yukon* illustrates the variety of different organizations involved in this policy area.<sup>7</sup> The many different actors operating within this space chart a complex jurisdictional map. Consequently, arising out of this meeting one of the main themes was the need for sustained discussion between the responsible organizations. Ideally such meetings would take place quarterly, so that co-ordination is ongoing, not just when emergencies happen.

Local volunteers have been essential to providing emergency management services in the Yukon. Of the Territory's 26 communities, eight have municipal fire services, the rest have volunteer fire fighting, and outside Whitehorse communities rely on volunteer ambulance services. Even search and rescue largely relies on volunteer groups, which often register as non-profit societies in order to raise funds.

Participants recognized that emergencies will happen, but they need to manage the intensity of these incidents' impact on Yukon communities. Practitioners have identified a need for individuals to craft 72-hour personal preparedness strategies. Consequently, planning emerged as a major theme of the discussions. Experts encouraged the writing of risk assessments based on local conditions in advance of emergencies. Also, in parallel with the emergency management plans, various responders should develop memorandums of understanding with each other. The Whitehorse roundtable urged the responsible authorities at the local level to identify in advance the trigger points for summoning outside help.

Everyone emphasized the need for training and the need for territorial and federal departments to provide training opportunities for community-level responders. The urgent training needs include: first aid training, basic radio training, interior waterways training, flood prevention, specialized search and rescue training for RCMP, etc. Leaders should build training plans on the foundation of a culturally respectful knowledge exchange and technology transfer, through which emergency responders learn from the traditional local knowledge holders and local communities gain some of the technical expertise of professionals. By so doing, volunteers and professionals can work together to improve the efficiency of their responses.

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6 For more information on the Arctic Athabaskan Council see: "Welcome to the AAC Website," *Arctic Athabaskan Council*, accessed March 20, 2013, <http://www.arcticathabaskancouncil.com/aac/>

7 Arctic Athabaskan Council, *Are We Ready: Search and Rescue and Emergency Preparedness in Yukon* (Toronto: Walter and Duncan Gordon Foundation, year), p. 14. Available at: <http://gordonfoundation.ca/publication/726>

## NORTHWEST TERRITORIES



Discussions during the Climate Change and Emergency Preparedness Roundtable held in Yellowknife, NWT on Nov. 5 and 6, 2013.

Significant community and grassroots interest in the Northwest Territories roundtable on November 5 and 6, 2013, brought 120 participants to the public session. The roundtable provided excellent opportunities for those who are directly experiencing the emergency-related consequences of climate change to share their views. Beneath their immediate concerns lay the realization that people will not be able to live on the land in the ways that their parents and grandparents did. Once, people travelled on the Mackenzie River by dog team in winter, while snuggled under a blanket on their sled, but today, the river ice has softened, making it unsafe for

travellers. More serious flooding at Fort Simpson and the increasing danger of forest fires have raised awareness among the general population of the need to develop emergency plans, which the roundtable felt the Government of the Northwest Territories (GNWT) should make mandatory for all communities.

The *Climate Change and Emergency Preparedness in the NWT: Regional Roundtable Report* was circulated to participants.<sup>8</sup>

## NUNAVUT

Participants heard the history of Nunavut's current emergency response policy. Seven years ago the Government of Nunavut re-evaluated its priorities and reoriented emergency response procedures. This included going to each of its 25 communities to complete risk assessments and draft emergency plans. Sadly, the federal government subsequently cut funding for the Joint Emergency Preparedness Plan (JEPP)<sup>9</sup> that facilitated this work. The federal government reduced by 50 per cent the funding available for emergency management in Nunavut. The territorial government is now trying to make up the difference.

Nunavummiut are resilient, rich in traditional knowledge of the land and well-armed with the skills to take care of themselves. Nevertheless, the capital, Iqaluit, has additional needs, because so many of its residents are new to the Arctic. Food security was raised as a particular challenge, as the land surrounding the capital was not seen as capable of providing enough "country food" to feed the growing population.

8 Dene Nation and Munk-Gordon Arctic Security Program, *Climate Change and Emergency Preparedness in the NWT: Regional Roundtable Report* (Toronto: Walter and Duncan Gordon Foundation, 2013). Available at: <http://gordonfoundation.ca/publication/728>.

9 For more information on the decision to end the Joint Emergency Preparedness Plan, see: Wilson, Gena. "Executive Memo: Economic Action Plan 2012 — Program impacts to Emergency Management initiatives at Public Safety Canada," accessed at "Federal Budget Cuts – JEPP Program and Emergency Management College," *Ontario Association of Fire Chiefs*, last modified April 17, 2012, accessed March 11, 2014, <http://www.oafc.on.ca/federal-budget-cuts-%E2%80%93-jepp-program-and-emergency-management-college>.

In answer to the question, “are we ready?” Nunavut’s respondents said “no,” but suggested that one way to achieve readiness would be to invest in further training. Items indicating a lack of readiness included: limited availability of medical facilities; lack of training opportunities; weak infrastructure; and lack of a road system, combined with short runways that limit the type of aircraft that can access some communities. The real possibility that a Nunavut community might have to deal with the total shutdown of their power plant, Internet and mobile phone communications during an emergency represented a huge “readiness” issue. In such a situation, there might be no way for government staff to communicate with local officials or airports.

The Nunavut roundtable also debated the questions, “who is in charge?” “When, where and why does authority change hands?” “How can communication be facilitated between the multiple actors?” In the absence of clear answers to these questions, it has previously been whoever steps up and says, “I’m here, what needs to be done?” The question of “who steps up” is seen as integral, because assistance from outside takes at least five hours to arrive on scene. How can local responders maintain the situation while waiting for external assistance? Responders asserted they would never refuse those in need of assistance, despite the legal responsibility belonging to another agency.

Consequently training takes on increased importance. In Nunavut, over 250 volunteers have been trained in basic search and rescue skills and 75 have been trained in search and rescue co-ordination. However, there has been significant turnover. For example, new Senior Administrative Officers (SAOs) have started in 14 out of the 25 communities in the last year. It has been the experience of the speaker that as these new SAOs start their jobs, they are not made aware that their community has an emergency plan. It is not unusual to find that the people identified by the plan – the school principal, the nurse, etc. – have all left their jobs and new people are in place may not be aware of their responsibilities. There is a requirement for constant training and re-training, and subsequently there needs to be more emphasis on training those in the community who are going to stay in the community, moving away from just formal “officials.”

Nunavut demonstrates a powerful need to make the training available in Inuktitut, since the majority of the population identify it as their mother tongue. However, this is not just a matter of translating the materials, because to give the proper context it is necessary to train the translator in emergency management. As a result, the costs associated with translation are approximately \$50,000 per course.

## COMMON THEMES ACROSS TERRITORIES

A participant who took part in all three regional discussions was asked to reflect on the commonalities and differences among the discussions. The speaker identified five common themes:

### 1. NORTHERN RESILIENCE

Northern residents don’t have the same 911 culture as other parts of Canada. This facilitates a receptivity to training and to taking on the responsibility to respond. This theme was returned to later in the discussion, when one participant recollected:

*Thinking about my little community — at one time we had a power plant burn up. Everybody stayed calm, nobody got excited. Driving into town, it was like the town was dead, no light. There are certain things that happened in the past in my small little community, we were able to handle that.*

### 2. EMPHASIZING LOCAL NEEDS AND CAPABILITIES

The dialogue on emergency management taking place in the media, academia and federally has

emphasized the search for and rescue of visitors to the region, as opposed to the emergency response needs of northern residents. This has created the perception among many in the North that they are taking a back seat to visitors to the region, particularly in discussion of the Northwest Passage.

### 3. INCREASE IN FREQUENCY OF INCIDENTS

Across the North, there are hundreds of searches every year, and that only takes into consideration search and rescue incidents. There are also forest fires, tundra fires, floods, power outages, blizzards, etc. These emergency events are becoming not only more frequent, but more severe. For example, there is at least one earthquake a week in the North, but to date this has luckily only happened outside of populated areas.

### 4. ABILITY TO RESPOND HAS NOT MATCHED THE INCREASE IN INCIDENTS

Volunteers are strained as they try to respond to the higher frequency of incidents. According to the speaker, there has also been an unfortunate trend towards an increase in fatalities reported each year.

### 5. EACH TERRITORY HAS A DIFFERENT APPROACH

Each of the regional roundtables took a different approach to their discussions. Nunavut focused on the academic approach of a case study, NWT emphasized grassroots/community participation, and Yukon concentrated on elected officials. It was felt that this diversity in approach extends beyond just the roundtables, but also to how each territory responds to emergencies. Diversity is necessary, as it reflects differences in culture, geography, level of isolation, etc. At the same time the speaker recognized that this diversity often poses a challenge for national-level responders who are responsible for providing services in all regions.

## RECOMMENDATIONS

The recommendations arising from the regional roundtables were presented. There appeared to be a general consensus around these recommendations, as no specific objections to them were made by participants.

