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The Imposing Incoherence of Canada's Aeronautical SAR System

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Major Stephen Reid

The Imposing Incoherence of Canada's Aeronautical SAR System

THE IMPOSING INCOHERENCE OF CANADA'S AERONAUTICAL SAR SYSTEM

INTRODUCTION

The aeronautical component of Canada's National search and rescue (SAR) system is incoherent and imposing. It is incoherent because it responds formally to only two of three types of SAR distress. It is imposing for the lack of congruent policies and best practices that would extend similarly to those who respond primarily to non-federal distress, or as a supplement to the RCAF, using aviation resources. Incoherence leads to untimely and sometimes ineffective response. Imposition creates circumstances where anyone outside the RCAF is not offered similar protection against liability or similar access to best practices that would otherwise provide a common baseline for personal safety, readiness, and capability. Incoherence costs lives. Imposition risks lives and livelihoods.

To the contrary, armed with the full legislative support of the Government of Canada, and clinging to the now antiquated context of a mandate described 75 years ago, this paper argues that the RCAF is failing Canadians by dismissing its institutional obligation to contribute more comprehensively to the National aeronautical SAR context. Today's aeronautical SAR system offers timely and effective advantage only to those who fall victim to aviation-related and maritime distress, and only to those who wear RCAF epaulettes. Other victims wait while the system deliberates its aviation response, and all other responders using aviation resources operate at their own risk.

HISTORY

In 1944, Canada became signatory to the *Convention on International Civil Aviation*.[1] Article 25 of the 'Chicago Convention' provides a foundation for the responsibility to respond to aircraft in distress and to provide facilities to coordinate these efforts.[2]

Recent WWII experience in Air/Sea rescue and already having an inventory of fixed wing aircraft stationed at strategic locations across the country gave reason for the government to select the RCAF as lead agency. On June 18, 1947, Cabinet made it official by assigning 'the primary responsibility for the provision of aeronautical SAR services and the effective operation of the coordinated aeronautical and maritime SAR system' to the RCAF.[3] In 1951, Cabinet further delegated the responsibility for maritime SAR coordination to the RCAF. In 1958, Canada likewise became signatory to the *Convention of Safety of Life at Sea* (SOLAS) which led to the establishment of the Canadian Coast Guard (CCG).[4] Once formed in 1960, the CCG was assigned the primary responsibility for the provision of the maritime component of the federal SAR program.[5] Eventually, to establish a single spokesperson for the government on overall search and rescue (SAR) matters, the Prime Minister, in December 1976, identified the Minister of National Defence as the Lead Minister for SAR (LM–SAR). This was reconfirmed in 1982 and again in 1986 by Cabinet in the aftermath of the tragic sinking of the Ocean Ranger.[6] Interestingly, despite historical affirmation, and the findings of the Royal Commission that

[1] B-GA-209-001/FP-001, Canadian Aeronautical and Maritime Search and Rescue (CAMSAR) Manual, Volume I, Organization and Management, September 2020, Chapter 1, 1.03.1.
[2] Convention of International Civil Aviation. Chicago Convention. Article 25. https://www.icao.int/publications/Documents/7300_orig.pdf
[3] Ibid. 1.06.1
[4] Ibid. 1.07.2.
[5] Ibid. 1.07.3.
[6] B-GA-209-001/FP-001, Canadian Aeronautical and Maritime Search and Rescue (CAMSAR) Manual, Volume I, Organization and Management, June 2000, Chapter 1. 1.7.

raised concerns about the coordinated effectiveness of the ensuing response and the effective range/capabilities of RCAF SAR helicopters, the MND is no longer identified as LM SAR in the most recent B-GA-209-001 CAMSAR manual.[7]

