

Arctic Search and Rescue Exchange 2023

Working Better Together



Canadian Forces Base Trenton / Belleville, Ontario
3-5 November 2023

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Background: The Arctic Search and Rescue Exchange

Relationships constitute the foundation of an effective search and rescue (SAR) system. They allow for the coordination and cooperation required for the execution of SAR operations. Relationships rooted in trust and respect also promote honest dialogue and mutual understanding of resources and capabilities, risks, needs, and the challenges and obstacles that weaken the SAR system. When federal practitioners and policymakers in the Coast Guard, military, and other agencies involved in SAR and their regional, territorial, community, and non-governmental partners in the Canadian North have worked to strengthen their relationships, they have improved SAR. Likewise, when these relationships have been allowed to weaken and, in some cases, dissolve completely, the ability of each partner to respond effectively to SAR cases in the region has greatly declined.

At the 2022 meetings of the [Nunavut](#) and [Nunavik](#) SAR Roundtables, community responders suggested that a formal exchange between the Joint Rescue Coordination Centres (JRCC) and their Northern partners could strengthen relationships and improve SAR operations in the region.¹ Unfamiliarity with the government agencies responsible for SAR, negative experiences working with them in past searches, and limited territorial/provincial and federal SAR resources and capabilities, have led some community responders to prefer “going it alone.” Several roundtable participants highlighted that this approach allows them to avoid red tape and bureaucracy, sidestep confusion over jurisdiction, and remain in control of searches. Speaking about marine SAR cases, one responder from Nunavik [explained that](#) “we’ve been doing it alone for a long time now. We’ve had to. We do the coordinating and organizing. We handle things. Would some help be a good thing? Sure. We can want help, know we have to work together, and want to keep control at the same time.” This lack of collaboration and cooperation between SAR actors represents a major problem – the full resources of the SAR system are not being used effectively and many cases are not being reported to the responsible agencies, which has an impact on resource allocation and planning.

With this guidance, the roundtables’ organizers worked with JRCC Trenton to hold the inaugural Arctic SAR Exchange at Canadian Forces Base Trenton and Belleville, Ontario from 3-5 November 2023. The exchange brought together community responders from Nunavut, the Northwest Territories, and Nunavik and practitioners from Nunavut Emergency Management (NEM), Nunavik’s Kativik Civil Security department (KCS), JRCC Trenton, 424 Transport and Rescue Squadron, the Civil Air Search and Rescue

¹ The Nunavut and Nunavik SAR Roundtables – partnerships between community responders, government partners, and researchers – were created in response to repeated calls from Nunavummiut and Nunavimmiut. In December 2020, Nunavut Emergency Management and its academic partners held the first roundtable in Cambridge Bay. Four regional search and rescue roundtables followed in Nunavut – the Kitikmeot (held in January 2020 and November 2022), the Qikiqtani (November 2022), and the Kivalliq (November 2022) – brought together almost 100 Inuit responders and over 60 representatives from territorial, federal, non-profit, and Inuit agencies and organizations to discuss the territory’s SAR system. In December 2022, Kativik Civil Security and its academic partners held Nunavik’s first roundtable in Montreal, followed by another roundtable meeting in April 2024, focused on the development of standard operating procedures/guidelines for the region. The Nunavut and Nunavik SAR Roundtables are ongoing initiatives that provide a forum to discuss and improve the search and rescue system, facilitate other SAR-related activities (such as the Arctic SAR Exchange), and strengthen the relationships that are essential for effective SAR operations.

Association, and Canadian Coast Guard (CCG) Arctic Region. As with the 2022 roundtables, primary funding and logistical support for the exchange was provided by the [Nunavut-Nunavik Search and Rescue Project](#) – a team of Canadian and UK academics and Inuit research partners focused on strengthening Nunavut and Nunavik’s whole-of-society SAR systems.²

The primary purpose of Arctic SAR Exchange 2023 was to bolster relationships between SAR partners and discuss how they could ‘work better together’ in delivering search and rescue services to the Canadian North.³ The exchange provided community responders and Northern government practitioners with a chance to see how the JRCC functions and to develop a better understanding of the capabilities possessed by the military and Coast Guard. Further, it allowed them to meet face-to-face with their federal partners to identify, discuss, and address barriers to effective collaboration and coordination. Exchange participants also discussed how local and traditional knowledge could be better integrated into the SAR system – a critical component for successful collaboration.



Arctic SAR Exchange group photo, Canadian Forces Base Trenton, 3 November 2023. (Courtesy of Blaine Heffernan, Nunavut Emergency Management)

While improving collaboration and cooperation was the focal point of the exchange, it also provided an opportunity for participants to dive deeper into some of the challenges identified at the 2022 roundtables, particularly those shared across the North, and explore solutions, particularly technological possibilities. Finally, the exchange provided community responders from across the North with the time and space to share their experiences and learn from each other – something most had never had the opportunity to do before.

² The Nunavut-Nunavik SAR Project involves academics from St. Francis Xavier University, the University of Strathclyde, Dalhousie University, Trent University, and the Marine Institute at Memorial University. The project’s principal Inuit research partners are Calvin Pedersen, Angulalik Pedersen, and Baba Pedersen, although guidance has been provided by all members of the Nunavut and Nunavik SAR Roundtables. The project is funded by the National Research Council of Canada and the United Kingdom Research and Innovation through the Canada-Inuit Nunangat-United Kingdom Research Program, which provided the majority of funds used for the exchange. Additional funding was provided by the North American and Arctic Defence and Security Network (network lead: Dr. P. Whitney Lackenbauer), the Social Sciences and Humanities Research Council through SSHRC Insight Grant 435-2021-1131, and the Irving Shipbuilding Chair funds of Peter Kikkert. With support from community SAR groups across Nunavut and Nunavik, the Nunavut Research Institute (Research License No. 05 018 22N-M) and the St. Francis Xavier University (File 25969), Dalhousie University (File 2022-6234), and University of Strathclyde Research Ethics Boards approved the NNSAR project in the fall of 2022.

³ Community responders from the Inuvialuit Settlement Region and Nunatsiavut were invited to participate in the exchange but could not attend in-person due to pre-existing commitments and an unexpected illness.

The exchange kicked off on Friday, 3 November with briefings from JRCC Trenton and the Canadian Mission Control Centre, a tour of their facilities, and detailed descriptions of how they operate. That afternoon, pilots and SAR Technicians from 424 Squadron provided a helicopter demonstration and then hosted the group at their hanger, explaining their capabilities and showcasing their equipment. The next two days were held in nearby Belleville, Ontario. The first sessions focused on improving collaboration and cooperation, followed by a discussion of Starlink, Emergency SOS, Personal Locator Beacons (PLBs), and Emergency Position-Indicating Radio Beacons (EPIRBs) and how they can assist in SAR operations. The highlight for many of the community and government responders was a presentation by Trevor Bell and Andrew Arreak on SmartICE and how the information it produced can be used to aid SAR prevention and response activities. The exchange ended with community responders sharing lessons learned and best practices by narrating past searches.

To encourage free-flowing and candid conversations, the exchange followed the Chatham House Rule: while participants may use information from the proceedings, the identity of the speakers will not be revealed in any reports or briefings (unless specifically requested by participants).

While the presentations and more formal discussions were essential, the exchange also prioritized the informal conversations, coffee and mealtime chats, and side meetings that really help build and strengthen relationships. These conversations also generated more tangible results, including:



Exchange participants receive briefings at JRCC Trenton and the 424 Squadron hangers and participate in a CH-146 Griffon demonstration.

- Baker Lake SAR coordinator, Kaviq Kaluraq was able to secure Civil Air Search and Rescue Association training for responders from her community and Rankin Inlet.
- A partnership formed at the exchange between Trevor Bell, Andrew Arreak, Michael Cameron (Salluit), and Angulalik Pedersen (Cambridge Bay) led to a successful Polar Knowledge Canada application entitled “Adapting and Piloting SmartICE Operator Training for Search and Rescue Responders.”
- JRCC Trenton invited University of Strathclyde researchers to brief its coordinators on the SAR modelling they have been doing in cooperation with the Nunavik and Nunavut SAR Roundtables.

We thank each Northern responder for taking time out of their busy schedules to participate and share their experiences. We also thank JRCC Trenton (particularly Major Marc Crivicich, Sgt. Rob Featherstone, and Chris Armour) and 424 Squadron for their willingness to ‘open their doors’ and showcase their side of the SAR system to Northern responders, as well as Coast Guard Arctic Region for participating in the exchange and providing logistical and transportation support.

This report focuses on the primary purpose of the exchange – improving SAR relationships and collaboration. It includes material from exchange and follow-up interviews used to clarify discussion points. While substantial time was spent discussing other core challenges, best practices, and lessons learned, as well as sharing SAR stories, these will be relayed in different reports and roundtable materials. The report is organized into the following sections:

1. SAR in the Canadian Arctic: The Context
2. A Foundation of Mutual Respect
3. Robust Federal Capabilities Enhanced Through Close Collaboration with Partners and Communities
4. The Benefits of Working with SmartICE
5. Issues Barring Effective Collaboration During SAR Operations in the Arctic
 - 5.1 Distrust and Frustration Stemming from Past Cases
 - 5.2 Attitude and Ignorance of Individual Practitioners
 - 5.3 Limited Relationship-Building Initiatives
 - 5.4 Limited Capabilities of Agencies of Jurisdiction
 - 5.5 Slow Response Times from Federal Assets
 - 5.6 Friction Over Provision of Air Support
 - 5.7 Confusion Over Mandates, Jurisdiction, Roles, and Responsibilities
 - 5.8 “Broken Telephone”
 - 5.9 Inadequate Information Sharing, Poor Communication, and the “fog of SAR”
 - 5.10 Lack of Standard Operating Procedures/Guidelines for Collaboration
 - 5.11 Limited Training, Experience, and Interaction = Lack of Comfort
 - 5.12 Communities Choosing to “Go it Alone”
6. Recent Developments Improving Collaboration
7. Moving Forward

- 7.1 Fixing the Broken Telephone
- 7.2 Exploring Creative Solutions and Flexible Approaches
- 7.3 Developing the Structures Required to Sustain Relationships and Share Information

1. SAR in the Canadian Arctic: The Context

Search and Rescue in Canada is intended to function as a system of integrated systems. Through the National SAR Program, federal, provincial/territorial, and municipal organizations share responsibility for search and rescue, with the support and assistance of volunteer organizations and private sector partners. The National Search and Rescue Secretariat (NSS), which is housed in Public Safety Canada, is responsible for coordinating the National SAR Program, provides policy advice to support SAR efforts, oversees SAR prevention activities, and manages Canada's contributions to the International Cospas-Sarsat Programme.

The Canadian Armed Forces (CAF) bears overall responsibility for the effective operation of the federal coordinated maritime and aeronautical SAR system. The CAF provides aeronautical SAR services (e.g., responses to aircraft incidents and searches for downed aircraft) and can assist the Canadian Coast Guard (CCG) during marine incidents.⁴ The CAF's primary support for SAR includes three Joint Rescue Coordination Centres in Halifax, Trenton, and Victoria, five aerial squadrons specifically trained and crewed for search and rescue activities, and the Canadian Mission Control Centre, Cospas-Sarsat program, upholding Canada's commitments to the International Cospas-Sarsat Programme Agreement. Each primary aircraft or helicopter on standby is fully crewed and includes search and rescue technicians or SAR Techs. The 145 SAR Techs in the CAF are highly trained personnel who can deploy by parachute or hoist to an incident and perform emergency trauma care procedures, stabilizing victims for evacuation.

The primary responsibility for the provision of the maritime component of the federal search and rescue program rests with the Canadian Coast Guard. The Coast Guard's SAR activities include the provision of maritime distress and safety communications and alerting services, as well as distress monitoring, communications, and SAR operations. The Coast Guard's SAR program is delivered with the support of its fleet and using the communications and alerting services provided through its Marine Communications and Traffic Services (MCTS) program. Fleet vessels, such as icebreakers, serve as secondary SAR assets, which maintain all SAR operational standards and have a 60-minute SAR departure standby time. On these icebreakers, the Coast Guard employs rescue specialists – highly skilled professionals capable of administering emergency pre-hospital care in challenging marine environments, generally serving aboard ships and at coastal SAR stations.

⁴ According to the Canadian Aeronautical and Maritime Search and Rescue Manual, for maritime SAR purposes, the Coast Guard is responsible for all oceanic, coastal (coastal waters include any tributary's estuary), and secondary waters (as defined in the Canada Shipping Act, 2001), but not inland waters (as defined in section 2 of the Customs Act), except for the Canadian inland waters of the Great Lakes, St. Lawrence River system, and Lake Melville.

Parks Canada is responsible for search and rescue and visitor safety in the country's national parks and historic sites. Parks staff will assist with medical evacuations, the investigation of missing or overdue people, ground searches, and marine SAR when and where possible.

Humanitarian SAR and ground SAR (GSAR) cases, such as searches for missing hunters or boaters on inland waters, are a provincial/territorial responsibility, although authority for operational response is often delegated to police organizations. Nunavut is unique in that the territorial emergency management organization (Nunavut Emergency Management) has been given authority for SAR operations in the territory (assumed tasking authority from the RCMP in 2017). In the Yukon, NWT, and Nunatsiavut, the RCMP has primary responsibility for humanitarian SAR cases, while the Nunavik Police Service and Sûreté du Québec are responsible for those in Nunavik. Each of these agencies may make a request for humanitarian assistance through the JRCCs, and subject to weather conditions and to competing demands from its primary search missions, they will provide aerial support (generally a Cormorant helicopter or a fixed-wing aircraft).