# DEFINING THE DISCUSSION


## INTRODUCTION

The discussion sessions were designed to be free-flowing in order to be as reflective of the perceptions of participants as possible. The goal was to understand the policy context surrounding emergency management from both those with day-to-day responsibilities in this area, as well as those who are affected by the outcomes of the policy decisions. This section details the discussions around trying to reach a common understanding of the exact nature of the policy dilemma and what guiding principles should focus the discussions.

## ARE WE READY?

What does it mean to be “ready” for an emergency? How do we know if we are “prepared” for a disaster? It was also suggested by some that instead of asking “are we ready?” the questions should be: “who is ready, and for what potentialities?” This was seen as necessary as different communities need to prepare for different types of risks.

# NUNATSIAQ ONLINE



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■ NEWS: Nunavut August 30, 2010 - 2:19 pm

## Stranded passengers find warmth in Kugluktuk

**“The time of an incident is not the time to be making friends”**

**JANE GEORGE**

People in Kugluktuk opened their arms to a tired group of unexpected visitors who arrived in the wee hours of Aug. 30.

More than 120 passengers and crew, taken off their cruise ship, the Clipper Adventurer, Aug. 29 by the Coast Guard icebreaker, the Amundsen, arrived in Kugluktuk after midnight on Aug. 30.


By the time they left at about 11 a.m. local time, bound for Edmonton on a Canadian North charter, Steve Novak, the main co-ordinator of their welcome in Kugluktuk, was ready to go to bed for a snooze.

For more than 17 hours he, other hamlet staff and locals improvised a plan on-the-spot to deal with one of the worst-case scenarios imaginable in the Arctic: a marine emergency.

“There was nothing in place,” said Novak—and if there was such a plan neither he nor the hamlet’s senior administrative official, both recent arrivals to their jobs, knew where it was.

But that didn’t stop Novak from acting.

“At this point, my main concern was addressing their needs that



This elderly man was one of about 120 passengers who arrived in Kugluktuk in the middle of the night on Aug. 30 after the cruise ship they were sailing on, the Clipper Adventurer, went aground Aug. 27 not far from the community and the Coast Guard icebreaker, the Amundsen, had come to the rescue. (PHOTO BY JASON EVANS/ANGUT PEDERSEN)

*This Nunatsiaq News article from Aug. 30, 2010 shows passengers from the Clipper Adventurer arriving in Kugluktuk, NU.*

The question was also raised, “How do we measure preparedness?” to which some respondents answered, “we don’t.” In their opinion, there is no definitive checklist or single set of criteria. Does a written emergency plan necessarily mean we are ready? According to those present, not necessarily. What if there are assets in place? Does that equate to being prepared? Again it was answered, “not necessarily,” since there is a need for skilled people capable and ready to operate those assets.

The events of August 30, 2010 illustrate this point, suggested the presenter. On this date, the cruise ship Clipper Adventurer hit a shoal. Its more than 120 passengers were brought to the small hamlet of Kugluktuk, Nunavut, population 1,500 (30.4 per cent of whom are under the age of 15). Despite there being no formal plan in place, the hamlet did its best to take care of the stranded passengers.

But just because Kugluktuk was able to respond does not mean it was “ready,” the speaker suggested. Kugluktuk’s infrastructure planning gives high priority to education and health, with search and rescue being fifth down the list. Power failures during the winter months topped the list of hazards; a cruise ship running aground was not even on their radar.

One of the lessons from the Clipper Adventurer, the presenter offered, is that identifying the right set of risks depends on the specific community at hand. Each community has a unique basket of needs, communications and training issues,

infrastructure and equipment requirements, partnerships with governments and businesses, etc. The Clipper incident also revealed to the speaker that while communities may not be prepared in terms of infrastructure or equipment, they are, at the same time, “ready” to deal with the emergency situations they face. However, each community was encouraged to assess, for itself, what its risks and needs are. It was suggested that only then can the answer to the question, “are we ready?” be found.

## “EMERGENCY MANAGEMENT” VS. “SEARCH AND RESCUE”

It was expressed by a variety of participants that it would be helpful to have greater clarity around whether “emergency management” or “search and rescue” should be given priority during the discussion.

One speaker explained that search and rescue is a sub-set of emergency management as a whole, but that it brings distinct challenges. He suggested that the conversation focus on either search and rescue or emergency management.

However, others took a different view. They felt an all-encompassing discussion of the emergencies facing the north and the policies designed to address them is required. In particular, it was mentioned that health emergencies such as pandemic planning, post-emergency mental health services, etc. should be taken into consideration. The H1N1 virus outbreak in the Northwest Territories was cited as an example, where there were concerns about the adequacy of the stockpile of Tamiflu®. The speaker urged the group to think “not just of the physical aspects of earthquakes and forest fires,” but to also consider health emergencies. Another participant offered the example of tuberculosis being found among some of the bison herd that locals rely on as a food source constituting a health-related emergency.

Additionally, health plays an important role after an emergency ends. Again an example was used to highlight this point: a Manitoba First Nation community that had to be relocated to Winnipeg due to extensive flooding find themselves several months later still living in hotels. The speaker talked about the strain this has put on people’s health both from a conventional and mental health standpoint. Little consideration was given to the long-term health effects of the emergency during planning and there is now a huge need for those services.<sup>10</sup>

Building on this, another participant noted that because emergency responders in the territories are most often volunteers and they are often assisting family or neighbours, the emotional intensity is different than in other regions. There is often inadequate access for mental health services to help cope with the trauma of such events, requiring further attention and investment in order to reduce volunteer burnout.

The impact of medical emergencies on families and individuals should not be underestimated, according to one participant. She shared that her family member was eight months pregnant and was supposed to fly to Yellowknife shortly to have the baby, as the medical facilities available in her community are unable to handle births, but that the baby decided not to wait for the scheduled flight, forcing an expensive medevac. She explained that the lack of health facilities and the reliance on medevac — even for something as commonplace as having a baby — creates significant strain on northern families, as well as government resources, that should not be underestimated.

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10 For more information see: “Manitoba Floods 2011: First Nations Recovery Needs Assessment,” *Aboriginal Affairs and Northern Development Canada*, last modified December 19, 2013, accessed March 11, 2014, <http://www.aadnc-aandc.gc.ca/eng/1387391495840/1387392049811>.

## VISITORS VS. RESIDENTS

When talking about Arctic search and rescue, there is a tendency to focus on outsiders. The perception was even shared among many Yukoners, it was suggested, who believe that most search and rescues in the territory involve tourists. As one participant noted, this “outside-looking-in” perspective biases discussion, putting local, daily emergencies on the back burner.

Another participant noted that this is particularly true when it comes to the national media. Journalists like to focus on big, newsworthy events such as oil spills or cruise ship accidents, not the daily emergencies that most northerners fear, such as power outages, flooding, landslides, and forest fires.

As several participants noted, the local perspective must not be lost. The focus should be on “what are the hazards that the local residents face?” Participants were also encouraged to remember that while not all SAR events involve visitors, not all northern emergencies involve SAR. Though search and rescue events might be most prominent in the public view, natural events and power outages also figure largely in northerners’ thinking.

There is also a tendency to focus on offshore oil spills, but oil also has to be shipped into the North to meet local demand. Consequently, additional attention should be paid towards community infrastructure for storing these supplies, and the dangers associated with resupplying fuel to communities by sea must be looked at carefully.

That being said, northern communities are, for the most part, it was suggested, very resilient. Even with few assets and resources, they manage to deal with local emergencies incredibly effectively. However, there was a concern among many present that the preoccupation with outsiders has come to overshadow local needs in conversations on emergency management in the North. Instead of focusing exclusively on rescuing southern adventure-seekers, the needs of the residents of the North should be brought to the forefront.

## NORTHERN FRAMING

Climate change was seen as a major factor in the perceived increase in frequency of emergencies in the North. However, one participant challenged the group to think about the issue another way, saying:

*I don't believe in climate change, don't believe that word. From my understanding it is not climate change, it is man-made change. I have seen a lot of what has been done, and I believe we should talk about man-made change.*

“Emergencies happen to communities, they don’t happen to governments,” another participant offered, adding that, “we need to focus on communities.” One way that the Government of Nunavut has facilitated conversations at the community level is by providing a guidance document to local officials that explains the concepts of emergency preparedness, management, etc. This approach, the speaker offered, has led to greater consistency across communities in how they think and talk about emergencies. However, another participant cautioned against “consultation fatigue” and urged that this be taken into consideration when designing the processes for community input.

It was also suggested that policies and procedures, particularly public education campaigns, need to be relevant to the communities that they are intended to serve. There have been numerous examples of public education campaigns designed for cottage country in southern Ontario being used by federal agencies in the North, where they do not resonate with the people they are intended to inform. Making resources available in indigenous languages was also encouraged.