The history of Canada's commitment to the aeronautical component of its national SAR system is important in the context of the argument of this paper for several reasons. First, as scrutinized through a constitutional lens, the federal government was/is primarily concerned with the response and coordination of incidents related to Section 91 of the Constitution Act. These incidents include aviation-related and maritime distress because flight plans have the potential to cross provincial/international borders and because maritime incidents occur on oceans and waterways that do not penetrate provincial jurisdiction.[8] All other forms of distress are categorized as 'ground SAR' (GSAR), or 'humanitarian' incidents and fall under Provincial/Territorial (P/T) jurisdiction.[9] Second, the potential for rescue by helicopters only started to be realized just when inaugural SAR responsibilities were first being considered.[10] Few could have imagined the potential for how today's SAR helicopters now provide incredible means for timely and effective response. Likewise, few could have imagined the many more adventurous mechanisms of distress, un-related to an aircraft or a ship, can lead to today's most challenging GSAR scenarios. Teams responding are often challenged to respond in a timely and/or effective fashion when responding on foot. Finally, there is a certain ambiguity in terms

[7] Ibid. September 2020, 1.05.1.
[8] Canada, The Constitution Acts, 1867 to 1982. https://laws-lois.justice.gc.ca/eng/const/index.html
[9] B-GA-209-001/FP-001. 1.02.6.
[10] The first helicopter rescue performed in Canada occurred 35 kms south-west of Gander, NL in response to a Sabena Airlines crash on 18 September 1946. Two helicopters from the United States were disassembled and transported in the back of C-54s, to be reassembled and then flown over the course of three subsequent days in the rescue effort that saved 21 crash survivors. https://www.cbc.ca/news/canada/newfoundland-labrador/sabena-plane-crash-70-anniversary-1.3765944

of what the RCAF mandate implies when it states 'for the provision of aeronautical SAR services.' Whereas the Canadian Aviation and Maritime Search and Rescue (CAMSAR) definition points clearly to the response to aviation-related incidents,[11] some might argue that today's interpretation provides sufficient wiggle room to include oversight of the aviation response to all forms of distress.

To summarize, this brief historical reflection explains how the constitutional demarcation, a failure to acknowledge and adapt with revolutionary change, and an ambiguous definition, have each contributed to a foundation of aeronautical SAR system incoherence.

LEGISLATION, REGULATIONS & ORDERS

Signatory status to international conventions provided Canada with coherent motivation to create an aeronautical and maritime SAR system. Legislation has since been developed to provide a complementary foundation of prevention by forming the regulatory basis for safe and effective civil and military aviation and maritime operations in Canada. But it is important to note that neither the Aeronautics Act (AA)[12] nor the Oceans Act (OA)[13] provide a formal foundation for aeronautical and/or maritime SAR response and coordination. To understand how Canada meets its international obligations for aeronautical and maritime response and coordination, stakeholders refer to the CAMSAR manual.[14] To understand more specific tactics, techniques,

[11] B-GA-209-001/FP-001. Glossary of Terms. Section C-0.6 (E), Page 1 of 20.
[12] Canada. Aeronautics Act (R.S.C 1985, c. A-2), Last amended 18 December 2018. https://lois-laws.justice.gc.ca/eng/acts/A-2/
[13] Canada. Oceans Act (S.C. 1996, c. 31). Last amended 30 July 2019. https://laws-lois.justice.gc.ca/eng/acts/o-2.4/
[14] B-GA-209-001/FP-001.

and procedures (TTPs), stakeholders must further explore of a variety of internal departmental regulations and orders.