Several other territorial, provincial, and federal government agencies are also occasionally called upon to provide support to SAR operations in the Canadian North. On the federal side, for instance, Natural Resources Canada's Polar Continental Shelf Program (PCSP), which coordinates over 50 fixed- and rotary-wing chartered aircraft in the North, is occasionally called upon to provide aerial support to SAR operations.

Across the Canadian North, community responders engage in search and rescue activities on a voluntary basis through the Civil Air Search and Rescue Association (CASARA), the Canadian Coast Guard Auxiliary (CCGA), the Yukon SAR Association, the Newfoundland and Labrador SAR Association, and community marine SAR and GSAR teams. While some of these community GSAR teams operate as non-profit associations (such as Yellowknife SAR), others are more informally organized. The level of support, equipment, training, and funding provided to these GSAR teams, and their integration into broader SAR systems, varies considerably across the region.

On occasion, Northerners also engage in SAR operations through other community-based organizations. During some longer searches, for instance, members of the Canadian Rangers will be officially activated to respond to ground SAR cases. On these taskings, the Rangers are compensated for the use of their personal equipment through an Equipment Usage Rate and can have their equipment replaced if it is damaged during a search. In those communities with Guardian or stewardship programs, members of these organizations are often deployed as first responders during searches or other on-the-land emergencies.

These community responders constitute the cornerstone of the SAR system in the North. Many are driven by a desire to serve their communities and by a deep sense of responsibility – they have the required skills and experience in a limited human power pool. Community responders match their dedication with their intimate knowledge of the land, local environmental conditions, and their fellow community members.

They often know the habits and capabilities of search subjects, their equipment, and where they may have travelled. Further, their service facilitates the integration of local and traditional knowledge into the broader SAR system – knowledge that often proves crucial during SAR operations. Outside the larger population centres, community responders almost always know for whom they are searching – they are family, friends, and neighbours. These close bonds are a powerful motivating factor, compelling them to keep going back out, often with limited support, and even as they struggle with stress, anxiety, and critical incident stress.

SAR operations in the North are often extremely challenging. As one Nunavummiut responder explained, “In my community, and probably in all the communities, searchers have to cover a lot of ground. There’s a lot of space up here. And all the machines – the boats, the snowmobiles, even the quads – are so powerful now, it makes it easier to go further out. You got the big area, you got the weather, the ice, and it’s all changing. It isn’t easy.” These words, from an experienced community SAR responder, highlight some of the basic issues facing responders in the North. The region’s vast size and austere environment combine to make time the enemy of all responders. Added to this are limited local resources, infrastructure, equipment, and training gaps, complex jurisdictional issues, and a [wide array](#) of [other issues](#).

One way to address these challenges is through close collaboration between local, territorial/provincial, regional, federal, non-profit, and private sector SAR partners. Past searches, for example, have involved GSAR teams and Canadian Rangers conducting searches on-the-land, Coast Guard Auxiliary members operating on the water, a Coast Guard icebreaker, multiple civilian and military aircraft, and spontaneous volunteers. That is a lot of moving parts to effectively organize and coordinate. To use them effectively – and to make sure that this ‘system of integrated systems’ actually works – requires mutual understanding of roles, responsibilities, capabilities, and processes, clarity on command and control, effective information sharing, joint planning and training opportunities, and, underpinning it all, strong relationships and trust. Members of the Nunavik and Nunavut SAR Roundtables have highlighted that these critical components have been lacking, although recent initiatives by the Coast Guard Arctic Region and JRCCs (e.g. the [expansion of the CCGA](#), greater engagement efforts) have somewhat improved the situation. They suggested that greater effort is required to improve vertical and horizontal coordination, cooperation, and communication across the SAR system in the North. Roundtable and interview participants highlighted the need for stronger coordination and cooperation between those responsible for SAR at the community level, groups from different communities, local responders and the territorial and federal agencies with which they work.

2. A Foundation of Mutual Respect

The most common theme expressed by participants at the exchange was mutual respect between responders. JRCC, RCAF, Coast Guard, NEM, and KCS personnel at the exchange highlighted the skill and knowledge of community responders. Their knowledge of the environment and their fellow community members, as well as the skills that these responders bring to SAR operations, is essential for

success. Government practitioners understand that community responders are the cornerstone of SAR in the North and an integral part of the “SAR team.”

Likewise, Northern exchange participants highlighted the skill and courage of the RCAF pilots, crews, and SAR Technicians (Techs), and the Coast Guard personnel who respond to incidents in the Arctic. Many of the participants knew people who have been rescued in the water or evacuated from the land by a Coast Guard icebreaker or its helicopter, or who have benefitted from the warm clothes, equipment, and even medications that RCAF SAR crews airdrop with incredible accuracy. They are all familiar with the work of the SAR Techs, who jump into some of the worst conditions imaginable, whether it be into a winter storm or onto the ice floes of Hudson Bay.

This mutual respect was underlined during the exchange by a formal ceremony in which participants broke ground for the construction of an inuksuk at the Three Sisters Garden on Canadian Forces Bases Trenton. The inuksuk, an initiative of JRCC Trenton with the support of 8 Wing Trenton, symbolizes the “connection between the North and the South” and serves a reminder of the partnership between federal and Inuit responders and their shared dedication to saving lives. Inuit exchange participants noted that the inuksuk serves as a directional marker and symbolizes hope and safety – an apt symbol for what all responders are trying to accomplish on their missions.



Exchange participants break ground for the construction of an inuksuk at the Three Sisters Garden on Canadian Forces Bases Trenton.

In short, while there are many policy, operational, and educational issues that impede effective collaboration between partners, and a pressing need to strengthen formal and informal relationships, there is a foundation of mutual respect upon which to build, formed by acknowledgement of and respect for the skill and dedication of those who risk life and limb ‘so that others may live.’

- *“From what I’m seeing all around the table myself, being a firefighter for over 30 years, in search and rescue over 25 years, participating, coordinating. We’re all ready to serve somebody. That’s the key point.” - Community responder, Nunavik, Arctic SAR Exchange 2023.*

3. Robust Federal Capabilities Enhanced Through Close Collaboration with Partners and Communities

During the tour of JRCC Trenton, RCAF and Coast Guard personnel briefed Northern exchange participants on the SAR capabilities they possess – information to which many community responders do not have access. They also highlighted how these capabilities are enhanced by the skills, knowledge, and information shared by Northern partners.

When the JRCCs are notified of an air or marine search, or they receive a request for assistance for a humanitarian SAR case, their personnel can:

- Log the search in the national SAR database, which guides SAR planning and is used to justify the allocation of resources at the federal level
- Lead and/or advise on search planning and determination of the search area
- Determine the “datum” of the search (the estimated position of the target at the time the search starts)
- Provide coordination, particularly with other agencies and organizations
- Assist with information gathering
- Provide reimbursement of operational costs and/or insurance
- Assume some of the administrative pressures
- Provide information on where possible resources are located to assist in SAR operations
- Task primary SAR assets (Cormorants, Hercules), secondary assets (icebreakers), and vessels of opportunity

During marine SAR cases, the JRCCs use the Canadian Search and Rescue Planning Program (CANSARP), which is an automated search-planning tool, to determine the search area (accounting for environment, current, winds, etc.). Accurate modelling, however, depends on accurate and detailed information on local conditions. JRCC personnel emphasized the importance of local and traditional knowledge on such topics as how the currents work, the wind, the unique drifts, and on-scene weather. This information



Officer-in-Command, JRCC Trenton, Major Marc Crivicich explains JRCC capabilities to exchange participants.

can be plugged directly into the computer model. Only effective collaboration between local responders and the JRCCs makes the gathering of this information possible.

Several times through the exchange, military and Coast Guard participants highlighted the immense value of the information that Northern responders provide. Across the country, CCG Auxiliary members play important roles as “SAR detectives” by collecting information about SAR cases and providing that information to the Joint Rescue Coordination Centres. In the North, however, this service – and the similar role played by community SAR coordinators – becomes even more important given the JRCCs’ lack of familiarity with the region and the hunting, fishing, and travel activities of its residents, as well as the few alternative resources available to investigate search and rescue cases. The knowledge of local conditions, marine spaces, and the activities of their fellow community members makes Auxiliarists and community coordinators uniquely suited to be SAR detectives. During SAR operations, they gather local intelligence on the condition of missing vessels, the skill of crews, and potential travel routes, which they relay to the JRCC. In the case of an overdue boat, for instance, Auxiliary members can call the overdue person’s/persons’ family/families, friends, or other witnesses to gather more information, including about their travel plans and preferred hunting/fishing areas. Such detective work can also identify false alarms and prevent the JRCC from unnecessarily deploying icebreaker or RCAF assistance, thus saving resources that can be used for other SAR cases.



424 Squadron Search and Rescue Technicians provide a demonstration of their impressive skillset to exchange participants.

Pilots and SAR Techs from 424 Squadron described the impressive technical capabilities that Canada’s primary SAR aircraft and their skilled crews bring to searches in the North. Under the JRCCs’ direct tactical control are the five primary SAR squadrons, consisting of CH-149 Cormorant helicopters, CH-146 Griffon helicopters, and CC-130 Hercules aircraft, the latter of which are set to be replaced by the CC-295 Kingfisher in the coming years. Currently, a fully operational aircrew is to be airborne within two

hours of the receipt of an alert. Other CAF air and naval assets can be called upon to serve as secondary

SAR resources, although they respond only as available and are not kept on standby. The CC-138 Twin Otters of 440 Transport Squadron, stationed in Yellowknife, are good examples of these secondary assets.

In aerial SAR operations, airplanes are search platforms, while helicopters serve as rescue platforms. The Hercules has a range of more than 7,200 kilometres, can operate on the short, unpaved runways of many Northern communities, fly in severe weather conditions, and, when on scene, go low and slow over search areas. Their pilots and aircrews are extremely well trained, able to effectively determine and execute search patterns and parachute everything from critical supplies to communication devices, SAR pumps, and SAR Techs directly to individuals or vessels in need. The RCAF personnel also explained the new [Cellular Airborne Sensors for Search and Rescue \(CASSAR\) system](#) technology that would soon come online in some of the aircraft. “Provided that an individual is reported overdue or believed to be in distress, their cellphone is turned on, has sufficient battery power and not in airplane mode, a CASSAR equipped aircraft can identify and communicate with that person’s device. This provides a precise location and enables text or voice messaging to confirm a subject’s condition and distress level, even in the absence of a cellular network.”

On the rotary side, the Cormorant is a fantastic rescue platform for Arctic operations. It is all-weather and has effective de-icing capabilities, redundant communications and navigation systems, exceptional long-range capability (it can fly over 1,000 kilometres without refueling), can carry up to 12 stretchers, and its advanced systems provide a stable hover for



SAR Tech and JRCC Trenton exchange host, Sgt. Rob Featherstone, showcases specialized SAR equipment to participants.

critical hoisting

operations. Even with its impressive range, flying

a Cormorant from Gander, Greenwood, or Comox to the North requires multiple refueling stops and impressive logistical planning. 424 Squadron currently does not have Cormorant helicopters and its Griffons lack the speed and endurance to respond to incidents in the Arctic. In the near future, however, the Cormorant Mid-Life Upgrade Project will provide three additional helicopters, which will be based in Trenton.

Each primary SAR aircraft or helicopter on standby is fully crewed and includes SAR Techs. The 145 SAR Techs in the CAF are highly trained personnel who can deploy by parachute or hoist to an incident and perform emergency trauma care procedures, stabilizing victims for evacuation. They are land and sea

survival experts who specialize in a wide range of rescue techniques (including Arctic rescue), parachuting, diving, mountain climbing, and helicopter rescue.

The SAR Techs who spoke with exchange participants emphasized the critical role that community responders have played in past SAR operations in the Arctic. It is common practice to land in communities prior to commencing searches to discuss the situation with the “experts,” acquire as much local knowledge as possible, and pick up community responders to serve as spotters. This “best practice” has led to positive outcomes during past searches.

- *“Yeah. So. Really the thing that, when I think of the Rescue Coordination Centre and the role that I have and what, you know, information I have access to, I basically have a really good, you know, top-down view of all of the SAR stuff that’s happening in Canada, right, like we have all of that region that I’m covering 5 provinces, 3 territories but Chris and I have an idea of where there are incidents happening. We know where the resources are. I’m tracking which, you know, aircraft are broken or serviceable at any given moment. We have all of that knowledge, right, we have the awareness of what is happening right now and what’s available should something happen right now. And then the team at the desk, like the search mission coordinators, the folks working in the Ops Centre, they’ve got the system there, the computer that basically helps us to do search planning. So I just want to highlight the search area size. So our job in the rescue centre is really to identify the search area and we’re constantly from the moment that we get a case, we’re trying to reduce the search area size so that we can find what we’re looking for and then we can actually go and do the rescue. So that is what the RCC can bring to you is we can identify what the search is going to look like. We can use all of the, you know, the systems that we have and if we get that local knowledge from you that, hey, there’s a different drift pattern or there’s a different, you know something that we’re not tracking, we can embed that into our stuff to try to bring that search area down, because the smaller the search area, the more effective we can be at looking for something. When it’s massive, a massive search area, it’s really, really hard. It’s just the reality like that’s what I showed, I think I showed half the group there the Lake Ontario search we literally had like 2 weeks ago, we had to search the entire lake, all of Lake Ontario. And that takes a long time. Even here, like even with the resource right here on the lake that takes, what is it? 3 days? Four days? For us to do all of that. So, if we can get information, whatever information we can get, we can bring it in and we sort of filter it down and we minimise the area. Now, I’ve said that if we get another piece of information that puts it in a different direction we can add that in and do another search in another spot, so we can do concurrent things at the same time for the same searches, and we do that with lots of different cases. So we bring that top-down view of search planning.” - JRCC Trenton member, Arctic SAR Exchange 2023.*
- *“But if we talk to that community Rep, for example, on a case, then we have that link directly at the beginning, you know, so we’re not waiting five hours or four hours to get the call and we’re all kind of on the same page of, hey, what what’s happening? We get the most up-to-date real time information on a situation and then we’re all on the same page and that way, you know, if we’re*

going to start planning something, we're not planning in two parallel lines. We're planning together moving in the same direction, right?" - JRCC Trenton member, Arctic SAR Exchange 2023.