## RECOMMENDATIONS

Following from these discussions, it was recommended that:

1. National authorities should place the needs of northern residents at the forefront in policy discussions at the national level, as opposed to an exclusive focus on visitors to the region.
2. Emergency management policies and procedures applied in the North by national bodies need to be adapted to reflect northern realities.
3. There is also a tendency to focus on offshore oil spills, but it should also be remembered that oil is shipped *into* the north to meet local demand. Consequently, additional attention should be paid towards community infrastructure for storing these supplies and the dangers associated with resupplying fuel to communities by sea.

# BEING READY

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## INTRODUCTION

While it was recognized that it is never possible to “be *fully* ready,” participants discussed at length policies that would facilitate a greater state of readiness. Additional training opportunities were raised as a key tool, as was overcoming barriers to emphasizing preparedness, prevention, and planning. Unresponsive funding mechanisms are the major barrier.

## TRAINING

All three regional roundtables identified the need for additional investments in training, which carried through as one of the major themes of the discussion. Training was seen as the best possible means for empowering communities and local responders. In the North Slope Region of Alaska, for example, training is credited with arming community members with the power to believe that they can play a positive role in emergencies. Training has also been viewed in the North Slope as a way to break the mentality that individuals are not responsible for themselves during an emergency by emphasizing the ways in which they can and must be prepared to survive on their own during the first 48-72 hours. One participant offered that hamlets are the most appropriate co-ordination point for the delivery of training to community members.

There was considerable emphasis on the need to build skills through “two-way knowledge exchange.” Participants concurred that traditional knowledge has an important role to play in emergency management training in the northern context. The transfer of these skills not only from one generation to another, but also between traditional knowledge holders and emergency responders, was viewed as critical. As one participant shared, “the legacy of residential schools meant that I had to learn skills later in my life, but what I know, I share.” Emphasis on two-way knowledge exchange was also viewed by another participant as the best way to sustain training efforts, saying, “If you find ways of doing things that are mutually beneficial it is sustainable.” The question was poignantly asked by another participant, “how can northerners train senior people in the federal system about the realities emergencies in the North?”

Three specific suggestions were made regarding how to increase access to training:

- Training local trainers to deliver these programs would improve expertise and access to training.
- Providing public servants with time off to attend training would vastly increase the cadre of trained personnel who are available to take part in volunteer organizations and efforts, as a high percentage of the population in the territories is employed by government at various levels. Getting time off from work to attend training sessions was viewed as a barrier.
- It may be necessary to provide incentives for training by providing compensation, as the majority of responders are volunteers.

Cuts to the Joint Emergency Preparedness Program (JEPP) have had a negative effect on training opportunities.<sup>11</sup>

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11 For an evaluation of the Joint Emergency Preparedness Program see: Emergency Management Policy Directorate, 2008-2009

One participant noted that it is difficult to get attention on training issues during normal circumstances as governments are preoccupied with other priorities. This makes it necessary to “capitalize” on attention immediately following an emergency. Funding has been made available for climate change adaptation through Health Canada’s First Nations and Inuit Health Branch that could cover some of these activities. Funding is provided up to \$200,000 for one year.<sup>12</sup>

More generally, jurisdictional confusion was seen as a barrier to effective delivery of training. Volunteer organizations do the best they can to deliver high quality and frequent training, but they are often searching for funding. It was the experience of one participant that the common reaction to this request among governments was “this is not within my organization’s mandate.”

While volunteer organizations provide training opportunities, territorial and federal departments also have courses available. The methods for delivery are varied.



A Canadian Ranger receives training during Operation NANOOK, Nunavut, 2011.

In Nunavut, for example, the Municipal Training Organization,<sup>13</sup> an arms-length body, delivers training. The Government of Nunavut (GN) can request a specific course be put on by the organization, for which it provides the funding. Currently, the GN is able to offer the following training courses: basic search and rescue (SAR), SAR co-ordination, and SAR manager, as well as Incident Command System (ICS) training for fire fighters. While there are many requests for first aid training in the territory, there is only one trainer and the materials are not available in Inuktitut, as the copyright holder was unwilling to make this resource available even if the funds were provided to do the translation.

In Yukon, the Emergency Management Office often covers the cost of training. It relies on expert bodies and partner groups like Yukon College or the Northern Safety Network to deliver the courses.<sup>14</sup>

The Canadian Forces undertakes “North of 60” training for its general personnel (approximately 1500 per year), so that soldiers know how to survive in northern conditions. While the Rangers receive training from the Canadian Forces, they also provide training to regular soldiers on, for example, how to travel safely across the ice. However, the speaker also

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*Summative Evaluation of the Joint Emergency Preparedness Program (JEPP)*. (Ottawa: Public Safety Canada, 2008), accessed on March 11, 2014, accessed at, <http://www.publicsafety.gc.ca/cnt/rsrscs/pblctns/archive-vltn-jnt-mrgnc-2008-09/archive-jepp-pcpc-eng.pdf>.

12 For more information see: *Health Canada’s Climate Change and Health Adaptation Program for Northern First Nations and Inuit Communities: Funding Proposal Guide* (Ottawa :Health Canada, 2013), accessed at “Health Change and Adaptation Program,” *Inuit Tapiriit Kanatami*, accessed March 11, 2014, <https://www.itk.ca/front-page-story/climate-change-and-health-adaptation-program>.

13 *Nunavut Municipal Training Organization*, accessed March 11, 2014, <http://www.nmto.ca/>.

14 Courses delivered by the Northern Safety Network Yukon can be found at: “Event Listing,” *Northern Safety Network Yukon*, accessed March 11, 2014, [https://nsny.encryptedsecure2.com/Events/View/event\\_list.cfm](https://nsny.encryptedsecure2.com/Events/View/event_list.cfm)

cautioned that the Rangers were never meant to be a ground search and rescue (GSAR) asset, but rather were set up to do surveillance. As a result, they have not received specific GSAR training. Another respondent noted the value of the Junior Ranger Program in teaching youth on-the-land skills that can help them to survive.

The major Arctic military exercises Operation NANOOK and Operation NUNALIVUT are also training exercises. In preparation for these events, the Canadian Forces works with communities on their emergency response plans.

The RCMP in the NWT offers its constables special ATV and snowmobile training, as well as winter in-dock training when they first arrive in the territory. The aim is to help them to be able to respond effectively to ground search and rescue incidents, which fall under the mandate of the RCMP.

It was noted positively that several different organizations are co-ordinating their training, including between Parks Canada and the Department of National Defence and between the Government of Nunavut and federal employees in the territory.

The North Slope Borough in Alaska has made it its goal to get out to all of its communities two to three times a year to do training and review emergency plans. In particular they use Small Community Works Response Plans (SCWRP) to guide emergency co-ordination in the smaller communities in the borough. They have also made it mandatory that every employee with a function in the emergency management plan receive training, though they have also found that high turnover rates have meant that this goal must be consistently monitored to be achieved.

Increased training was also seen as necessary to overcome other policy hurdles. For example, to get a federally required boating license, a boat safety course must be taken. Without a responder having this training and the subsequent license, concerns around legal liability might result in the response being delayed or not initiated at all.

Sustainability was brought forward as a major consideration, because, as many participants noted, there is an extremely high level of turnover in personnel in the North. The RCMP in the NWT have responded to the high turnover rate by having all officers who are new to the region attend a presentation by the RCMP SAR Co-ordinator on process, capabilities, knowing their limits, etc. This helps to orient them to the local conditions and is seen as valuable training.

It was also raised that it is insufficient to talk about generalities related to training; rather, there needs to be more emphasis on local training requirements. The following training gaps were identified by attendees:

- Traditional and local knowledge for newcomers;
- Basic and wilderness first aid;
- CPR, including the use of Automated External Defibrillators (AEDs);
- Radio operator training;
- Use of the Incident Command System (ICS);
- Emergency Operating Centre (EOC);
- Ground Search and Rescue (GSAR);
- GPS training, as well as how to use a map and compass;
- Boat operator licensing;
- Snowmobile operator training;
- ATV operator training;

- Small engine mechanics;
- Technical rescue skills: swift water rescue, crevasse rescue, avalanche rescue;
- Environmental response training.

Business continuity training, i.e. how to keep the government running if there is a serious challenge to government infrastructure, such as the computer systems completely crashing, was also seen as a necessary skill-set for municipal and territorial level officials.

## PREVENTION, PREPAREDNESS, AND PLANNING

When it comes to emergency prevention, preparedness and planning in the Arctic, it was felt that there is an instinctive understanding of the value of “an ounce of prevention is worth a pound of cure,” but as many of the participants observed, there are challenges to expanding programming so that it is not focused solely on response.

### INDIVIDUAL, COMMUNITY AND POLICY DIVERSITY

Individuals and communities are diverse and their emergency plans need to reflect this diversity. It was also noted that the policy makers involved in Arctic emergency preparedness are themselves diverse. These policy groups should and can work together towards a plan, but to do so the fact that they are often coming from different perspectives, with different areas of responsibility and expertise, must be reconciled. “Planning is a challenging activity,” said one participant. “It is a little bit art and little bit technology, and we don’t give the artistic part enough emphasis. A good plan speaks to a lot of different constituencies.”

### LACK OF MANDATE

A major barrier to comprehensive prevention strategies, according to one participant, is that the organizations that need to be engaged to make this effective do not actually have a mandate for prevention. Despite having a common desire for prevention, the challenge remains: “who is going to do it?” It was suggested that the NSS cannot do prevention alone, but that it needs the active buy-in of other departments, territorial governments, and municipalities. The speaker concluded: “There is no official one-stop shop in terms of SAR prevention.”

That being said, mandates can change. For example, while historically prevention was not something one department put much energy into, their focus has changed and, they are now using social media extensively to get their prevention messages out. A policy shift, however, is required to facilitate this reorientation.

### GETTING THE MESSAGE OUT

Social media is one way that prevention messaging is getting out, but how else can this be facilitated? One participant suggested mapping as a tool. In one project, she noted, mapping is being done of traditional hunting routes that have been compromised and made dangerous due to climate change. In another instance, there is a winter road that is not going to be safe for travel for much longer, so an alternate route is being mapped.

Gathering good data was also presented as critical. As one participant argued, “if we plan for the wrong things, we should not then be surprised by negative outcomes.” For example, previously it was assumed that the majority of those who got lost on the land were young, but after a data management system was put in place, it was found that those who got lost most often were middle aged persons who ventured out alone. The knowledge led to a targeted public education campaign that reminded everyone to always travel with a partner.

Education about prevention and preparedness needs to start at a young age, offered one participant. For example, northern communities prone to floods should incorporate planning for such incidents into the school curriculum. This is perhaps more “life skills” than “emergency planning,” he conceded, but maintained that the impact could be significant.

## LACK OF FOLLOW-UP

Planning for emergencies is crucial as it tests the validity of plans, while providing responders with opportunities to develop the skills that are required when emergencies actually strike. To increase the effectiveness of the plans, there needs to be concrete action to routinely test and fill in gaps in the plan identified during training. Addressing and adjusting to these gaps should be an assigned responsibility of a specific agency and individual.

In Alaska, there are many funding opportunities for both large and small communities to draw up emergency management and preparedness plans. But one of the biggest problems is the time commitment. It’s not effective to draw up a plan, put it on a shelf and leave it; plans have to be kept current and need to be supported by relevant ongoing training. After the *Exxon Valdez* spill, for example, any tanker vessel coming to a U.S. port needed a contingency plan, which had to be current. Another participant suggested that this might be a model for Canada to follow.

## FUNDING

Finding funding for emergency preparedness is not a simple task. This is especially true, to one participant, because most of the issues people are most anxious about when disaster strikes are those they take most for granted: daily necessities, like heat or running water. Funds for providing these daily necessities are not covered by most emergency management budgets.

The sentiment was expressed that all organizations and levels of government — federal, territorial, municipal — can always find the money to deal with a crisis when it is happening, but at the same time, if an official were to put in contingency funds or earmark funds for emergency events up front at the beginning of the fiscal year, it would likely not be approved. It was suggested that this practise needs to be re-evaluated, so that gaps are not left.

It was also raised that projects need to be sustainable over the long term and that the current suite of funding sources does not allow for good projects to continue past their pilot phase. Funding should cover core operating costs to sustain cost-effective prevention and risk mitigation programs, as opposed to one-off campaigns. Furthermore, the findings of successful projects should be made readily accessible to others, so that they can benefit from their findings. Plain language summaries of successful initiatives or studies that make the information clear to understand were particularly encouraged.

The shift towards devolving powers to territorial governments, particularly related to gaining access to royalties from extraction projects, was seen by one participant to provide a funding opportunity for the kinds of emergency management investments being pushed for by communities. This is already happening in the North Slope Borough of Alaska, which uses gaming license revenues to offset the cost of emergency services. It was suggested that when residents are directly paying for the services that they are using, there is more buy-in. Another participant raised the impact that is felt on communities when they are, in her opinion, “left holding the bag.” She explained that “Dene people don’t leave our people,” so ordinary citizens raise funds to continue looking for lost family and friends once the “official” search is called off by agencies. She cited one case where a small community had to fundraise \$40,000, but continued that it “doesn’t matter where the money comes from, we won’t give up.”

One participant asked whether the funding announcements made in the 2014 federal budget related to the “New Building Canada Plan”<sup>15</sup> would help ease funding pressures, as disaster mitigation is one of the identified project areas. In response, another participant put forward the view that the funds are really “re-profiled,” as opposed to new resources, expressing doubt that this funding stream will alleviate the pressure. A third participant suggested that the gas tax should be looked at as a means of promoting communities shifting away from diesel generators towards more reliable — and greener — alternative sources of energy. It was also noted that the cancellation in 2013 of JEPP has put significant strain on budgets.

## RECOMMENDATIONS:

Following from these discussions, it was recommended that:

8. The Joint Emergency Preparedness Program should be reinstated to full capacity. Territorial governments should make training available and encourage skill development among community members and volunteer responders. This should include the following:
  - Traditional and local knowledge instruction for newcomers;
  - Basic and wilderness first aid training;
  - CPR training, including the use of automated external defibrillators (AEDs);
  - Radio operator training;
  - Use of the Incident Command System (ICS);
  - Emergency Operating Centre (EOC) training;
  - Ground search and rescue (GSAR) training;
  - GPS training, as well as how to use a map and compass;
  - Boat operator licensing;
  - Snowmobile operator training;
  - ATV operator training;
  - Small engine mechanics;
  - Training in technical rescue skills, such as swift-water rescue, crevasse rescue, avalanche rescue;
  - Environmental response training.
9. Territorial governments should provide time off with pay to allow their employees to pursue training opportunities.
10. Health Canada should take a bigger role in emergency preparedness. Health is a major component of emergency response, especially post-emergency care and mental health resources for responders.
11. Federal agencies overseeing nation-wide public education campaigns aimed at preparedness and prevention should adapt campaigns in northern Canada need to reflect of northern cultures and values.
12. Municipalities should help individuals to develop personal preparedness plans for the first 72 hours of an emergency.

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15 “The New Building Canada Plan,” *Infrastructure Canada*, last modified February 27, 2014, accessed March 11, 2014, <http://www.infrastructure.gc.ca/plan/plan-eng.html>.

13. Training should be expanded to include the whole community, including to school-aged children, and could be delivered through the school system. This “whole community” approach should emphasize recurring environmental phenomena that regularly affect their community, such as floods, forest fires, etc.
14. Prevention activities should be placed under the leadership of a single federal agency and championed.
15. Agencies funding or delivering training should work through community-level organizations to coordinate training or select community trainers.
16. The National Search and Rescue Secretariat should make funding available for the long-term sustainability of prevention projects to support the continuity of successful initiatives.
17. Communities should conduct risk assessments to identify situations in which outside responders might be required to provide assistance.

# BUILDING RELATIONSHIPS

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## INTRODUCTION

The need to build strong relationships among the multitude of volunteer and aboriginal organizations, First Nations government, municipalities, territorial governments, federal departments, and international organizations, was seen as crucial. Many felt that having good relationships with other responder agencies was critical when it came to getting done what matters during an emergency: ensuring that people are safe. Discussion focused on how to build positive relationships amidst the jurisdictional confusion, and lessons were offered from neighbouring Alaska about their experiences in trying to address similar issues.

## JURISDICTIONAL CONFUSION

Concerns about the difficult jurisdictional landscape and governance model for both emergency management generally and search and rescue specifically were raised throughout the proceedings. For example, search and rescue involves six federal departments, as well as all provinces and territories and a multitude of volunteer organizations.

As to the question “who is in charge?” one participant noted that there is a “system of systems,” but a single person has never been identified as responsible for all systems. The fact that one person is not in charge all the time when it comes to emergency management creates confusion. The major challenge is then at the operational level. The organizations involved do what needs to be done in the moment, rather than focus on the specifics of their mandate. They ask, “how can we get this done?” as opposed to “who’s in charge?” The latter question becomes more prominent at the higher levels of jurisdiction, especially when it comes to the question, “who is going to pay for it?”

Another participant raised the example of children at risk as illustrative. In this case, it does not matter whether the person who is made aware of the situation has jurisdiction or not, they are obligated to do what is necessary to protect that child and sort out the jurisdictional lines afterwards. This practice, the speaker suggested, could be brought to emergency response, even though it might not be codified in the land claims agreements as it is with the case of child welfare.

Planning is also complicated by overlapping and unclear mandates. One participant noted that emergency planning exists within the constraints of the organizations they represent — so, for example, communities along the Northwest Passage may look at incidents of cruise ship accidents and note that any one of them could potentially cause the need to accommodate several hundred passengers in the event of an accident. Others might argue that since it is a federal waterway, accommodation does not fall within their mandate and that they therefore do not need to plan for such an eventuality.

One participant suggested that there is a significant gap between where the authority for response technically lies and the proximity to the incident that enables a quick response. In one case, a JRCC had the official mandate, but the community closest to the incident was out there responding under the leadership of their SAO. However, the JRCC did not have a relationship with this individual, so viewed him as an impediment to rescue. The SAO himself, the speaker suggested, was unaware that the JRCC would have their own protocols related to the incident. This illustrates that there is a disconnect between two individual command centers and individual leaders. She offered that this suggests a wider need to establish solid working relationships between responders.