- *"And so if you're doing something at the local level, you've got knowledge of a search that you've already conducted or that you're ongoing, you know stuff, you give it to us and we can kind of embed that into what we're doing and we get, like we get, I think the way to describe it, the way that I can think of it is we're kind of like the big picture, at least we try to be, and so all we're really trying to do is to communicate that big picture to our crews and to the resources that we have to go and do that that work, right? And then we kind of plan it, we coordinate it, we get things going, right, we get assets going to go do something and then they go off and they do that work. And then they communicate back to us if the situation is different." - JRCC Trenton member, Arctic SAR Exchange 2023.*
- *"We can maybe look at your search patterns, give that second, third, fourth look at what you've already done, and suggest something else. We're not going to put our thumb on it but we can be there for assistance." - JRCC Trenton member, Arctic SAR Exchange 2023.*
- *"So we're kind of like the top-down and then if I think of an hourglass, we're kind of like the filter of stuff in and up, right? So I pass information up and down, we're kind of we're kind of like the coordinator, that's our, it's in our job description. But that's what we do. We coordinate with all the different partners and folks, it's a busy job. There's lots of people to communicate with." - JRCC member, Arctic SAR Exchange 2023.*
- *"Let's not forget that the North is one of the most under-covered areas in terms of weather stations, right? So they might have weather that they're getting, but it's not going to be as accurate as what you can provide on the ground, right? Same with the drift. Same with any kind of environmental information that can make a huge difference, right, in the search. So I just want to encourage all of you who are working with RCC, are working through the Coast Guard Auxiliary, share as much of that local information as you possibly can, because we heard in the RCC yesterday, they can override their modeling, right, to input that local information to make those search patterns, make the search area, to define the search area better to plan the search better." - Academic exchange participant, Arctic SAR Exchange 2023.*

4. The Benefits of Working with SmartICE

A common message at the Nunavut and Nunavik SAR Roundtables was that not only has changing ice conditions increased the number of SAR cases, it has also made the conduct of search and rescue operations more challenging for community responders, particularly with respect to determining search areas. "I think we used to have a better idea about where to start looking, because we knew the ice. You could guess where and how far a person went. Now, if a person doesn't have a SPOT [satellite

communication device], it can be much harder to know where to start searching because the ice is so different” noted one responder at the 2022 Qikiqtani Roundtable on SAR. As probability of a lost person’s survival decreases over time, effective planning to determine search area can improve efficiency and response times, critical in the extreme climate of the Arctic. Many responders have emphasized the growing need for accurate and timely information on ice conditions to assist in establishing search areas and planning SAR operations and noted how difficult this can be to acquire.

GSAR responders have also reported that worsening ice and weather conditions generally make their job harder: the ice is tougher on their machines, it slows down their movements, and it can be dangerous. Community SAR coordinators have consistently highlighted the need for advanced ice information to keep their teams safe while conducting searches on the ice.

Several roundtable participants suggested that collaborating with [SmartICE](#) could provide community responders with the tools they require to assist with search planning and improve responder safety. As a result, the organizers invited SmartICE – an Indigenous-led social enterprise – to Arctic SAR Exchange 2023 to present its community-based ice monitoring capabilities and travel safety products and build the relationships required to integrate this service into the SAR system. The presentation delivered by Trevor Bell (the founding director) and Andrew Arreak (Regional Operations Lead, Qikiqtaaluk Region) generated a great deal of interest and enthusiasm amongst community responders and territorial, regional, and federal government practitioners.



Trevor Bell and Andrew Arreak present to exchange participants on how SmartICE can be used in SAR prevention and response.

For almost a decade, SmartICE sea-ice monitoring service has been partnering with Inuit to integrate their knowledge of ice safety with new monitoring technology and satellite imagery (smartice.org). SmartICE – an Indigenous led social enterprise – focuses on making sea-ice travel safer by generating invaluable, data-driven insights into ice thickness and local ice travel conditions. It uses both autonomous, thermistor-based sensors (SmartBUOYs), set up anywhere on the ice, and operator-run electromagnetic induction sensors (SmartQAMUTIKs), towed by a snowmobile along trails, both to measure real-time ice thickness for the operator and upon survey completion, generate community ice thickness patterns. Its Pilimmaksaqniq Sikulirijimik program, meaning “training to be a worker who deals with ice,” trains and employs Inuit as operators and technicians of its technology. It was co-designed with Inuit educational experts and community ice users to provide the technical knowledge and skills required to successfully run SmartICE monitoring systems, and to interpret and share the ice information they collect with their communities. As explained by SmartICE at the 2023 Arctic SAR Exchange, the real-time ice monitoring its operators provide can help SAR responders reduce travel risk while searching dangerous ice conditions, whereas community ice thickness patterns may identify dangerous ice areas where SAR search efforts should be targeted.

Two stories shared by Andrew Arreak, who is also a member of Mittimatalik (Pond Inlet) Search and Rescue, *highlighted the value of collaboration between community SAR teams and SmartICE operators.*

February is the coldest month that my community gets every year and that is when the sea ice edge has formed and still forming further into the coast. During this time of year, it is mainly dark, but the sunlight is over the horizon and the sunshine hits the community during the end of the month. A group of people had made plans to go to the floe edge, local people had started going on the ice since late November because as soon as the sea ice forms local people will be on it right away with caution and swing a harpoon to check uncertain ice areas.

Our SAR team got a call that an elder had a snowmobile accident and flew off his snowmobile and also got hit by a qamutik (sled towed behind a snowmobile). I got asked to bring my SmartQAMUTIK, a mobile sensor that informs sea ice thickness in real-time as we drive along the ice. It is 3-4 hours drive on snowmobile from the community to the site where the accident occurred near the east floe edge. Because it is not a quick ride, we (SAR) had asked the out-goers to get to the cabin at Botton Point to keep the person warm and awake.

Once we got there, we had to move him to a bigger cabin as there were more people in the area now. The person was aware and talking. We (SAR) had to think about taking him back to the community, but going back is not a smooth ride on the ice and is not a straight line and the big thing that made our decision is that the left part of his body was starting to get numb. We knew that a snowmobile ride back to the community was no longer an option for the person. We (SAR) radioed back to the community and got our other team who are in the community to contact a person to get a Twin Otter to land on the ice near where we were.

Morning came and the plane was on its way to us. Out on the land/ice, there is enough sunlight for us to see a little further so we (SAR) can decide on where for the pilot of the plane to land on the ice safely. There were at least 6 snowmobiles following me while I was checking the sea ice thickness with my SmartQAMUTIK and to have the snow patted down for the plane to land. We asked the pilot first how much landing space he needed. Once I did my ice-thickness checking survey for the pilot, he felt way more comfortable landing on the ice because we informed him on how thick the sea ice was for him to land safely and for the pilot to take the person home from the site. That person is still with us today.

The second story shared by Mr. Arreak featured the drone training that he had received as part of his operator training:

SmartICE is in the process of training its operators to use drones for checking ice conditions and I was given a mini-drone to practice on to fly around before using bigger drones. SAR sometimes get calls for assistance from the RCMP (it is rare but it does happen) because a person has been hiding near the community. It is very difficult to look for a person from standing up or even from standing on a truck scoping the hills with binoculars because the person can be lying down and hiding because he knows he is being looked for. We knew or had a rough idea of where he was, and this was during midnight summertime and the sun is still out, so we had all the time we needed to be out looking for the person. As soon as I launched my SmartICE mini-drone, less than 15 minutes later we found the person and everyone was more at ease afterwards. When flying a drone over the area it was very easy to spot a person lying down on the ground.

All exchange participants recognized the value that the information provided by SmartICE could bring to SAR operations. The question and answer period focused on how to build the connections and capabilities required to ensure effective collaboration between community SAR teams and SmartICE operators/techincians (often the same people) and on the possibilities of adapting SmartICE training for search and rescue responders. JRCC Trenton personnel also expressed interest in accessing SmartICE information to support its planning and response work. When asked about the cost involved in bringing these services online in the North, Bell was able to answer that, “38 communities being served and not one of these communities have had to spend a penny on SmartICE services.”

The connections that Bell and Arreak were able to make through Arctic SAR Exchange 2023, particularly with SAR coordinators Angulalik Pedersen from Cambridge Bay and Michael Cameron from Salluit, facilitated a successful application to Polar Knowledge Canada for the project, “Adapting and Piloting SmartICE Operator Training for Search-and-Rescue Responders.” In this collaborative project, SmartICE will collaborate with the SAR community across Inuit Nunangat to understand how its operator training program can best be tailored to meet the specific needs of SAR responders and then pilot and evaluate the adapted program with SAR teams in two partner communities – Salluit and Cambridge Bay.

- *“Yes, I recommend this one [SmartICE], because we’ve had it in my community for three years past now. Each year, we know the ice conditions and for this year, finally I didn’t do search and rescue on stranded on ice. This is very helpful.” - Valerie Qaunaq, SAR Coordinator, Arctic Bay, Arctic SAR Exchange 2023.*
- *“This could be very useful in my community.” - Community responder, Nunavik, Arctic SAR Exchange 2023.*
- *“This is incredible technology, such an awesome idea.... If we pulled that up and think about where somebody might be this is going to give us the best information we have to start.” - JRCC Trenton member, Arctic SAR Exchange 2023.*
- *“This is really going to help with search planning. That’s always so hard, but knowing the ice, it can guide us in narrowing down the area.” - Community responder, Nunavik, Arctic SAR Exchange 2023.*
- *“If you are jumping SAR Techs out, knowing the ice conditions, quality of the ice, would be very helpful.” - 424 Squadron member, Arctic SAR Exchange 2023.*

5. Issues Barring Effective Collaboration During SAR Operations in the Arctic

A significant part of the exchange focused on identifying the barriers that have limited effective collaboration during SAR operations in the Arctic. Exchange participants identified several core issues that impede collaboration between community responders and their territorial, regional, provincial, and federal partners during SAR operations, with an emphasis on challenges involved in working with the JRCCs. These issues are not listed in order of importance or urgency.

5.1 Distrust and Frustration Stemming from Past Cases

While exchange participants noted the mutual respect that generally exists between responders, many could provide examples of past cases in which the contributions of community responders were minimized or ignored by their government partners. These incidents – some now decades old – and the frustration and anger they created, are difficult to forget.

During the exchange, responders from Nunavik shared some of the past events that had inspired a feeling of distrust with their federal partners, particularly the 2003 Ungava Bay Tragedy. Throughout the 1990s, efforts by the Kativik Regional Government and Makivik Corporation to secure additional federal support, funding, training, and equipment to prepare their communities to conduct marine search and rescue operations bore little fruit. Then, in August 2003, Martha Kauki, a well-known interpreter and Makivik Corporation board member, her husband, Joanassie Epoo, and two of their teenage children, Victoria and Jacob, boarded their 22-foot freighter canoe to return home to Kangirsuk after attending a

wedding in Kuujjuaq. While the group carried hunting and camping gear, they did not carry any equipment that would help them survive at sea. They were last seen near Aupaluk on 15 August, just as the weather started to take a turn for the worse. Shortly after, the Kativik Regional Police Force (since renamed as the Nunavik Police Service) launched a search. As local responders from various communities set out by boat and all-terrain vehicle (ATV) in an attempt to reach the family's last known position, Nunavik officials informed the Sûreté du Québec (SQ). As a marine search, the operation was the responsibility of Joint Rescue Coordination Centre (JRCC) Halifax and the Canadian Coast Guard, but the SQ did not pass the information along to those organizations. Instead, over 50 hours passed before Kativik Regional Government council chairman Johnny Adams called JRCC Halifax to request assistance. For JRCC Halifax, the 50-hour delay in notification inserted a high degree of uncertainty into the search planning process and resulted in a massive search area – most of Ungava Bay south of 60° north latitude.

Between 18 and 21 August, the waters and shoreline of Ungava Bay were scoured by a CC-130 Hercules aircraft, a CH-149 Cormorant, a Civil Air Search and Rescue Association (CASARA) Twin Otter from Unaalik Aviation in Iqaluit, the Coast Guard icebreakers *Henry Larsen* and *Des Groseilliers*, and community responders operating in their own boats or using ATVs on the shoreline. On 21 August, the regularly scheduled Air Inuit Flight 574 spotted an overturned canoe. Shortly after, *Des Groseilliers* arrived on scene and recovered the canoe, which was the search object, and the body of Martha Kauki. The other three bodies were never found.

Nunavimmiut felt like they were ignored by SQ and JRCC personnel throughout the search and noted that there had been a breakdown in communications between federal responders, regional agencies, and the communities – something that the JRCC later acknowledged. Local responders felt that they were not used enough during the operation and lamented the fact that they did not have the boats, equipment, and system in place to take on more of the search on their own. Most importantly, leaders and responders all thought that the federal practitioners had not listened to or respected their local and Inuit Knowledge, particularly the information that they could have provided on the currents and weather of Ungava Bay, which could have improved the JRCC's drift model and search plan. As one exchange participant from Nunavik explained, "They just wouldn't listen to us. They didn't respect us. And that was not the first or last time. And, for some people, the anger and distrust this created is still felt today pretty strongly. The healing is going to take a long time." That participant went on to explain that, "we went our own way after that. We set up our own fast rescue boats. Got them trained. Got them equipped to a really high standard. And then the JRCCs wouldn't task us, wouldn't work with us."