In response, another participant clarified that when a search and rescue incident is aeronautical or marine,<sup>16</sup> the appropriate JRCC is in charge and is in contact with the affected community. This, he argued, works very well from the federal side, but in a case where an incident is not within the federal mandate, such as when the territory is running a ground search and the federal side is asked to intervene to add additional capabilities, confusion can arise. In his opinion, problems around control usually surface when the territory has the official mandate, but asks a JRCC for help.

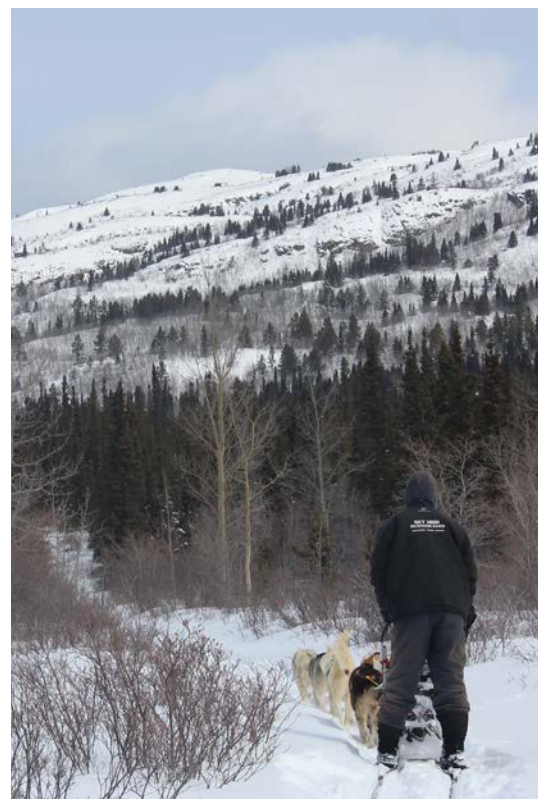
First Nations reserves also create jurisdictional complexity. As one participant noted, in the event of a fire on his reserve, the adjacent municipal fire services will not respond, nor will ambulances. The participant argued that there must be a protocol to facilitate response by municipal or territorial assets on reserve lands in order to adequately meet the emergency needs of Canada's First Nations.<sup>17</sup>

Relationship-building activities were seen as one way to manage the complex jurisdictional picture. One participant suggested having regular quarterly meetings among responder agencies as a means of building better relationships and dealing with many competing jurisdictions on municipal, regional and/or national levels.

Jurisdictional issues are even more complicated in border areas spanning geographic boundaries (such as along the 60<sup>th</sup> parallel, the BC/Yukon border, etc.). Here communities, major transportation infrastructure, and wilderness areas require extra co-ordination in order to function smoothly. Alaska and Yukon were cited as having good co-operative management agreements, such as the one for maintenance of the Alaska Highway.

## ROLE OF INDUSTRY

Industry was called by one participant “the third leg of the [emergency management] stool.” It was explained that in Alaska, when major oil and gas projects were coming online in the 1980s, there was a push to move towards conflict avoidance agreements<sup>18</sup> between local harvesters and industry. One of the spin-off benefits of these agreements was to improve the communication systems available to whalers, because the companies who built them for their own needs also made the systems available to local people. This facilitated whalers having a means to communicate with each other, other ships, and back to the community — all useful tools when an emergency strikes. It was suggested that there is a role for industry when local communities or sub-national governments do not have the capacity to provide infrastructure.



*Industry, including tourism operators like this Yukon dogsledding company, are considered “the third leg of the [emergency management] stool.”*

16 The exception is inland waters, which fall under the jurisdiction of territories and provinces.

17 The Office of the Auditor General examined the complexity of emergency management on reserves as part of their 2013 Fall Report: Office of the Auditor General of Canada, “Chapter 6: Emergency Management on Reserves,” *2013 Spring Report of the Auditor General of Canada*, last modified November 26, 2013, accessed March 13, 2014, [http://www.oag-bvg.gc.ca/internet/English/parl\\_oag\\_201311\\_06\\_e\\_38800.html](http://www.oag-bvg.gc.ca/internet/English/parl_oag_201311_06_e_38800.html).

18 For an example of a conflict avoidance agreement in Alaska, see: *2012 Open Water Season Programmatic Conflict Avoidance Agreement, March 1, 2012*, accessed March 11, 2014, [http://www.nmfs.noaa.gov/pr/pdfs/permits/bp\\_openwater\\_cca2012.pdf](http://www.nmfs.noaa.gov/pr/pdfs/permits/bp_openwater_cca2012.pdf).

The role of tourism operators during an emergency was also raised. While positive examples were given of companies taking active steps to mitigate the impact of their clients on communities following a rescue, the question was also raised about how these companies can be held accountable for the costs of a rescue. These costs are currently absorbed by government.

Questions were raised about the impact of a large number of evacuees on a small and remote community. It was cautioned, however, that the impact on communities can vary greatly, depending on the level of infrastructure present (roads/ice roads versus fly-in only):

- What impact would the influx of people have on a community?
- Given chronic housing shortages, in the case of an oil spill, which would bring large numbers of responders into a community for an extended period of time, where would all of these people live?

Questions were also raised about how communities that only have one sealift a year get resupplied when responders from outside drain these resources. In Nunavut, for example, the territorial government has to emergency lift in fuel to communities running out, usually at least four times a year. It also co-carries the costs of emergency food resupply with carriers when food lifts are necessary because supplies run out before the next sealift. These are expensive measures that would have to be taken if an emergency prompted large numbers of responders to drain supplies available in a community.

Questions about insurance were also raised. One participant noted that in his opinion as a lawyer there is a culture of being “woefully under-insured” in the North. It was suggested by several participants that adventurers and tourism companies should post a bond in case they need to be rescued, instead of the cost being borne by taxpayers. However, it was suggested by another participant that while there is support for such a policy in the North, to be implemented it would need to be a Canada-wide policy and there is significant opposition to this idea in other regions.

The question of liability was seen as particularly pressing in relation to the oil industry, where the vessels used to transport the material are not always owned by the same company doing the drilling. This raises the question, “Who is liable for the consequences of a spill if one were to occur?”

## LESSONS FROM OTHER JURISDICTIONS

Understanding that while some of the challenges related to emergency management in Canada’s North are unique, much can be learned from the experiences of its neighbour, the United States, and in particular, the State of Alaska.

The first speaker explained that it was in fact natural disasters that have had a huge impact on Alaska’s policies, as well as on governance. Major emergencies — a diphtheria epidemic that resulted in the race against time that spawned the Iditarod race, the creation of the Alaskan highway and railroad during WWII, the 1964 earthquake and Fairbanks flood in 1967 — are credited with opening up Alaska, as well as bringing a military presence to the state. Alaska maintains a strong military presence which it draws on during times of need. Alaskans are fiercely supportive of the military presence.

Disasters taught Alaskans many important lessons. As one participant offered, “just as pilots know survival gear is what is on your body, not underneath the seat, your survival is dependent on those nearby, not those in Washington, D.C. Locals understand that they need to work together to get through these events. State, federal, military civilian boundaries are crossed and crossed often: you ask for forgiveness later.”

Command and control for use of the U.S. military in civil support situations is straightforward. Immediate response

authority, inherent to any U.S. military commander, allows them to provide resources to save lives, prevent human suffering, or mitigate great property damage in response to a request for assistance from a civil authority, under imminently serious conditions. This is how military actions immediately following a disaster would be started. This period of action is followed by a more regimented request-response process, where requests go from a local government to the state government, where assistance is given by the state (including the state's National Guard), if possible. If the request exceeds the state government's capabilities, they may choose to forward it to the federal government for action; the lead federal representative may then direct the response to military activities. A unique command-and-control arrangement for use during civil support activities is appointing a dual status commander, where one officer is authorized to control both active duty military and National Guard members, providing unity of command. In nearly all cases, the local or state governments remain in charge of the response; the federal government is in support.

The speaker explained that the *Exxon Valdez* accident, which was a huge operation that went on for years in terms of clean-up, spurred federal and state legislation and codified some existing practices that had developed, such as unified command. The incident also clarified command and control and encouraged local, regional and state emergency planning committees.

The oil industry has had a major role in shaping the North Slope Borough's emergency management policies. The ability to tax oil extraction, which it gained in 1972, has enabled the community to not only invest in education and health care for its people, but also to build its own fire departments, create search and rescue teams, and purchase search and rescue aircraft and helicopters. The community is now working with the oil industry to conclude mutual aid agreements for oil spill response.

Another participant mentioned that the 1964 earthquake was a 9.0 magnitude and lasted four and a half minutes. Alaska is having an exercise in March 2014 in commemoration of that earthquake, with involvement from local communities, boroughs, the state of Alaska, as well as many federal agencies. Earthquakes are just one of the hazards planned for in Alaska; others include floods, wildfires, avalanches, wind storms (which lead to coastal erosion), volcanoes, oil spills, and community power outages – many of the same hazards that face Canadian communities.

The military works closely with Alaska's Division of Homeland Security and Emergency Management, which has the state



Damage to Fourth Avenue in Anchorage, Alaska caused by the 1964 "Good Friday earthquake." Before the shock, the sidewalk on the left, which is in the graben, was at street level on the right. The graben subsided 11 feet in response to 14 feet of horizontal movement.

lead for co-ordinating disaster planning and response. The key challenge in Alaska disaster response is logistics. The state of Alaska is very dependent on the Port of Anchorage, as most goods for the state pass through that facility. So, the impact of a major earthquake in Anchorage, which disrupts the Port of Anchorage, would be wide-ranging. Workarounds are going to be explored in the March exercise.

The melting of permafrost is another concern; many lakes in the North are present only because there is permafrost below, which water cannot permeate. If lakes disappear due to melting permafrost,

surrounding vegetation will be transformed, wildlife will change their migration patterns, and subsistence hunters will be unable to get the game they require for survival without traveling further distances, creating food security challenges. Another effect of diminishing permafrost is loss of places to cache foods underground for cold or frozen storage. The freeze-up of coastal ice later in the fall due to a warming Arctic leaves the coast more vulnerable to coastal erosion and other damage from sea storms.



Port of Anchorage, AK

Joint Task Force Alaska is closely connected to its Canadian counterparts at Joint Task Force North and Joint Task Force Pacific. The Elmendorf and Juneau Rescue Coordination Centers are well tied in with the JRCCs at Victoria and Trenton. There are formal planning documents between the Canadian and U.S. military on cross-border assistance in the conduct of homeland defense and civil support missions.

On the civilian side, as Alaska grew, it developed its own agreements with foreign territories, including an agreement with Yukon on maintenance of the Alaska Highway, as previously mentioned. It was also explained by the speaker that if an event were to occur along the border, Alaska and Yukon would both respond. The speaker was confident that they would “work together to save lives, and deal with jurisdictional hassles later. Safety first.” These examples of co-operation are not isolated; another participant mentioned that Yukon has more intergovernmental agreements with Alaska than with the other Canadian provinces and territories.

Also on the civilian side, there are long-standing relationships between the northwestern U.S. states, western Canadian provinces, and the Yukon and Northwest Territories in a group called the Pacific Northwest Economic Region (PNWER).<sup>19</sup> The goals of PNWER are to promote greater regional collaboration, enhance the competitiveness of the region, leverage regional influence in the nations’ capitals, and achieve continued economic growth while maintaining the region’s natural resources. Formed in 2009, the PNWER Arctic Caucus is a partnership between Alaska, Yukon and the Northwest Territories to provide a forum to share information, discuss issues of mutual concern, identify areas for collaboration among the three jurisdictions and the rest of North America, and provide Arctic-relevant input to PNWER working groups and the region at large.

Additionally, the Pacific Northwest Emergency Management Arrangement (PNEMA) was adopted in 1998 to co-ordinate emergency preparedness, response, and recovery thorough a regional approach; this non-federal

19 For more information on PNWER see: *Pacific North West Economic Region (PNWER) Foundation*, accessed March 11, 2014, <http://www.pnwer.org/>.

agreement includes the States of Alaska, Idaho, Oregon, and Washington, the Province of British Columbia, and Yukon Territory. This alliance works well; in a recent report on Operation NANOOK, the speaker relayed, Yukoners said it was easier to deal with Alaska than with the Canadian federal government.

Since 2011, the chiefs of defense staff for the eight Arctic states have met yearly to discuss Arctic issues. It was suggested that to complement this, an Arctic Coast Guard forum between Canada and the United States should be set up. In the speaker's opinion, a forum to address operational issues in Arctic waters would be beneficial for the co-ordination of the many Coast Guard responsibilities in the region that are interdepartmental in nature, or their work with one or multiple Working Groups of the Arctic Council. All of the Arctic states already participate in the North Atlantic Coast Guard Forum (NACGF),<sup>20</sup> but given the Arctic's unique conditions, the speaker viewed a more targeted forum as warranted. The Alaskan state legislature is also preparing for the upcoming U.S. chairmanship of the Arctic Council (2015-2017). This provoked other questions among Alaskan legislators:

- Why does the state of Alaska not have an Arctic policy?
- What sort of oversight does the state want for shipping in Bering Strait?
- Does the state need a shipping policy?
- How will the state manage an expanding fishery?

This line of questioning led the state legislature to convene its own Northern Waters Task Force for two years, eventually resulting in the creation of the Alaska Arctic Policy Commission.<sup>21</sup> This commission, comprising representatives from business, government, and indigenous organizations, is currently consulting with local communities, but their work will eventually result in an Arctic policy for the state.

Also in terms of the Arctic Council, it was mentioned that the tabletop exercise in Whitehorse in 2012 was the first to look at the *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue*. Following this, there have been field training exercises in the waters near Greenland (SAREX Greenland Sea 2012 and 2013).<sup>22</sup> The U.S. is now looking to put on a tabletop exercise in 2015 and will organize field training in 2016.

One participant raised particular concern that the cruise ship industry — a major operator in Alaskan waters — is attempting to gain exemption from the regulations of the Polar Code<sup>23</sup> currently under negotiation. The state of Alaska is against this exemption and sees the Polar Code as playing a useful role in facilitating international cooperation on maritime standards.

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20 For more information, see: "North Atlantic Coast Guard Forum," *Canadian Coast Guard*, last modified February 18, 2014, accessed March 12, 2014, <http://www.ccg-gcc.gc.ca/NACGF>.

21 For more information, see: Alaska Arctic Policy Commission, accessed March 22, 2014, <http://www.akarctic.com/>.

22 For more information on SAREX Greenland Sea (2013) see: Joint Arctic Command, *Search and Rescue Exercise Greenland Sea 2013 (SAREX Greenland Sea 2013): Final Exercise Report*, version/release 2.0, (Nuuk: Joint Arctic Command, 2013), viewed March 22, 2014, [http://www2.forsvaret.dk/viden-om/organisation/arktisk/SAREX/Documents/Enclosure%201%20%20SAREX%20Greenland%20Sea%202013%20Final%20Exercise%20Report%20\(Final\).docx](http://www2.forsvaret.dk/viden-om/organisation/arktisk/SAREX/Documents/Enclosure%201%20%20SAREX%20Greenland%20Sea%202013%20Final%20Exercise%20Report%20(Final).docx).

23 For more information on the Polar Code, consult the International Maritime Organization's website: "Shipping in polar waters: development of an international code of safety for ships operating in polar waters (Polar Code)," *International Maritime Organization*, accessed March 11, 2014, <http://www.imo.org/MediaCentre/HotTopics/polar/Pages/default.aspx>.

## RECOMMENDATIONS

Following from these discussions, it was recommended that:

1. Training at all levels should follow a “two-way knowledge exchange” model, where there is not just training provided by official organizations to community members and volunteers, but there are also opportunities for traditional and local knowledge holders to share their knowledge with territorial and federal-level officials. In addition, training programs should reflect northern realities and be offered in indigenous languages.
2. There should be regular, cross-jurisdictional, quarterly meetings to build better relationships among aboriginal organizations First Nations governments and organizations, municipal, regional and national SAR and emergency response actors.
3. All communities should complete emergency plans based on the unique situation of their community. However, these plans should be more than a “book on the shelf;” funding should be provided for their regular review and updating, including training new personnel on how to use the plan.
4. Emergency managers should include private sector actors and non-governmental organizations in developing policies and preparing responses.
5. Cross-border initiatives between the Government of Canada and the Government of the United States of America should be considered and existing co-operative arrangements between sub-state actors, such as the State of Alaska and the Territory of Yukon be supported. To this end, Canada and the United States should fully explore setting up a Canada/U.S. Coast Guard Forum for the Arctic.
6. Policies should be put in place to better facilitate sharing capabilities and resources across federal departments with a responsibility for emergency management.
7. The territorial and federal governments should provide funding to support communities after federal assets leave, so that local volunteers have the means to continue a search.

# SUPPORTING RESILIENCE

## INTRODUCTION

All participants recognized that there are particular challenges for emergency responders and policymakers in the North, because of the limited infrastructure available. Many previous reports have highlighted significant infrastructure gaps and called for major investments in assets such as ports, icebreakers, roads, etc.<sup>24</sup> However, participants recognized that in the current era of spending restraint big projects, no matter their value, may not be immediately achievable. Instead, participants concentrated their discussion on smaller investments that were considered to have the greatest potential impact for local responders and communities. These investments would help to support resilience in communities in the face of emergencies.

## TECHNOLOGY

The roundtable discussed the role of technology in emergency response and SAR in particular, suggesting that technology can play a significant role in improving the chances for saving a life, while at the same time reducing the cost of a search. Some vehicles and devices invite a false sense of security causing some users to take unnecessary risks. Nevertheless, the roundtable articulated a consensus that technology plays an important role and that SAR teams ought to employ technology appropriate to the climate.