In 2009, a similar situation unfolded when a helicopter went down during its flight from Kangirsuk to Kangiqsujaq. For six days, JRCC Halifax directed the search operations using three Hercules aircraft, an Aurora patrol plane out of Greenwood, a Cormorant helicopter from Gander, and a Canadian Coast Guard helicopter that was operating in the area. During this time, JRCC personnel did not formally activate the local Canadian Ranger patrols or task Nunavik's fast rescue fleet, but these community responders searched anyway. It was these Rangers, who were searching the coast between Quaqtaq and Kangirsuk by

boat, and not the air assets, that spotted the helicopter upside-down in a ravine about 290 km northwest of Kuujuaq.

Many of the exchange participants from other parts of the North could also point to past searches in which they felt unsupported or ignored by key government partners, including JRCC personnel. These cases generally involved government partners:

- Failing to listen to community responders or make use of their knowledge and skills
- Rejecting requests for air support or withdrawing aircraft from a search with little to no consultation
- Being unwilling to task community responders for a search due to misplaced safety concerns or other considerations
- Practicing poor communications and information sharing during searches

5.2 Attitude and Ignorance of Individual Practitioners

According to exchange participants many of these past incidents stemmed from government practitioners simply lacking knowledge of the skills and resources available at the local level. If a community does not have a Coast Guard Auxiliary unit, for instance, it can be difficult for the JRCCs to know what local marine resources could be used during a search.

In some cases, however, these practitioners displayed a desire to take control of local search operations or refused to task or work with community responders – attitudes and approaches that exchange participants reported were rooted in arrogance and a negative perception of community capabilities. In other situations, government partners have refused to take the alerts or requests for assistance of community responders seriously, second guessing their intentions and plans.

Exchange participants were careful to note that, even though government practitioners are often responsive, cooperative, and helpful, individual negative interactions could really harm broader relationships and impede efforts at closer collaboration.

- *“They have great guys. Not to put anyone down, but we do have some individuals that think they’re gods. They come in, do it my way. It’s, that’s it. That’s all. I’m here. I’m going to change your world. Mentality of the Western society and not working with local knowledge.” - Community responder, Nunavik, Arctic SAR Exchange 2023.*
- *“That usually the SQ come in, they take over everything and start saying you do this this, this, this.” - Community responder, Nunavik, Arctic SAR Exchange 2023.*
- *“Whenever we’re in a command post, we’re doing the job, we have all the mappings sorted out, the sections that they’re going, where they’ve been. In the past we’ve had these almighty gods come in. ‘OK? Stop everything. I’m, you’re doing it my way.’ And I’ll use this one very personal*

case to me. Where we lost two individuals. I still have what ifs. These two individuals were out caribou hunting. We never found them. About 10 years later, geologists going to a site flew over a skidoo and a sort of downed tent. So they went to investigate. They found the bones of the two missing hunters. At that time I was coordinating, we had at least 100 people. One of these almighty people came in, who had more authority. Didn't work with us, was very close with that one individual that was missing, the tunnel vision went in. I had received a call from the neighbouring community and I passed the info because I was removed from the coordination centre, I said, "you have it, OK, I'm going to be on the field instead." I passed on information that was given to me that there was a set of tracks near that community that no one ever goes to. And it haunts me today thinking I gave that information. Nobody was tasked to go take a look at it, not even the neighbouring community went to go look for it.

- *And I'm going, what if? They had the shelter up. We had planes and helicopters searching. What if we followed that lead? They might still be here today. So as a coordinator, when we have things going, instead of pushing the individual aside and taking over the whole situation, take a look. If they're doing good, just mentor, or if they're not doing it right, mentor them, coach them. But just don't shove them aside. Just because you have a title, you have a different way of culture, different way of doing things, that local knowledge is being bypassed. When you think you're god and you're doing this, it was all changed, everything that was worked on. ... When we have people that don't want to listen, they're just, they come into the community, they look at it, boom. We have other times where they ask you and they're really shocked at how things are so organized and planned that they're just there watching and coaching or mentoring if you need a hand." - Community responder, Nunavik, Arctic SAR Exchange 2023.*
- *"I think it depends on who's in charge like, because most of the time it's a good relationship. There have been instances like last fall. In a week, the guy, like only two of us were coordinating when [the other coordinator] was out. I was in. I actually got sick with COVID, and there were four calls that week, and one of the, for one of the calls, it was people missing on the land. They actually texted their family. They said 'We're missing. We need help.' Because it was raining, getting cold, 5-year-old with them. And they like, we could have done a ping. So, you know, protocol is we call [RCMP] dispatch, especially if it's during the day, call dispatch. The dispatch lady didn't take it seriously because, it's my probably my fourth call that week. So and they like, we have lots of successful rescues and if she just did not take you one seriously, not noting it down, I'm, I took my notes, noted the time when I called and everything. When I called her back within two hours to tell her that we need them to do a ping. She fought me on it, and by the time they were able to do it, the phone had died and they couldn't find them, and that extended our search by 4 hours. In the rain. And I like, so we took that back and we told them about that, like 'Look, even if our guys are really good and they're good at finding people, you, you have to make a note of it. You have to log it. Because if something happens and we need your support, we're going to call, like we don't know when we're going to call. We don't know if we're going to need*

your help, like, within 10 minutes of a request or how many days.’’ Community responder, Nunavut, Arctic SAR Exchange 2023.

- *“And then there was another one. That corporal wasn’t really cooperative. And it was a suicide attempt. We had just finished doing training, basic training. There was an event for basic training. We went down, did our training for the day, I think it was 2 days. By the second day we had just finished chatting. We’re like, ‘OK, yeah, we’re going to go,’ then we got to call. ‘Some guy’s suicidal. He’s walking out on the ice. We need search and rescue support.’ OK, dispatched within 10 minutes and then we get a call like because it turned into a search and rescue event because it’s out on the ice and they think they’re leaving the community. We get a call saying that, ‘Oh, he’s been found.’ And it was his drunk girlfriend calling saying that he was found, he’s OK, whatever. And we’re like, ‘OK, so how do we confirm he was found, like he’s OK?’ Because the year before that we actually had an elder die and we had different reports and those different reports were sending us all over the place. People were saying that he was alive in town when in fact he was out on the tundra dead. So we called RCMP and were like, ‘OK you need to go to the house and verify that the guy’s there or not’’, they’re like ‘Well, why can’t you do that?’ It’s like ‘No, we’re not putting ourselves at risk. This is within the municipality. This is your responsibility. It’s a missing person situation and it’s not out on the land. We’re not going to go to the house and verify that some suicidal person is there when a drunk is calling in.’ So that was a moment of tension, but since then I can’t think of any situation where we’ve had to fight them on cooperating. - Community responder, Nunavut, Arctic SAR Exchange 2023.*

5.3 Limited Relationship-Building Initiatives

Exchange participants – both community and government practitioners – suggested that limited historic efforts by territorial/provincial and federal SAR practitioners and policymakers to improve their relationships with Northern communities and responders represented a significant obstacle to collaboration during SAR responses.

Relationship-building efforts attempted in the past have often been rooted in crisis-response approaches (generally when a SAR operation has gone poorly) that have proven to be fleeting and inadequate. In the aftermath of the Ungava Bay Tragedy in 2003, for instance, the officer in command (OIC) of JRCC Halifax visited Kuujjuaq to try to work through the tensions that the search had generated. There was little follow-up, and members of the Kativik Regional Government and Makivik Corporation were still looking for answers five years later. These years brought more incidents in which federal responders ignored local resources, culminating in another series of meetings in Kuujjuaq in 2008 and 2009, which brought key partners together to work through communication and coordination challenges. Some traction was gained, spurred on by key individuals in the National Search and Rescue Secretariat (NSS) and Kativik Civil Security, but again, proved short-lived.

Exchange participants shared similar concerns about Nunavut Emergency Management, the Nunavik Police Service, the Coast Guard, and the Coast Guard Auxiliary. In the past, these agencies have not tried to forge close working relationships with community responders.

Still, participants acknowledged recent efforts by the Coast Guard, JRCCs, and NEM to improve relationships with community responders (discussed in section 5). As a caveat to these positive developments, JRCC and Coast Guard members explained the practical limitations that have inhibited the kind of sustained community engagement requested by Northern responders, particularly limited travel funding that make frequent community visits a challenge, and the small number of available personnel.

Exchange participants noted that relationship-building efforts are worth the effort and resources they require as they do more than anything to improve collaboration in the North. Several suggested that events such as the exchange and the roundtables, which bring responders from different agencies together in a centralized location, could reduce the travel costs and time requirements for federal practitioners.

- *“Working closely with JRCC, it has improved since the first search and rescue I did with JRCC back in 2003. To the one that I did last year or this summer, I should say, this past summer, it’s changed a lot. So the ball is rolling, we just have to fine tune it and put it in proper channels, proper means.” - Community responder, Nunavik, Arctic SAR Exchange 2023.*
- *“[Our SAR coordinator] talked many times to the guys in Trenton, met them finally face-to-face once in Yellowknife. The roundtable did that. So that was a very benefit of the roundtable. We got to meet the people we’re talking to. Ryan, you know, talked to Joe or whoever he’s talking to, and now they, ‘Oh yeah, I remember seeing you,’ you know? ... [I]f you could put a face if you know that person or you met that person there. Just like if I needed to phone you for something, ‘Hey, I remember you, yeah. OK.’ And then generally you get really fast response if you have a connection with that person. ... [T]hey don’t start asking you 50 questions to make sure you got all the information if you dealt with them before. And they know you’ve got the, you know, they’ve worked... It’s more, do they trust you?” - Baba Pedersen, Kugluktuk SAR, November 2023. While initially slated to attend the exchange, Pedersen could not due to unexpected medical travel, but shared his thoughts with the authors a few weeks later.*

5.4 Limited Capabilities of Agencies of Jurisdiction

Exchange participants emphasized that agencies of jurisdiction often have capability gaps that make it difficult to collaborate during SAR operations, particularly for ground searches.

In Nunavut, NEM personnel play a significant role as search commanders assisting in the coordination of searches, but that support can be uneven. While some community SAR coordinators report adequate support from certain NEM duty officers, others shared stories of SAR cases in which they felt ignored,

disrespected, or poorly advised. Duty officers provide varying qualities of advice and, at times, inconsistent information and decisions, leaving community responders feeling unsupported and alone.

Community responders from Nunavik and the NWT shared similar concerns about the Nunavik Police Service and the RCMP, which they do not think have the capacity to serve as the lead agencies for ground search and rescue in these jurisdictions. These officers do not have the knowledge of the land and people, the skills, or the community connections to fulfill their responsibilities for SAR incident command and search management. In both cases, mandates do not match agency capabilities. As a result, they defer the coordination of most SAR cases to the community responders, offering little to no assistance. Exchange participants also suggested it was problematic that officers do not have the equipment or training to participate in searches and/or rescues on-the-land or inland waters (although, it should be noted that the RCMP in the NWT, at least, does not have the mandate to conduct – as opposed to command – SAR operations in the region). As proof of their assessment, Nunavimmiut participants noted a [letter](#) sent in March 2023 to the Kativik Regional Government by the Chief of the NPS, which acknowledged these limitations and explained, “The NPS does not have the expertise or resources to continue to lead this responsibility and ensure optimum results, on a regional or municipal level and it is for this reason, that the NPS requires local knowledge and expertise to do SAR on the Nunavik territories. The NPS believes that a regional authority, specifically the Kativik Regional Government Civil Security Department, should be mandated and adequately resourced to ensure optimized Local and Regional SAR Resources.”

A related issue, noted some exchange participants, is limited understanding of the value that federal partners bring to the table by many community responders, particularly beyond aerial or icebreaker support. Community responders are unclear on the benefits, for instance, that the JRCCs can bring to SAR planning.

While SAR operations were the focus of the exchange, every Northern exchange participant also raised the issue of recovery. The RCMP in the NWT and Nunavut are the lead agencies for recovery operations (along with territorial coroners), while the NPS plays this role in Nunavik. These agencies do not have the local capabilities required to carry out this responsibility, particularly in marine cases. Any qualified divers, sonar equipment, and remotely operated underwater vehicles have to be deployed from the South, and this has not been a common practice in Northern communities. As a result, community responders have had to shoulder much of the burden for recovery operations. Exchange participants noted their limited access to the specialized equipment and capabilities needed for these operations, the lack of assistance and financial support provided by other government agencies, and the mental health impacts of these activities. Baker Lake’s SAR coordinator shared a story about the intense effort and financial investment these recovery operations can involve. In 2019, the community fundraised to bring HEART (the Hutterian Emergency Aquatic Response Team, based at the Oak Bluff Hutterite Colony, just south of Winnipeg) and its specialized underwater equipment to recover the body of a missing boater in Baker Lake. When that proved unsuccessful, they recruited and paid the travel expenses of a marine sonar team from Minnesota, Crossmon Consulting LLC, to take over the recovery operations (the Americans conducted the search for free). Using marine sonar technology that can scan a 200-foot swath of lakebed

at a time, the team found the community member under about 99 feet of water, after five hours of searching.

- *“We have our own full-badge police force in Nunavik, formally Kativik Regional Police Force, now Nunavik Police Services. And it hasn’t always been a perfect relationship with the citizens. You have personalities, you have incidents, and you can erode five years of goodwill and good work in one incident. So when you have police officers trying to do the best they can, they don’t have the expertise, they don’t have the resources, why are we bothering talking to them? We can do this better ourselves, so it tends to stay within the regional thing, although there is obviously a role to play for the police. I mean, if it’s criminal, you know, they have to always be a strategic partner, but yeah, we’ve had some growing pains over the years, shall we say.” - Community responder, Nunavik, Arctic SAR Exchange 2023.*
- *“I’ll echo that from Nunavut too, like, with the RCMP in Nunavut. They’re the land experts, our GSAR crew are the experts. RCMP aren’t going on the land for any sort of file. If they’re after supporting somebody that’s willing to do harm to themselves, our GSAR teams will escort the RCMP out because they aren’t the experts. So having RCMP do SAR in Nunavut, the RCMP reputation isn’t that great. They have their responsibilities in all of this. So at the municipal and territorial level, that’s where SAR is being managed. And being controlled out of there, not really controlled but coordinated. So we do have our challenges with the police. There’s a lot of our SAR reps that don’t want to work with the police.” - Nunavut Emergency Management member, Arctic SAR Exchange 2023.*
- *“We know that demographically the RCMP is really experiencing a change. Years ago, members who would become RCMP officers were rural-based individuals who maybe had some skills on-the-land, who were outdoors people, who enjoyed that type of lifestyle. Increasingly, their recruits are urbanized youth and they’re, you know, really good police skills, really not attuned to outdoor lifestyle, outdoor living, we see it’s duration posting, it’s an opportunity to get a posting in southern Canada that’s more appealing to them. And so those are the personalities that we see increasingly in the Northwest Territories, pretty consistently, is that they’re very young, they’re very inexperienced in life, and they have no skill on-the-land that you would typically, even a decade ago you would see members come in and they’d operated ATVs, they’d operated snowmachines, they’d operated boats, and so they may not have local expertise or local land knowledge, but at least they were competent in those skills. Now we’re seeing the exact opposite where they are operationally unprepared for anything other than their primary units, so they you know, I don’t know, strategically, policy wise, I’m not with the RCMP. I can’t speak to that. But what we’re seeing anecdotally in the Northwest Territories is the divesting of those assets. The detachments no longer have boats in the yard because they could never man, they could never have enough training with the two-year cycle to have two competent members to go out on a boat. It’s not practical. So the boats sit there and now the boat’s not seaworthy, and so they’ve divested those assets. There’s no longer ATVs, there’s no longer snowmachines in a lot of the attachments,*

because they just simply couldn't keep up with training to keep their members trained and staff to do that. So increasingly, they have zero capability in terms of your response when it comes to GSAR. And so they're very, very eager to pass that responsibility on to other agencies or other volunteer organizations, at least in the Northwest Territories, this is this is the trend that we're seeing. Whereas before it would be a little more, a little more control asserted, now the RCMP are like, 'OK, yeah, you want the search? Yeah, it's yours. Here you go. It's up to you. You figure it out. Call us when you need us, keep us informed, but we're going to let the community handle the search.' And it's kind of unfair because I think federally, they, you know, there's definite, clear responsibilities there. So if they've divested the responsibility without the budget to accompany it to other organizations, right?" - Community responder, Northwest Territories, Arctic SAR Exchange 2023.

- *"So yeah, in the in large jurisdictions, there's the mandate for recovery lies with other organizations, primarily the police and the request territories. In Nunavut, it's an RCMP mandate. The reality on the water is that the RCMP has divested the majority of their marine assets. They don't have boats in detachments. They don't have the capacity or capability to man or operate those vessels any longer. That's a federal government issue, that's a bigger problem. But recognizing that the community need is to continue to search beyond the rescue phase, right? So the task of the rescue, search and rescue tasking ends when the, it's no longer a search and rescue, and that's a JRCC decision or an RCMP decision depending on which part of the waterway we're on. But the community need may be to continue that search, right? The reality is that that there aren't boats that, you know, that it's an important element to the community, so we can often support that recovery tasking, although we don't have a mandate, we don't have a policy, we can support that by issuing a tasking number separately outside of the RCC system to support that, the community staying on the water because it's important to the unit, it's important to the community, recognizing that the need there is greater than, we shouldn't allow policy to stand in the way. So we have to figure out a way that our policy can allow us to cover these things." - Coast Guard Auxiliary member, Arctic SAR Exchange 2023.*

5.5 Slow Response Times from Federal Assets

The tyranny of time and distance has a major impact on SAR operations across the North. Given the distances involved, it can be hours or even days before southern-based aircraft and Coast Guard icebreakers arrive on scene during an incident in the region. Incidents in the North often require Cormorants to be flown all the way from Gander, Newfoundland and Labrador, Greenwood, Nova Scotia, or Comox, British Columbia. Community responders at the exchange highlighted the slow response times from Coast Guard icebreakers and southern-based SAR air assets as a source of major concern. From their perspective, the length of time it can take federal assets to arrive on scene acts as a significant barrier to effective collaboration during searches, causes considerable frustration in communities that can erode trust and damage relationships, and, in some cases, has convinced communities that they have to “go it alone.”

JRCC personnel explained that RCAF search and rescue aircraft and personnel are located where they can effectively respond to search and rescue incidents in all regions of Canada. Basing considerations are rooted in such factors as the historical distribution of incidents, aircraft performance, and the need to locate units with the required supporting infrastructure. One JRCC member also noted that the “SAR system is built off of scarcity” and elaborated on the limited primary SAR aircraft available to the RCAF.

- *“From our perspective in Nunavik. That frustration, that lack of knowledge, knowing that when we do actually engage with somebody at one of the JRCCs, they’re, I used the term yesterday, 4 to 48 hours away depending on what we’re asking for and what we’re getting. That’s why we’ve focused on optimised local and regional resources. We’ve tried to give to our own people the tools to be able to do the job the best they can. But it’s not enough. We still need to partner with, we still need to grow together, we still need to overcome and we still got that question on the response, it’s the elephant in the room.”- Kativik Civil Security member, Arctic SAR Exchange 2023.*
- *“My opinion is, why don’t Coast Guard Auxiliary, JRCC, NEM work together and set up a Hercules or helicopter be in Iqaluit. Because having to fly over asking for a plane all the way from Trenton, it’s about 12 hours flight up north. So if there’s emergency, falling in water and getting hypothermia, you know you can’t get it because it’s too dangerous. It would be way better flying from Iqaluit to that area. It would save lives because we lost at least six people due to drowning because back then we didn’t have any help with JRCC, but I’m so happy they’re emerging and helping each other, it’s helping us a lot. But if they have at least helicopter or plane down in Iqaluit, it would be benefit for up North. That’s my thought.” Community responder, Nunavut, Arctic SAR Exchange 2023.*
- *But in terms of having a helicopter or a fixed-wing in your community, that the reason that that can’t happen is that the SAR system is built off of scarcity. We don’t have a robust, like I don’t have 100 aircraft, I have 3. So that’s a component to it is that you know to generate the crews and the maintenance that comes behind that there’s a squadron of 250 people to put a helicopter with five out the door. So there’s a lot there and helicopters and airplanes, they break often and there’s a lot of maintenance required. So there’s reasons as well, not just with the dots on the map of why we’re based where we are. Because we have the supports and the parts and everything that come with it. You know, if a prop breaks on a Herc, it can take what, two days to fix, and we have to fly all of that stuff up, right, to a location or whatever it may be. Sometimes when they come back, they break and then we have it right there and it can be done much faster. - JRCC Trenton member, Arctic SAR Exchange 2023.*
- *“And so I just wanted to mention that so that you don’t feel that I wasn’t answering your question, that’s kind of the reason why we don’t have a helicopter in every community. We just don’t have, like, I don’t have, I don’t have 20 helicopters. I wish I did. Honestly, I wish I had a helicopter every 500 miles. That would be a perfect world because it’d be a lot easier on our end to task*

resources, but that's part of the picture. I hope that answers your question.” - JRCC Trenton member, Arctic SAR Exchange 2023.

5.6 Friction Over Provision of Air Support

One of the greatest sources of tension between Northern community responders and their government partners during GSAR operations is conflict over air support. Besides communities that have regular access to local air support (e.g. Cambridge Bay, the communities on the Ungava side of Nunavik) during searches, it can be a real struggle to secure this valuable resource for GSAR operations. Often, this is simply because no aerial resources are available in the area. At times, however, community responders will ask NEM, the NPS, or the RCMP to charter air support or request aerial assistance from the JRCCs, only to have their requests denied. Exchange participants emphasized the need for clearer criteria or guidelines explaining when and how air support can be requested in support of search operations in their respective regions and a clear process for how these requests are assessed. They would also like clearer explanations for how NEM, NPS, and the RCMP determine that local and provincial/territorial resources are exhausted and it is reasonable to request assistance from the federal government for Humanitarian SAR cases. Further, they would appreciate better communications around situations when the JRCC cannot provide aerial assistance or when RCAF aircraft are withdrawn before a search is concluded.

- *“Well, for our situation, what we always do is we call NEM and our understanding is that NEM will make the call if they're going to contact JRCC or not. And we're not always of the same opinion because we've had situations where we want air support but we don't agree where.... Who like who should be advocating? If we're on the ground and we know everything that's going on, where can we send the request for support?” - Community responder, Nunavut, Arctic SAR Exchange 2023.*
- *“Well, the thing, like the situation that we, in some cases in the past when we were denied air support, we're the ones there that actually have to explain to the family, ok this has been four days and you're not giving, there's no air support. Why is there no air support? It's really bad. We're not getting any leads. You know, it seems like this is the situation where we should have air support and we're not getting it. Why is that happening? And then when we can't explain to the family why we're not getting air support or other types, other forms of support.” - Community responder, Nunavut, Arctic SAR Exchange 2023.*
- *“We at NEM, definitely hear the concerns regarding aircraft. We do put a lot of resources on the ground side of the side of things, our GSAR individuals find people I would say 90%, 92% of the time. The aircraft that we do bring in the territory are our last resort for support. We've done a feasibility study regarding aircraft in the territory. The reports not, it's being finalized now and the stats will be put out. But again, it's one of those things that we, we've addressed, we've looked into it and we definitely do hear those concerns. We use a lot of our local contractors that are available that are a little faster. And then our last kind of tip off would be to JRCC to see if they*

had any resources in the territory and or what sort of resources or support can they offer from their end.” - Nunavut Emergency Management member, Arctic SAR Exchange 2023.

5.7 Confusion Over Mandates, Jurisdiction, Roles, and Responsibilities

As noted above, search and rescue in Canada is a complex system of integrated systems. That complexity, combined with the limited understanding of how the system works amongst community members, responders, and government personnel, can cause delays and complications. Given the number of actors involved, many community members find it difficult to know which agency should be contacted to respond to various SAR scenarios. Even amongst government partners like NEM and the RCMP, there can be confusion over jurisdiction, roles, and responsibilities, particularly over search suspension and the transition to recovery. During a search in summer 2023, for instance, a local RCMP detachment and the NEM duty officer

displayed confusion about how they should work together on the case and on areas of responsibility. This manifested in the delayed notification of the NEM duty officer and his exclusion from discussions



Group discussion at the Arctic SAR Exchange.

around search planning and suspension. At times during the search, the local community SAR coordinator played the role of intermediary between NEM and the RCMP, when these partners should have been talking and collaborating directly.

As at previous roundtables, community responders raised questions and concerns about jurisdiction and mandates. How flexible is the boundary between a ground search and a marine search? Will Coast Guard Auxiliary units be tasked to execute GSAR operations if it is suspected that the missing people are near the coast? Who decides? If harvesters go up on the shoreline on ATVs and go missing, could the Auxiliary be tasked? How much room is there for local decision making if a search is being coordinated by the JRCC? Where do inland waters end (the responsibility of the RCMP, NPS, and NEM) and federal waterways begin, particularly where rivers meet the sea (estuaries)?

Community and government practitioners also underlined the jurisdictional confusion around SAR operations centred on land-fast ice and the floe edge, particularly when this ice breaks away as an ice floe – a common cause of SAR cases in the region. They questioned which organizations had responsibility: would it be the agency in charge of GSAR or JRCC and Coast Guard? If a snowmachine or ATV is used to reach the ice, it is a ground search and rescue. This is, however, a situation in which capabilities do not align with mandate. Often, a search on the floe edge and, more obviously, when ice breaks away from shore, would be best handled as a marine SAR case by the JRCCs and the Coast Guard.

Exchange participants pointed out that confusion over jurisdiction and mandates has prevented NEM, NPS, and RCMP personnel from notifying the JRCCs, even when it is an obvious marine SAR case. During a SAR operation in Ungava Bay in July 2023, for instance, community members responding on Kuujjuaq and Tasiujaq's fast rescue boats informed the NPS of the situation. Even though this was a marine search in federal waters, Joint Rescue Coordination Centre Halifax was not informed of this search. According to *Search and Rescue Procedure for Maritime and Aeronautical Incidents in the Kativik Region*, the Chief of the Nunavik Police Service is responsible for notifying the JRCC, which could have provided additional support.