The Government of Nunavut, for example, owns approximately 500 SPOT devices, which were used in 47 per cent of the 215 searches that they undertook last year. Nunavut Tunngavik Inc. also subsidizes equipment for subsistence hunters. There is a movement towards two-way communication devices, which have proven to reduce the number of “false alarms.” One participant anticipated that the costs of these devices, as well as the associated costs of the data to operate them, would come down significantly over the next few years, making them a more practical solution. The Canadian Forces support the wide use of these devices, as they have the potential to reduce the length of some rescue operations and increase the prospect of positive outcomes.



SPOT device. Image courtesy of findmespot.com

24 Examples include:

(a) The Standing Committee on Fisheries and Oceans's 2009 report, *Rising to the Arctic Challenge*, which called for "... the deployment of multi-mission polar icebreakers operated by the Coast Guard as a cost-effective solution to Canada's surveillance and sovereignty patrol needs in the Arctic." Canada. Standing Senate Committee on Fisheries and Oceans, *Rising to the Arctic Challenge: Report on the Canadian Coast Guard* (Ottawa: Senate, 2009). p. 28, accessed March 22, 2014, <http://www.parl.gc.ca/Content/SEN/Committee/402/fish/rep/rep02may09-e.pdf>.

(b) The Standing Committee on National Security and Defence's 2011 report, *Sovereignty & Security in Canada's Arctic*, which recommended that "... the Government make speedy acquisition of new fixed-wing search and rescue aircraft the top military procurement priority, and that target dates for the program be published." Canada. Standing Senate Committee on National Security and Defence, *Sovereignty & Security in Canada's Arctic: Interim Report* (Ottawa: Senate, 2011), p. 41, accessed March 22, 2014, <http://www.parl.gc.ca/Content/SEN/Committee/403/defe/rep/rep07mar11-e.pdf>.

Stakeholders should be strongly encouraged to adopt two-way communication devices, as opposed to older-technology one-way devices. “Technology today has advanced to the point where two-way data communication devices working on the iridium satellite network are more reliable than voice-bandwidth cellular in the south,” insisted one participant. Two-way devices enable every user to be seen, heard and (it is hoped) be rescued, also to become part of a response network. Because “two-way communication” means that anyone on the system can help, its informal “response network” capability could be an invaluable asset in reducing response times, saving lives, and reducing response costs.

The Arctic Communications and Coordination Centre, based in Yellowknife, enables monitoring 24/7, operating in a way similar to a southern 911 centre. An additional centre is being set up in Iqaluit. However, questions were also raised as to the ability of governments to contract out these services to private industry, citing legal concerns regarding liability. Additional investigation into how best to monitor these superior two-way devices was suggested.

The airline industry is also attempting to reduce the “search” in “search and rescue” by installing satellite tracking units that provide real-time information on the location of all aircrafts. These units are being used in both rotary and fixed-wing aircraft, making it possible to know the location of every possible air asset operating in the north.

However, another respondent cautioned that new technology can create new challenges. He recalled, “with my dog team, I always knew I’d get there and come back,” but snowmobiles “aren’t as reliable.”

Outside of Whitehorse, there is no 911 service available in the North, but some say that the technology needs to reach the other territorial capitals and large centres.

## MONITORING

While emergencies are by their very nature unpredictable, having a good idea of when and where extreme weather, ice conditions, avalanche, wildfire or flood might occur can greatly mitigate the impact of these incidents. Improving monitoring systems was seen by many participants as a way to lessen the impact of such emergencies.

### WEATHER MONITORING SYSTEMS

Weather causes many northern emergencies such as flood, fire, avalanche, blizzards and ice hazards. Several participants observed that weather monitoring capabilities in the North are not sufficiently maintained and that new weather monitoring infrastructure needs to be built. For example, simple things like rain gauges being removed at airports are having a big impact. There is a need to establish 24-hour weather reporting and to improve the communication of weather conditions to the public. It was raised that NAV Canada has responsibility for this monitoring, but that they require resources to make the reporting of the data automated.

Lack of 24-hour weather reporting has a major impact on the airlines that service northern communities, creating a ripple effect on other areas of northern life. For example, the costs of missed medical appointments, because of flight delays or missed medevacs, far outweigh the cost of building a 24-hour weather monitoring system that would help if flights to arrive and depart on time. One innovative project in Alaska has installed webcams at rural airports to give pilots a visual of the conditions.

### OTHER MONITORING SYSTEMS

Being able to predict emergencies before they happen was seen as a significant advantage for mitigating the impacts of potential disasters and the loss of human life, partially by increasing opportunity for prevention and preparedness. Forecasts for flood, fire, and avalanche need to be disseminated to communities so that they have

the information needed to make responsible decisions when travelling. It was even suggested by one participant that this lack of information could potentially result in the loss of life.

Similarly, for mariners, adequate funding needs to be provided to Canadian Ice Services to monitor ice conditions and make this information readily available to those transiting the Arctic's icy waters.

## TRADITIONAL KNOWLEDGE

Territorial law requires that traditional knowledge be factored into wildlife policy decisions and the roundtable thought it should also be incorporated into monitoring systems, because it provides valuable information about how to identify trends and changes. This discussion related back to the concept of “two-way knowledge exchange” discussed in more detail in the section on training.

## INFRASTRUCTURE

Participants raised a range of infrastructure issues and concerns, including: communications and satellite systems, transportation systems, and the capacity of existing infrastructure to accommodate additional users.

### COMMUNICATIONS

The inadequacy of communications infrastructure remains a security concern, and in and of itself can constitute an emergency, offered one participant. Another noted that during Operation NANOOK 2009, Iqaluit was in a communications blackout for an extended period of time. In this case, the city's communications infrastructure was overwhelmed by the additional users present for the exercise.

One participant urged federal support for the Polar Weather and Communications (PWC) satellite project, which would put a satellite in polar orbit. As he explained, north of 65 or 70 degrees, communications capacity is greatly degraded. PWC would remedy this, providing full satellite coverage to the region. It would also have significant trickle-down effects, as it could be used by both civilian and military organizations, facilitating such things as telemedicine and distance education. More reliable communications infrastructure would allow information about emergency situations to be spread more quickly by taking advantage of social media, a potentially important tool for preparedness.

### TRANSPORTATION

For aviators, the largest impediment to growth of their industry in the Arctic remains the lack of infrastructure—infrastructure which many consider to be the “lifeline of the communities,” especially those without road access. Unreliable weather data, short runways, poor lighting on the runways and gravel runways all limit the types of aircraft that can operate in the region. These issues also prevent operators from moving to more fuel-efficient and cost-effective aircraft to alleviate the high transportation costs faced by northerners.



An Airbus A380 lands at Iqaluit Airport, Iqaluit, NU. Image courtesy of Northern Pix <http://www.flickr.com/photos/northernpix/214693041/>

A specific concern was expressed by one speaker about the capability of heavy jet aircraft to land on gravel runways. The Boeing 737-200 series, first produced in the 1970s, remains the last commercial jet aircraft of its size capable, when suitably modified, of landing on gravel runways. Newer models with more modern high-bypass engines are not able to be modified for gravel use. As the remaining gravel-modified aircraft age beyond economical viability, there is no suitable replacement. In the three territories, only a handful of paved runways of sufficient length exist to handle the B737. Lack of pavement has also inhibited air carriers from upgrading to newer, more fuel efficient, “greener” aircraft. This will eventually become a challenge for northern communities.

The lack of paved runways in the Arctic also limits the emergency landing options for large aircraft operating on the polar overflight routes.

## DEMOGRAPHIC CHALLENGES

The cost of such infrastructure stands as the “big elephant in the room.” The North’s relatively low population argues against large infrastructure investments, especially given the region’s high building costs. Looked at from an efficiency perspective, given the number of people in the Arctic, infrastructure is an expensive but necessary investment. Nevertheless, the question remains “who is going to pay for that?” To this, another participant responded, “northerners are asking – as Canadians, for services that are available in all other communities across the country.”

## PRIORITIES

To conclude this session, the chair asked participants to identify their top infrastructure priorities. Responses ranged significantly and included the following:

- Move some emergency services from Trenton to Yellowknife;
- Implement monitoring systems for weather, ice, avalanche, flood and fire;
- Improve housing, so that residents are better able to cope in emergency situations;
- Build community capacity and training, making communities more able to help themselves;
- Add transportation infrastructure, particularly community docks and harbours;
- Create capacity for water rescue on inland lakes and rivers for quicker response;
- Improve means of fuel delivery and ensure safe storage sites;
- Have longer runways and more paved runways at airports, so that more modern aircraft are able to land. This is needed for communities to grow and take advantage of resource development;
- Create infrastructure to support economic development;
- Improve communications infrastructure — cellular and satellite;
- Improve marine rescue capabilities in the eastern Arctic; and
- Expand the Canadian Rangers and Junior Rangers programs.

## RECOMMENDATIONS

Following from these discussions, it was recommended that:

1. The Government of the Northwest Territories' call, to place some federal search and rescue assets in Yellowknife closer to the communities that they serve, endorsed by the regional roundtable held in that territory, be answered. The federal government should also provide for adequate staffing for the aircraft already based in the territory.
2. Territorial governments, First Nations governments and aboriginal organizations make SPOT or other devices readily available to community members, building on the program in Nunavut. These should ideally be two-way devices.
3. Telecommunications companies, when developing plans for expanding communications infrastructure, should include providing 911 service in northern hubs as a part of their expansion.
4. Agencies responsible for providing weather data to Canadians should ensure the monitoring infrastructure is maintained and improved for weather services in the North. Reliable weather data is essential to aviation safety, search and rescue operations, avalanche forecasting, determining ice conditions and for predicting and mitigating impacts of severe weather events such as forest fires, floods and blizzards. Maintaining weather data is also imperative in monitoring the impacts of climate change.
5. Weather reporting at all Arctic airports should occur on a 24-hour basis to ensure emergency services do not incur delays in dispatching critical assets such as medevac or other flights when necessary. This will also assist in providing better weather forecasts, which might prevent an event from occurring in the first place.
6. The federal government should commit to increased funding for Canadian Ice Services, to provide ice forecasts to mariners.
7. Emergency preparedness officials should actively employ social media to reach the public, especially youth.
8. The federal government should support the Polar Weather and Communications (PWC) satellite project.
9. An implementation strategy to systematically address the priorities identified related to infrastructure should be completed by the federal government and territorial governments.

# CONCLUSION

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The meeting concluded with a draft of this report being circulated for comment. All participants were then given the opportunity to suggest amendments. They also discussed the list of recommendations that are being put forward as arising from this process.

The recommendations presented in each section of the report flow from the discussion sessions and participants at the National Roundtable on Arctic Emergency Preparedness. To be true to those discussions, all recommendations offered are presented in the above sections. However, it may not be possible to tackle all of these recommendations at once. Which then, should be given priority? Seven top recommendations, therefore, are offered for consideration.

## DEFINING THE DISCUSSION

National authorities should place needs of northern residents at the forefront in policy discussions at the national level, as opposed to an exclusive focus on visitors to the region.

## BEING READY

The Joint Emergency Preparedness Program should be reinstated to full capacity. Territorial governments should make training available and encourage skill development among community members and volunteer responders. This should include the following:

- Traditional and local knowledge instruction for newcomers;
- Basic and wilderness first aid training;
- CPR training, including the use of automated external defibrillators (AEDs);
- Radio operator training;
- Use of the Incident Command System (ICS);
- Emergency Operating Centre (EOC) training;
- Ground search and rescue (GSAR) training;
- GPS training, as well as how to use a map and compass;
- Boat operator licensing;
- Snowmobile operator training;
- ATV operator training;
- Small engine mechanics;
- Training in technical rescue skills, such as swift-water rescue, crevasse rescue, avalanche rescue;
- Environmental response training.

All communities should complete emergency plans based on the unique situation of their community. However, these plans should be more than a “book on the shelf.” Funding should be provided for their regular review and updating, including training new personnel on how to use the plan.

## BUILDING RELATIONSHIPS

Training at all levels should follow a “two-way knowledge exchange” model, where there is not just training provided by official organizations to community members and volunteers, but there are also opportunities for traditional and local knowledge holders to share their knowledge with territorial and federal level officials. In addition, training programs should reflect northern realities and be offered in indigenous languages.

Cross-border initiatives between the Government of Canada and the Government of the United States of America should be considered and existing co-operative arrangements between sub-state actors, such as the State of Alaska and the Territory of Yukon, supported. To this end, Canada and the United States should fully explore setting up a Canada/U.S. Coast Guard Forum for the Arctic.

## SUPPORTING RESILIENCE

That the call from the Government of the Northwest Territories to place some federal search and rescue assets in Yellowknife closer to the communities that they serve, which was endorsed by the regional roundtable held in that territory, be answered. The federal government should also provide for adequate staffing for the aircraft already based in the territory.

Territorial governments, First Nation governments and aboriginal organizations should make SPOT or other devices readily available to community members, building on the program in Nunavut. These should be two-way devices.

# APPENDIX 1: LIST OF PARTICIPANTS

HON.	FIRST	LAST	TITLE	ORGANIZATION
Dr.	Tom	Axworthy	President and CEO	Walter and Duncan Gordon Foundation
Ms.	Liane	Benoit	Co-Chair	Emergency Management Pillar, Munk-Gordon Arctic Security Program
Mr.	Harry	Blackmore	President	Search and Rescue Volunteers Association of Canada
Mr.	Dominik	Breton	A/Director, Policy and Programs	National Search and Rescue Secretariat
Mr.	Fredrick	Brower	Risk Analyst	North Slope Borough
Ms.	Tabrina	Clelland	Analyst, Safety and Security, Strategies and Program Integration	Transport Canada
Ms.	Sara	French	Director	Munk-Gordon Arctic Security Program
Mr.	Bernie	Funston	President	Northern Canada Consulting
Ms.	Vanessa	Gastaldo	Program Co-ordinator	Walter and Duncan Gordon Foundation
Ms.	Cindy	Gilday	Co-Chair	Emergency Management Project, Munk-Gordon Arctic Security Program
Mr.	Adriaan	Kooiman	Manager, Readiness, Operational Support	Canadian Coast Guard
Ms.	Meredith	Kravitz	Associate	Munk-Gordon Arctic Security Program
Mr.	Ron	Kroeker	Senior Policy Analyst	National Search and Rescue Secretariat

HON.	FIRST	LAST	TITLE	ORGANIZATION
Col. (Ret.)	Pierre	Leblanc	Retired Commander	Joint Task Force North
Mr.	David	Martin	Deputy Director for Plans, Policy, and Resources	Alaskan Command/Joint Task Force Alaska
Mr.	Steve	Matthews	President	AbsoluteTrac
Mr.	Liard	McMillian	Former Chief	Upper Liard First Nation
Ms.	Erin	Myers	Senior Program Officer, Climate Change and Health Adaptation in the North	First Nations and Inuit Health Branch, Health Canada
Ms.	Megan	Nesseth	Communications Officer	Walter and Duncan Gordon Foundation
Ms.	Keyna	Norwegian	Program Coordinator, Lands and Environment Secretariat	Dene Nation
Mr.	Stephen	Nourse	Executive Director	Northern Air Transportation Associaton
Mr.	Paul	Oshefsky	Visitor Experience Branch	Parks Canada
Mr.	Francois	Paulette	Elder	Dene Nation
Ms.	Drue	Pearce	Senior Advisor	Crowell & Moring LLP
Mr.	Tony	Penikett	Senior Advisor	Munk-Gordon Arctic Security Program
Ms.	Jeni	Rudisill	President	Uptrack Consulting

HON.	FIRST	LAST	TITLE	ORGANIZATION
Mr.	Charlie	Snowshoe	Elder	Dene Nation
Supt.	Ron	Smith	OIC "G" Division, Criminal Operations	Royal Canadian Mounted Police
Lt. Col.	John	St. Dennis	Deputy Chief of Staff for Operations	Joint Task Force North
Mr.	Larry	Trigatti	Superintendent of Environmental Response, Central and Arctic Region, Canadian Coast Guard	Department of Fisheries and Oceans
Mr.	Bob	Van Dijken	Director of Circumpolar Relations	Council of Yukon First Nations
Mr.	Ed	Zebedee	Director of Protection Services	Government of Nunavut
Major	Marty	Zimmer	Officer in Charge	Joint Rescue Coordination Centre, Trenton

## APPENDIX 2: LIST OF ABBREVIATIONS

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**ACAMSR:** *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue*

**AED:** Automated External Defibrillator

**ATV:** All-Terrain Vehicle

**CPR:** Cardiopulmonary Resuscitation

**EOC:** Emergency Operating Centre

**GN:** Government of Nunavut

**GNWT:** Government of the Northwest Territories

**GPS:** Global Positioning System

**GSAR:** Ground Search and Rescue

**ICS:** Incident Command System

**JEPP:** Joint Emergency Preparedness Program

**JRCC:** Joint Rescue Coordination Centre

**NACGF:** North Atlantic Coast Guard Forum

**NSS:** National Search and Rescue Secretariat

**PNEMA:** Pacific Northwest Emergency Management Arrangement

**PNWER:** Pacific Northwest Economic Region

**PSC:** Public Safety Canada

**PWC:** Polar Weather and Communications Satellite

**RCMP:** Royal Canadian Mounted Police

**SAO:** Senior Administrative Officer

**SAR:** Search and Rescue

**SCWRP:** Small Community Works Response Plans



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SCHOOL  
OF  
GLOBAL  
AFFAIRS



UNIVERSITY OF  
TORONTO



<http://gordonfoundation.ca/north/munk-gordon-arctic-security-program>