- *“We did a formal debrief on this one, like a full-scale for all partners, and I just want to highlight one thing based on what the spirit of yesterday was about. Right, this search was launched at 7:15 essentially. NPS, Nunavut Police Service was informed about four or five minutes after that, and it is their job, according to the procedures they've accepted, that their job is to inform Rescue Coordination Centre, Halifax, this is going on. Not once during this entire multi-hour search did Nunavik Police Service call in this to JRCC, so this is not logged with JRCC, no support was provided, and this is a case where if had it gone for longer that support. The outcome was never in doubt, right George? Like, the outcome, you know, was not in doubt, but if it had been right, that's... So again, you talked about the NPS kind of kneecapping your operation a bit. This, to me is a pretty damning example.” Academic participant, Arctic SAR Exchange 2023.*
- *“This has been our first year that we actually sat down with the RCMP and gave them a roles and responsibilities for GSAR for the Territory, there's a lot of new officers coming to Nunavut and the whole onboarding, you're trying to teach them because their first point of contact for, as soon as they catch wind of GSAR, is JRCC. Not local ground. So basically, we did a presentation with them and told them that, like, “We're here, we manage ground search and rescue. RCMP do not do it in Nunavut, where in southern Canada it is a police-driven response. So yeah, we're building our relationship with the RCMP, so if any the Nunavut crew need any support, please just filter into our office so that we can put that out as well to JRCC.” - Nunavut Emergency Management member, Arctic SAR Exchange 2023.*
- *“I think it was just kind of a passing conversation that we encourage our unit leaders to have the conversation with, involve myself when they have something going on in the community. It could be a GSAR, it could be a marine SAR, we know that these things tend to morph a little bit,*

particularly in Nunavut it changes it, you know, might be a GSAR, but the only accessible way is by boat to get from the community to a point of land. Et cetera. And oftentimes, if the unit leader has the conversation with me concurrently, then I can help facilitate what needs to happen because at the end of the day, we're really, our point and our purpose and our reason for being in the community is to support community search and rescue activities. Now, whether or not they fit specifically into our mandate for Coast Guard Auxiliary is often a stumbling block, it's a tripping point and we've identified that. And so they call in to the RCC. And no, it is not a marine tasking. You do not have tasking number. No means that without tasking number they can't leave the dock. They can't use the boat. They have no coverage. They have no coverage for the equipment, no personnel coverage and no reimbursement for fuel within our structure.” - Coast Guard Auxiliary member, Arctic SAR Exchange 2023.

5.8 “Broken Telephone”

For many community responders, perhaps the most frustrating issue barring effective collaboration during SAR responses is the “bureaucratic red tape” that impedes effective and rapid communication. They noted the number of actors that must play the “game of telephone” during the notification process, which can lead to delays and miscommunication. More specifically, frustration mounts when community responders make a call to one agency to report a SAR case or request assistance and are re-directed elsewhere, sometimes multiple times. Sometimes, this occurs because they call the JRCC to report a humanitarian SAR case or the NPS, RCMP, or NEM to report a marine case, but are redirected to the agency of jurisdiction. Often, this is the result of the jurisdictional confusion that exists around inland waters-federal waterways and land-fast ice/floe edge (see section 5.7). In other cases, it has been left up to community responders to keep regional and provincial/territorial government partners up to date on search developments and to secure additional assistance from them. Either way, responders are put in positions where they must repeat detailed information to multiple agencies, often while in the field and in conditions that make communications extremely difficult. While these issues seem particularly acute in the convoluted governance model in place for humanitarian SAR in Nunavik, other Northern responders reported similar challenges.⁵

- *“Why is there a number for ground searches and a number for marine searches. There should just be one number.” - Community responder, Nunavut, Arctic SAR Exchange 2023.*
- *“There is nothing more frustrating than calling a number during an emergency and being told that I have the wrong number and I need to call someone else. These are supposed to be our*

⁵ In Nunavik, depending on the community and the size and urgency of a ground search and rescue, the notification process can involve: initial alert received by fire chief, fire chief contacts mayor and town manager, mayor and/or town manager contacts the NPS, NPS contacts the SQ, the SQ contacts the Ministry of Public Security or the Organisation de la sécurité civile du Québec which then contacts the JRCC and/or 2 Canadian Ranger Patrol Group, as required. Other government and private sector actors may also be contacted in this process, such as community game wardens, Air Inuit, and Nunavik Rotors. At each point, information must be relayed and the case explained.

partners. How come they can't figure it out." - Community responder, Nunavut, Arctic SAR Exchange 2023.

- *"I'm GSAR, so I support my team, but when a call comes out, I'm supposed to make all this judgement, all these judgement calls. I'm supposed to call NPS and then NPS is supposed to relay that message to SQ and then SQ is supposed to relay that message to EMO [Quebec's Ministry of Public Security]. And then EMO is supposed to make the right call to JRCC, if they get the right number, to JRCC Trenton, Trenton is going to transfer them to Halifax because of my region, so imagine where this broken telephone goes in my region ... So this freaking chain of command somewhere has to be fixed. Just direct you to go to JRCC to make that call. Forget this Provincial EMO stuff, or the SQ. Something needs to be fixed in between."* - Community responder, Nunavik, Arctic SAR Exchange 2023.
- *"Like one example I can use this summer, I tried skipping all the NPS crap and EMO crap. I went straight to JRCC. I called JRCC here in Trenton because I have the number for Trenton. And then they said, oh, you gotta contact EMO. So I contacted EMO, oh you gotta contact Halifax. So I contacted Halifax and then they're like, you got to contact the EMO to get the approval, go to EMO. Just like, forget it. Forget it. The process is too long for someone's life in danger. I just want to support [what's been said] in terms of the broken telephone. And that was on the sat phone too, which is unreliable communication, trying to listen, right? Trying to report the same thing to EMO, JRCC Trenton and JRCC Halifax. Like, repeating my story. While we could have been, like, looking around, scanning and stuff."* - Community responder, Nunavik, Arctic SAR Exchange 2023.
- *"When an individual calls somebody, that individual shouldn't be calling the mayor, the town manager, the SAO, the coordinator. It should be one number somewhere in Canada, a dispatching unit. And that person gathers all the information and then proceeds to the proper channels. And informs the other channels that we have this going on and we may need your assistance. So that they're already on standby, they know there's a situation happening."* - Community responder, Nunavik, Arctic SAR Exchange 2023.
- *"I just think one of the big challenges is, if it's the actual responders on the ground who are who are going out to the rescue, having to make multiple phone calls, that's where it becomes really difficult because you're on a sat phone, you're on a boat, you're not on a stable platform in an office with the comm tower, and you can push a button and be connected right and so if those conversations need to happen, and I think they're really important that they do happen, but I don't think it should necessarily be the boots on the ground who have to initiate that conversation. And I don't know how that happens but I think it's really challenging when it's the one who's also the one searching, who has to make multiple phone calls. ... [Now, if] you phone was dead and you don't have RCC's number. And [you] go to look up on the Internet what RCC's number is, and there's no Internet connection on, because there's no data, right? So there's just, like additional*

barriers to making even a phone call that we don't even think of when we're sitting in an office with good Wi-Fi connection." - Coast Guard Arctic Region member, Arctic SAR Exchange 2023.

5.9 Inadequate Information Sharing, Poor Communication, and the “fog of SAR”

Northern exchange participants explained that securing information and timely updates from government partners during SAR operations can be difficult. Likewise, government practitioners noted past cases in which critical information was not passed along by community responders, which limited search effectiveness.

Most troublingly, there have been past cases in both Nunavut and Nunavik in which NEM or the NPS have collaborated with the JRCCs but not informed community responders of their plans or response activities. There have also been SAR operations in which community responders have acted independently, failing to keep their government partners informed. On 26 July 2023, for instance, a polar bear attacked three individuals from Kangiqsualujuaq approximately 140km northeast of the community. Though seriously injured, they were able to contact a friend in the community using their Garmin inReach device and triggered the unit's SOS. In short order, the community's fast rescue craft deployed for the scene. Almost simultaneously, JRCC Halifax was alerted by the activation of the inReach SOS and contacted NPS personnel in Kuujuaq. The JRCC approved the NPS' request for a Cormorant, although weather conditions kept the helicopter from deploying before the injured individuals were returned to the community by the fast rescue craft. In this case, the community and JRCC Halifax/NPS carried out independent responses. The community launched its fast rescue craft and conducted the operation without informing the NPS. Meanwhile, at no point did community responders know that the JRCC was involved or that it had tasked a Cormorant.

More generally, JRCC personnel explained that what they call “the fog of SAR” can delay and complicate collaborative responses. Even during cases in which the network of actors involved in an operation are trying to share information, “the fog” can still roll in, due to factors such as incomplete, inconsistent, or incorrect information, disagreement over plans, limited understanding of available local and regional resources, communication delays or breakdowns, bureaucratic processes, etc.

At the exchange, community responders and government practitioners emphasized the need for better information sharing and communications by all involved in a SAR operation. On the community side, this included territorial/provincial and federal practitioners sharing their response plans, the status of any aircraft deployed to assist, and general updates throughout an operation. On the government side this included sharing as much information as possible about the search subject, local conditions, community plans, the search area covered, and probability of detection estimates.

- *“So I think the biggest thing is as well as when you call in as a community to anybody, NEM GSAR, NEM or JRCC or anyone, it's the information. I take every little bit of information the family gives me and I give it to them, even if it doesn't seem relevant. It might be relevant 6 hours*

down the search, a day down the search where you may need that aircraft immediately, but you didn't need it yesterday, and that one of those details you didn't share yesterday might be the answer to getting the aircraft today versus yesterday. So just sharing all of your information that you have with who you're dealing with, JRCC or NEM or CASARA leads, anyone, just sharing all the information and actually having a conversation.” - Angulalik Pedersen, Cambridge Bay SAR Coordinator, Arctic SAR Exchange 2023.

- *“Because what can happen and we see this often with other things too is, you know, a police organisation starts doing something, then we get involved and now we've got to kind of direct them not to do that thing, right, and so it's like effort is great, but we want to make sure that we're expanding that effort together, right, jointly that we're using the right resources because if not then you know, we just don't want any confusion because when we do that parallel stuff, there can be confusion that happens and then that's breaking down the communication right there. So, I mention that because I think that's something very easy that we can change and do to make the communication thing better today.” - JRCC Trenton member, Arctic SAR Exchange 2023.*

5.10 Lack of Standard Operating Procedures/Guidelines for Collaboration

One of the key factors that is causing the problems in information sharing and cooperation between various actors is the absence of standard operating procedures and guidelines (SOP/SOG) that could provide a structure for interagency and inter-community SAR collaboration in the North. Generally, there are few comprehensive standard operating procedures or guidelines guiding SAR operations in the region, at the territorial/provincial or community level. Specifically, there are no clear protocols in place to guide how responders from different communities should work together during a search, how these joint activities should be coordinated, and how they should work with their government partners. With no guidelines in place to guide their activities, community responders often “make it up as they go,” which can lead to a poor coordination of activities, failure to share information, and conflict. Even government bodies, such as Nunavut Emergency Management, lack comprehensive SOPs/SOGs to guide how they should work with other agencies, organizations, and communities during SAR operations.

One veteran responder (the leader of his community's Auxiliary unit and GSAR team) noted that past issues have emerged from collaborating agencies using different geographic coordinate systems (UTM, MGRS, Lat and Long). He suggested a SOP should be developed for all SAR teams dictating that they use the same geographic coordinate system or, at the very least, that government agencies provide community responders with coordinates using their preferred system.

- *“At no point during this search [in Nunavik] did anyone have a clear picture of the whole operation. No one was responsible for ensuring that information gathered in the two communities was shared. This resulted in key information – such as the number of people on board and the presence of a fuel drum on the search object – not being shared with all responders. No one was responsible for developing a search plan for the assets from both communities. No one was*

keeping track of the areas covered by all the rescue craft and the helicopter. There was no designated On-Scene Coordinator or Site Commander.... No one, in short, was responsible for the whole picture.” - Academic participant, Arctic SAR Exchange 2023.

- *“I look at the on-ground immediate response package, whatever that looks like in the community, as your capabilities on ground. As soon as that is not enough, you guys need some toolbox to help you and the first toolbox to help you might be your municipality. I don’t know. It might be the NEM. For us, we should be that immediate go-to just to be a bigger toolbox, more resources available to you, and it’s our responsibility immediately I think. And I’m not sure why it isn’t already to spool in the military, and because they’re the bigger toolbox. Whether we need them or not, we’ll figure that out as we go. But that linkage needs to be made right away and in my humble opinion, so that we become kind of the unified group as a resource to whatever is going on. ... As soon as I call you, we are connected. We now share everything. I need to understand the resources that are available to the communities. You need to understand situational awareness and that runs up and down the chain of the organization, you can call it the chain of command, whatever you want to call it, but I think that once we unify the different toolboxes available and that as we go up the chain, those toolboxes become a linked commodity. So at that point, we should all be working together seamlessly to understand situational awareness and to deal with it as a group rather than as an organization. We all bring an asset to the table. We all have the ability to move equipment and resources. ... However, the idea of linking us together in a live environment is something that I’m hearing isn’t happening. And I don’t understand why. That unified command piece should be open.” Nunavut Emergency Management member, Arctic SAR Exchange 2023.*

5.11 Limited Collaborative Training, Experience, and Interaction = Lack of Comfort

Community responders at the exchange explained that for many Northerners placing the initial call to the JRCCs or other agencies of jurisdiction can be extremely nerve-racking and uncomfortable. Many are concerned about being judged and criticized: for their management of the search, how they pass along information, if they cannot answer specific questions, even for their English language skills. “I think for some people, it is just easier to go ahead and do a search, than to make that call to the JRCC or some other government group. That can be a really hard call for some people to make. If you’ve never talked to the military or the Coast Guard before that can be really intimidating,” explained one coordinator from Nunavut. Changes in the staffing at NEM, NPS, RCMP, Canadian Coast Guard, and the JRCCs means that when community and government responders are able to develop a good relationship with an individual contact, it might not last for long. Constantly dealing with new people disrupts continuity and can impede SAR operations.

Additionally, it is a challenge for some community responders to speak effectively to the JRCCs, and to understand SAR partners more generally, given the specialized jargon often involved (particularly with the military). During SAR operations, many community responders also refer to geographic features by

their traditional Indigenous placenames, which personnel at the JRCCs and other agencies of jurisdiction rarely understand.

These challenges highlight the need to increase opportunities for joint training and exercises between community responders and their government partners, particularly in the JRCCs.

- *“I know a lot of communities talk about JRCC, very intimidating, calling in and it’s recorded, very official language. After about 30 seconds it really does become a conversation. You get over that hike and it’s OK.” - Community SAR Coordinator, Nunavut, Arctic SAR Exchange 2023.*

5.12 Communities Choosing to “Go it Alone”

Given the barriers to collaboration, many communities have chosen to handle marine and ground searches solely at the local level. Until recently, for instance, much of Nunavik’s fast rescue fleet (created after the 2003 Ungava Bay Tragedy) has operated independently from the broader SAR system, responding to marine SAR cases on federal waterways with no contact with or support from the JRCCs and Coast Guard.⁶ Several community responders highlighted that this approach allows them to avoid red tape and bureaucracy, sidestep confusion over jurisdiction, and remain in control of searches. But, it is also the outcome of the inadequate understanding of community SAR capabilities held by government partners, as well as the limited provincial/territorial and federal SAR infrastructure and capabilities in the region.

Some communities have been “going it alone” at the local level for so long that the idea of communicating and coordinating with higher-level jurisdictions during a search and giving up local autonomy and control is difficult. Several exchange participants suggested that there was a need to formally determine how to balance this desire for local control and decision-making with the more official rules and demands that come with federal involvement (such as the requirements around “authorized taskings”). Other community responders, however, who had worked more closely with the JRCCs on recent marine cases, reported that they did not feel as though this collaboration had led to a loss of local self-determination during searches.

One side effect of this tendency to “go it alone” is that the high number of SAR cases that community responders face is not reflected in the official record. SAR cases in Nunavut and Nunavik are often not reported to the responsible government agency, which means that search and rescue data for the region,

⁶ As one Nunavik roundtable participant explained, the Ungava Bay Tragedy forced Nunavimmiut to “go their own way and look after themselves.” In 2004-2005, the Kativik Regional Government and Makivik Corporation partnered to spend \$3.5 million on fast rescue craft for each of Nunavik’s 14 communities, which greatly increased their marine SAR capabilities. After this, the KRG and Makivik also worked together to fund boat shelters for each community and provide training to over 80 captains and operators in the span of two years. This was a unique investment – a regional government in Canada going to this length to provide marine SAR services on federal waterways. For years, efforts to establish the Auxiliary in Nunavik were marked by the absence of dedicated funding to bring units online, as well as by the unilateral imposition of Southern CCGA rules that failed to account for Northern realities (such as refusing to allow crew members to carry firearms in rescue boats for predator control). The transition was further hampered by requests that vessels be upgraded and retrofitted with no additional support provided, a lack of administrative support, and siloed training practices that simply did not work.

which guides SAR planning and is used to justify the allocation of resources at the federal level, remains incomplete and inaccurate.

- *“I’ve always felt that within the region that the most highest percentage of success is Inuit taking care of Inuit. The frustration of having to deal with the bureaucracy and the jurisdiction and everything else and prosecution of an event and understanding the restrictions ... can’t go in, policy says this, policy says that.” Nunavik community responder, Arctic SAR Exchange 2023.*

6. Recent Developments Improving Collaboration

While barriers to collaboration dominated the conversation at the exchange, all involved noted that recent years have brought positive developments that have improved collaboration in Arctic SAR. These developments include:

- Over the last few years, government officials and community responders have observed greater efforts by the Coast Guard at community engagement, relationship building, and maintaining long-lasting partnerships with communities, municipal governments, Nunavut Emergency Management, and Kativik Civil Security. The Coast Guard’s community engagement and relationship-building efforts have been bolstered by the fact that it has been the same people carrying out these activities throughout the year (not only during the summer months) and for extended periods of time.⁷
- The Coast Guard has leveraged its relationship-building activities to facilitate the expansion of the Coast Guard Auxiliary in the region. In 2015, only nine communities North of 55 possessed Auxiliary units and three of these struggled to remain operational. By 2023, however, eleven units existed in Nunavut, while the fourteen fast rescue craft in Nunavik were in the process of converting to Auxiliary units. These CCGA units are fully integrated into the SAR system, ensuring that the cases to which they respond are captured in the official record and, more generally, providing a great boost to collaborative SAR efforts. In laying out its mission and mandate, a draft Coast Guard Arctic SAR Project report explained that “developing Auxiliary capacity represents an opportunity to marry the strengths, skills, and knowledge of the CCG SAR framework with the strengths, skills and knowledge of the Arctic coastal communities with centuries of local experience.”⁸ Armed with advanced training, reliable boats, their knowledge of local geography and environmental conditions, and the ability to work with the JRCCs and other federal SAR assets, Auxiliary members can effectively and safely deliver SAR services. Further,

⁷ In 2015, the Coast Guard had a team of three members dedicated to search and rescue in the North, and it often had to focus only on large population centres. The team now has over 30 members – including Nunavummiut – focused on improving SAR services across the Coast Guard’s Arctic Region, including in the smaller communities.

⁸ Canadian Coast Guard, Draft Report: Canadian Coast Guard Arctic Search and Rescue Project, n.d., Access to Information and Privacy (ATIP) Request A-2019-00023-DQ-Final.

they serve as a mechanism through which to integrate the Inuit Knowledge of community responders into the broader SAR system.

- Several exchange participants from Nunavut suggested that recent community visits by NEM personnel – the first they can remember – were critical to strengthening relationships and improving collaboration during searches.
- In recent years, JRCC personnel have attended past Nunavut and Nunavik SAR roundtables and other meetings of community responders in the Arctic. Further, one of the suggestions coming out of the 2022 Nunavut SAR Roundtables was that the JRCCs and NEM should start a formal personnel exchange program to foster communication and cooperation, as well as to teach participants how each organization operates. JRCC Trenton and NEM implemented this recommendation in the summer of 2023, with an RCAF officer spending a few days at NEM’s office in Iqaluit.
- The Canadian Armed Forces and Coast Guard have also worked to expand the amount of Arctic material and Indigenous knowledge covered in the Search Mission Coordinator course. The exchange underlined the value of this initiative and JRCC Trenton pledged to expand these efforts.
- Several community responders at the exchange highlighted that it has become easier to work with the JRCCs in recent years – there seems to have been an “attitude shift almost.”

Exchange participants noted that these were all positive steps in the right direction, although much work remains to be done to build and sustain key relationships, particularly between community responders and their government partners.

- *“Working closely with JRCC, it has improved since the first search and rescue I did with JRCC back in 2003. To the one that I did last year or this summer, I should say, this past summer, it’s changed a lot. So the ball is rolling, we just have to fine tune it and put it in proper channels, proper means.” - Community responder, Nunavik, Arctic SAR Exchange 2023.*
- *“Something we’re going to look at, is a big one, is the inclusion of an Arctic specific portion of our Search Mission Coordinator course. We’re going to need the help of one of you all to come to Sydney to give that local information, local knowledge, local treatments, tradition, things like that.” - JRCC Trenton member, Arctic SAR Exchange 2023.*
- *“I wanted to mention that something that I’ve done on the public affairs side is that if we have missions in the Arctic, I’ve asked the public affairs team in Winnipeg to translate those on X/Twitter into, because we have to translate into English and French, but also to do Inuktitut. So we’ve got different, we’ve got Western and Eastern dialects and a few things, so they may not be perfect, and I apologize in advance, but the idea is we’re trying to be inclusive and to make sure*

that is being communicated in your traditional languages. So that's a thing that we're trying to do. Again, as we get those missions, we'll try to make that happen. It means that we'll likely see an extra day before they get reported on the website because of that but it's a big thing.” - JRCC Trenton member, Arctic SAR Exchange 2023.

7. Moving Forward

Exchange participants made several commitments and suggestions aimed at improving SAR collaboration in the Arctic:

7.1 Fixing the Broken Telephone

JRCC Trenton personnel at the SAR exchange explained that they would work to address the “broken telephone” issue raised by community responders. They suggested that the first thing community responders should do when they make a call to the JRCC is list the agencies they have already contacted. Using this as a starting point, JRCC Trenton will open a case file, contact the necessary government partners, and/or initiate a group call to determine which agency has jurisdiction, allowing community responders to focus on their search efforts. As one member of JRCC Trenton explained, “For that broken phone tag, going back to that first comment, to the first real big issue. That’s been a big issue on all the Roundtables that we’ve been to. If in doubt on who to call, call RCC. Really. We can be the first point of contact and we’re going to work on that whole run-around that you got. So you shouldn’t be handed off to anybody. In fact, we can do that handing off and the phone tag for you. So when you go out on the land and doing your missions, we can be that support back there.”

- *“Sometimes when we get calls, we don’t know how many calls have been made. Let’s be honest about that. And so I think that a good way to move forward is that if your first call for example was NPS, the next call that you make, for everybody, you should start with ‘I’ve already called NPS’ and then the person on the phone doesn’t think that they’re the first call, right? That’s, I think that’s really important because I don’t want anyone on my team with bouncing people around.” - JRCC Trenton member, Arctic SAR Exchange 2023.*
- *“Like sometimes we, like, for example, we have to give it to Halifax because it’s Halifax’s region, like it’s going to be their response. That’s not something that I can get away with, but we take all of the information, we open the case, we take all of the logs and then we just transfer the case so it’s not like you have to necessarily repeat everything. OK, the log is there. We push it over and then they can see that when they open it.” - JRCC Trenton member, Arctic SAR Exchange 2023.*
- *“But what I want to say here is that if you feel like you’re getting that, that bouncing around, like I don’t want my team to be doing that. So ... if the second call that we get for example is, you know, yourself saying ‘hey, I’ve already spoken with NPS and they told me to call you,’ OK. Like we can take that and then, you know, it may mean that we turn around to the Province and say ‘this is*

your case, we want you to task on it.’ But we can do that, right, like we can be that focal point. We can be the ones and again, if you call the RCC, we’re not going to hang up that phone, right, we don’t just discard the case. We don’t do anything like that. Like we are that, essentially. We might even be underutilised in that role in some ways. So I don’t think that there’s any harm in that. I just have to go back and unfortunately there are things that I’m limited by right, like I need the request sometimes to come from the Province. There’s no reason that we can’t just add them into the phone call and have that like joint conversation. So I said earlier, like the way that we do it for flying where we have like a group call. We could make that a thing like why don’t we push towards doing that?” - JRCC Trenton member, Arctic SAR Exchange 2023.

- *“I’m not trying to step on anybody’s toes, right? Like that’s the other side of this is that I, you know, like if you have to go through NPS that’s not something that that I’ve added, that’s not something that I’m asking for you to do. That’s just something that exists. So if that doesn’t work then, you know, reach out and figure it out to fix that. And then it takes out one person in that chain, right? If you can reduce the chain, it’s great. And so my point is, if the easiest thing is to call the RCC, we do a group call and then I’m, you know, NEM, for example, is on the line. And it’s like, ‘Hey, there’s a disagreement over who’s got the case. All right. One of us is going to take it whether we task or you do, what’s the easiest method? Let’s do that.’ I think that that maybe is a step forward, a way to enhance the communication and if it doesn’t work, we’ll meet again and we’ll figure it out and we’ll go from there.” - JRCC Trenton member, Arctic SAR Exchange 2023.*

7.2 Exploring Creative Solutions and Flexible Approaches

Exchange participants insisted that government SAR partners must continue to develop flexible policy, programming, and training approaches designed in the North, for the North, that facilitate multi-level collaboration. A good real-world example raised at the exchange was the practice of finding creative ways to task CCGA units to support GSAR operations, or to provide coverage for higher risk community events (such as whale hunts), or to be on the water during recovery efforts. Often, these taskings are provided as training or familiarization opportunities – a flexible approach that respects mandates, but that recognizes the needs of Northern communities. As one CCGA member noted, “A piece of paper shouldn’t stand in the way of doing something right.”

Exchange participants also highlighted the need to adopt innovative approaches to training and exercises that would enhance the interoperability of community responders and their government partners. Training practices that work in the South may not be suitable for the North, noted community participants, so Northern-specific programming should be developed that reflects the unique environment and requirements of community responders. Training and exercise ideas raised at the exchange included:

- continuing to embed JRCC personnel with NEM and other agencies of jurisdiction for joint training
- providing territorial/provincial and community SAR practitioners with opportunities to take the “Assistant SAR Mission Coordinator” course

- embedding JRCC or RCAF personnel in community GSAR team or Auxiliary units
- sending JRCC personnel with CASARA personnel when they deploy North to assist with training activities
- sending JRCC personnel with Coast Guard and Coast Guard Auxiliary personnel when they are conducting community training to provide community responders with the chance for face-to-face training interactions.
- deploying SAR personnel with JTFN during Nanook exercises to conduct mini-exercises
- providing community and government responders with access to SmartICE training

Currently, exchange participants explained, there is little to no formal coordination between the different government agencies responsible for providing SAR training. A creative solution would be for these agencies to synchronize training schedules and develop synergies between their independent efforts. For example, if Coast Guard personnel are training a community's Auxiliary unit on how to work with the JRCCs, they should invite the GSAR team to participate in a joint exercise. Linking the training efforts of government agencies in this manner is a straightforward, but innovative solution that will improve collaboration, realize cost savings, and improve efficiencies.

One creative solution to the capability gaps that exist in Northern jurisdictions, exchange participants suggested, would be to make agreements or memorandums of understanding that would allow the JRCC to provide more regular assistance to humanitarian SAR operations in the region.⁹ JRCC personnel – making no guarantees – suggested that with better data on the number of cases in the region, their severity, and when they occur, consideration could be given to pre-positioning primary SAR assets to provide coverage during high risk periods or events.

Exchange participants suggested further consideration also be given to basing rotary assets in the North, even on a seasonal basis. They argued that different metrics should be used to justify such a deployment, including the harshness of the environment, the fact that many Northerners have to go out on the land to travel, work, and feed their families and require a safety net, and even Arctic sovereignty requirements.

- *“SAR is different in the North. We can't just do things the way they are done in the South. Almost everything is different, so we need to do things differently.” - Community responder, Nunavik, Arctic SAR Exchange 2023.*
- *“Yeah, there's absolutely some room for that and we issue taskings for those community events all of the time. Sometimes they're on-the-water tasking, sometimes it's a community application tasking that the unit can get a tasking to do some water safety, boating safety before, at the*

⁹ Similar conclusions were drawn in the [final report](#) of the Public Inquiry Respecting Ground Search and Rescue for Lost and Missing Persons, in response to the Burton Winters case. Justice J. Igloliorte recommended that, “The Commissioner therefore recommends that the Government of Newfoundland and Labrador, in consultation with the Government of Canada, seek to arrive at a Memorandum of Understanding (MOU) so that the Government of Canada helicopter resources are made available to support ground search and rescue operations in equal priority to their support for aeronautical and marine search and rescue operations.”

beginning of the season for instance, and we get those requests. And we approve those requests separate from the search and rescue. It's a tasking that's issued so that the community can get reimbursement for those types of activities and we encourage that. You know, if we know that it's going to be a busy harvest season and we know that in the last few years we've had searches, we can have a boat on the water at that time. Because it's an important event for the community and we know that typically this is, you know, they're not in a search task but they are there to support and they're on the water doing those types of activities. So yeah, those things can occur. You know the caution is that anytime we have a vessel tasked, that resource becomes then allocated and the RCC can't ask them to do something else, if they're already in a task and doing something different, right? So. If the main mandate is SAR, which it is, then that's what we want to be supporting. But there's lots of ways to support SAR." - Coast Guard Auxiliary member, Arctic SAR Exchange 2023.

- *So that doesn't mean, it means that they haven't been tasked to do a SAR it doesn't mean that they can't have a tasking number, so tasking number can also be issued by myself if they were to do some training on the water that day, there's an opportunity to support that, and it's within our structure, it's within our organization and there is an avenue for that that you know, I know that they're going to do some training on the water that day and they may come across somebody who ran out of fuel and they may be able to help that person. And that would be a really great thing while they're training to have that happen. But I understand that our that our funding agreement with Coast Guard, our insurance policies, our parameters also have provision for me to do training, also has provision for me to do on-the-land familiarization. You know you can take elders on the boat, because they're subject-matter experts, you can do towing exercises. You can do navigation exercises. All of those things are possible, right? So it's just how that tasking gets allocated and if that fits, that doesn't mean it's a free for all you know, we're not in the business of doing certain activities, but we are, we do have to train. We very much have to get some hours on the boat. We do have to familiarize the crew and I would much rather see our boat on the water and the crews getting the training and getting the experience and getting the knowledge under an umbrella where they're covered and have insurance, than to be tempted to take the boat off the dock without insurance, without coverage, without fuel, without resources. The worst possible scenario is that the community has an urgent event and might be sitting on the dock because of a policy problem that really, the community could care less about it. That's a me problem. That's not a community problem. So by involving people within our organization, we can often help find the solution that will get you involved and on the water. Are you doing a search and rescue? No, but you might do some training that day. And that's OK. And that's not coloring outside the line, that's not breaking rules. It's understanding that the tasking from RCC is specific to search and rescue. But we do have provision to do other things within the umbrella that are all OK. They're all allowed, they're all transparent and we need to, but we need to communicate that and it doesn't happen if I don't know about it. I can't issue tasking, I can't help the community because I don't have visibility to it. Then the boat sits on the dock and everybody's frustrated, myself*

included when I hear about it two weeks later that we didn't go or we didn't help or we didn't contribute to an event. - Coast Guard Auxiliary member, Arctic SAR Exchange 2023.

- *“So my point to all of you is, if you've got a great idea, like tell somebody because if you if you've got something that can that come up like push it up and we'll see where it goes and, you know, we'll do what we can and like, I don't know, I'm not trying to sell, you know, hope or anything like that, but like we're very committed and we try our best. I think you know conversations that we've had and so I mentioned it because if it's something that you need. Let's talk about it.” - JRCC Trenton member, Arctic SAR Exchange 2023.*
- *But the comment about the stats that you're building, the reason that stats are so important, is that if I look at Nova Scotia down here, this cluster of dots over a 7-year period is really close to five thousand, ten thousand dots. It's a lot more than you would think. But we also know because there's fishing seasons and fisheries that open, and so the squadrons that are in that vicinity, also launch in advance of those fishing seasons, so that they're airborne and ready because we know historically that there's going to be a number of cases exactly in that moment, on that date and so I bring that up because one of the things that I have as a mechanism as the officer in charge is that I can move search and rescue assets around my region depending on sort of you know, what I think is coming, and so why important knowledge and data is crucial is that if we go through monthly and we find that hypothetically, in the month of June in, you know, in your community we see 100 incidents. Well, if we see that year after year, we could potentially put a resource much closer to you to train and to do some stuff in that area. And they're kind of there for that one thing. Now what I want to qualify is that again, scarce resources. I have three airplanes that I can use so I can't send something to every place that we go. That's why we do data analysis so we can go through it and we can kind of pick those things up. So for example, in Nova Scotia with the giant fishery season, they've got 1000 boats on the water. They know that of that thousand boats, they're going to have emergencies, absolutely, right? So it's scalable. We can do different things. And again, I'm not trying to promise anything with this, but I'm saying that getting the data, getting the information is crucial because it helps us to build this map and our knowledge of what may be coming.... So if there are events that are happening and again with climate change and different sea ices and you know, seasons are changing, if the risk is moving from June to May, we need to know about that, right? So as we capture all of that information, it's incredibly important. And with cruise ship seasons and things like that, like, those are all very important pieces that we have, that we have to keep sort of tabs on, right? - JRCC Trenton member, Arctic SAR Exchange 2023.*

7.3 Developing the Structures Required to Sustain Relationships and Share Information

Many of the barriers to collaboration identified during the exchange could be addressed through stronger relationships. Effective SAR cooperation, coordination, information sharing, and communication will only flow out of strong relationships, trust, and equal partnerships. When territorial and federal

practitioners and policymakers have made greater efforts at relationship building in the past, they have improved search and rescue in the North. These efforts have, however, been too ad hoc, intermittent, and short-lived. While current governmental efforts to improve working relationships, including through more face-to-face visits and better information sharing, are promising, they, too, could fade with changing personnel and priorities. Formal structures, however, would help to sustain, integrate, and improve these efforts.

Continuation of the regional SAR roundtables and the Arctic SAR Exchange would represent a good starting point, providing venues for community responders to build relationships, voice their concerns, and share best practices and lessons learned with each other and their government partners.

Academic participants at the SAR exchange suggested that Nunavut, Nunavik, and the NWT should also establish SAR Advisory Councils made up of the key actors involved in search and rescue operations in their respective jurisdictions, including non-governmental organizations (such as SmartICE) and the private sector. These councils would be responsible for high-level discussions pertaining to reviewing and revising policies, establishing standards, working through key jurisdictional issues, identifying key resources, and developing solutions to core challenges. While GSAR should be their primary focus, aerial and marine SAR partners could also be invited to participate.

Finally, several exchange participants suggested it was time to re-establish the Northern SAR Roundtable (which operated from 2010-2016). This high-level working group, made up of practitioners and policymakers, proved useful for developing best practices, strengthening the collaborative relationships required for SAR operations across the North, and sharing information as well as operational challenges and solutions. Its re-establishment would allow for regular meetings between the key actors engaged in SAR in the Arctic (including the directors of a Nunavut SAR association, if created) to work through the coordination and cooperation challenges that can impede SAR operations. The roundtable would work to better integrate efforts, creating efficiencies and synergies that would improve the system in a cohesive manner.

Through these formal structures, responders could address many of the specific challenges outlined at Arctic SAR Exchange 2023.



Nunavut participants: Tony Comella, Blaine Heffernan, Kaviq Kaluraq, Savanna Moore, Angulalik Pedersen, Bobby Klengenberg, Andrew Arreak, Daniel Kablutisiak, Valerie Qaunaq.



Nunavik participants: George Kauki, Michael Cameron, Craig Lingard, Kris Tukkiapik, Jeff Gordon, and Tony Annack.

Arctic SAR Exchange 2023 ended on a note of optimism. Community and government practitioners recognize that collaboration in Arctic SAR is slowly improving. Exchange participants emphasized the need to maintain this momentum and suggested another exchange be held in the near future, with responders from jurisdictions across Canada's North. The organizers of the exchange pledged to act on this request.

In the meantime, the organizers of the Nunavik SAR Roundtable present at the exchange were able to announce its next meeting, scheduled for April 2024. In line with the challenges identified during the exchange and previous roundtables, the meeting's focus would be on developing the standard operating procedures and guidelines that will distill complex processes into step-by-step instructions, ensure everyone knows their roles and responsibilities, create efficiencies, facilitate cooperation and coordination between different agencies and communities, and make searches safer.

- *“This is the first example, I think, for search and rescue at least, where we’ve had Nunavummiut, Nunavimmiut, responders from the NWT, kind of together, sharing their knowledge sharing their information, sharing their wisdom, and so I find this very exciting. I’ve learned so much over the last couple of days. I appreciate everyone for their openness, their willingness to share. I really thank [JRCC personnel] for opening up your to us, letting us come see the RCC. I really appreciate the community responders, you all opening up your world to us and helping us to try to understand. And what I think we’ve started to do a little bit is bring those worlds together, right, a bit more than they used to be. And I think if we can keep on doing that, right, making sure that there’s these barriers, these artificial barriers, we keep breaking them down, I think we’re going to start seeing more successful searches, easier searches, right? Less phone tag. So I’m excited by the cooperation, the coordination that I see forming, improving over the last few years, also being carried forward from this meeting.” - Peter Kikkert, Organizer, Arctic SAR Exchange 2023.*
- *“So I’m excited to be around this again this year. It really touches home for me, I’m really grasping everything ... we’re going slowly, which is better than rushing and saying, “OK, here’s the document. That’s it, that’s all.” - Michael Cameron, Salluit Search and Rescue, Arctic SAR Exchange 2023.*
- *“It’s the sustained attention that’s the difference here. We can’t just have a meeting and we’re done, ‘let’s move on,’ you know. The problems are too big. Too complex. We need to make progress on all of this, and the clock is ticking. But having the roundtable, then the SAR debriefs, the Trenton exchange, and the SOP workshop in just over a year. That’s progress. That’s what’s needed.” - Craig Lingard, Director, Kativik Civil Security, Arctic SAR Exchange 2023.*

About the Authors

Peter Kikkert is an Associate Professor of Public Policy and Governance at St. Francis Xavier University. He is the academic lead for the Nunavut-Nunavik SAR Project, and co-organizer of the Nunavik and Nunavut SAR Roundtables. He is a volunteer searcher and team leader with the Strait Area Ground Search and Rescue (SAGSAR) Association in Nova Scotia and serves on its Board of Directors.

Ian Belton is a Lecturer at the University of Strathclyde. His research expertise centres on supporting and enhancing human judgment and decision making at both individual and group levels. He has conducted decision-making research in a range of applied contexts including strategic management, risk and reliability evaluations, the criminal justice system, and the defence and security sectors.

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Arctic SAR Exchange 2023 Participants

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Noella Cockney	Canadian Coast Guard Auxiliary Unit Leader Community: Tuktoyaktuk *Could not attend in person due to illness
Robert Wilkins	Arctic Director, Canadian Coast Guard Auxiliary / Canadian Ranger Community: Hay River

Nunavut

Angulalik Pedersen	Canadian Coast Guard Auxiliary (leader and trainer) / Ground Search and Rescue Coordinator / CASARA / Canadian Coast Guard Arctic Region Community: Cambridge Bay
Savanna Moore	Canadian Coast Guard Auxiliary / Ground Search and Rescue volunteer Community: Cambridge Bay

Bobby Klengenberq Ground Search and Rescue volunteer
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*Could not attend in person due to medical travel

Baba Pedersen Canadian Coast Guard Auxiliary / Ground Search and Rescue Coordinator /
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Kaviq Kaluraq Ground Search and Rescue Coordinator
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Community: Arctic Bay

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Blaine Heffernan Acting Director, Nunavut Emergency Management
Community: Iqaluit

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Jeff Gordon Canadian Coast Guard Arctic Region / Fast Rescue Boat Crew
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Tony Annanack Ground Search and Rescue volunteer / Fast Rescue Boat Captain
Community: Kangirsualujjuaq

Charlie Kumarluk Ground Search and Rescue volunteer / Fast Rescue Boat Captain

Community: Uumajuit

*Could not attend in person due to flight cancellation

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Sgt. Rob Featherstone Joint Rescue Coordination Centre Trenton

Chris Armour Joint Rescue Coordination Centre Trenton

Sgt. Luke Smith Joint Rescue Coordination Centre Trenton

*Several other JRCC Trenton personnel and 424 Squadron members participated over the course of the exchange, providing briefings and sharing their viewpoints.

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