Internally, National Defence Flying Orders are issued by the Comd of the RCAF under the authority of the Chief of the Defence Staff (CDS).[15] Comd RCAF is also responsible for strategic SAR policy.[16] Operationally, the Commander, Canadian Joint Operations Command (CJOC) is responsible for the coordination, control and conduct of SAR operations and operational level SAR policy.[17] The Director General of Aerospace Equipment Program (DGAEPM) is the technical airworthiness authority (TAA) for the department. The TAA produces the rules, standards and guidance documents required to support DND/CAF organizations that conduct airworthiness-related activities and need to maintain or develop their processes and/or procedures.[18] The Commander of 1 Canadian Air Division (Comd 1 CAD) is the operational airworthiness authority (OAA). In addition to airworthiness policies, regulations, orders, and standards, the OAA is also responsible for all standards of safety for air operations and associated aeronautical products, including aerospace control, aircraft utilization, aviation weather, aerodromes, aircraft maintenance, operator, controller and maintainer training and proficiency.[19] At Wing/Squadron level, standards evaluation teams (SET) and experienced personnel safeguard a common operating standard. SET visits and standards conferences occur

[15] Canada, Department of National Defence, B-GA-100-001/AA-000. National Defence Flying Orders, Book 1 of 2, Flight Rules. 2018. Cover page.
[16] B-GA-209-001/FP-001. 1.06.3.
[17] Ibid. 1.06.2.
[18] https://www.canada.ca/en/department-national-defence/services/military-airworthiness/technical-airworthiness-authority-overview.html
[19] https://www.canada.ca/en/department-national-defence/services/military-airworthiness/operational-airworthiness-authority-overview.html

regularly to consider the validity of training/currency requirements and to discuss trends and other tactical issues with an eye towards continuous improvement.

Doctrinal coherence weaves together the why (strategic), the how (operational), and the how best (tactical) to achieve the SAR mission in a safe and effective manner. All TTPs have been considered in the context of the mission and are acceptable in terms of level of risk, according to the issuing authority. To operate in absence of such a framework places the operator at their own risk because uncorroborated TTPs might not be well suited to the task and therefore, may not guarantee a safe or successful outcome.

Despite the coherence of the DND regulatory framework, the CAF formally recognizes that it is impractical to describe all possible scenarios and to mitigate all possible risk. Orders have thus been written to support tactical decision-makers when faced with uncommon circumstances. For instance, the B-GA-100-001/AA-000 National Defence Flying Orders states, "temporary exceptions to these orders are authorized when an emergency exists, or for the protection of lives".[20] The RCAF Flight Operations Manual (FOM) reiterates this message when it states that "a common-sense interpretation of the FOM is expected. No set of Orders, however comprehensive, can provide for every situation that may occur".[21] Finally, the Air Mobility CH149 Cormorant Standard Maneuver Manual (SMM) is most articulate as it explains…"the SMM does not, and neither will it ever incorporate and describe all possible maneuvers. SAR crews must adapt to the unforeseen situations even if there is no mention of the issues in any publications. During SAR or training operations, it is possible and likely that the crew may be

[20] B-GA-100-001/AA-000, Para 8a.
[21] Canada, Department of National Defence, Royal Canadian Air Force Flight Operations Manual, 2019. Chapter 1, Sub-section 1.1.1.1. Para 3.

faced with new scenarios where they will have to conduct a maneuver using techniques that may differ from what is published in this manual. In this case, it shall be briefed properly prior to conducting the maneuver. The aircraft commander (AC) is responsible for the safety of the aircraft and their crew".[22]

Some RCAF TTPs have evolved through difficult lessons. In 1992, a CH113 Labrador suffered an engine failure during a rescue sequence at high altitude where it was not possible to guarantee safe one-engine-inoperative performance. The subsequent crash killed one crew member.[23] In 1996, an inexperienced CH146 SAR Griffon crew crashed into the ocean when attempting to transition into forward flight, at night, during adverse weather conditions. All members escaped the capsized aircraft and were lucky to survive a frigid night on the coast of Labrador.[24] In 2006, a CH149 Cormorant crashed into the ocean, at night, while transitioning from forward flight into the hover alongside a coast guard auxiliary vessel. A loss of visual reference resulting from sea spray contributed to the crash that killed three of six crew members.[25] On 18 Oct 2008, a Cormorant crew was forced to land on a remote woods trail after the main rotor disk contacted trees while practicing night confined area landings. All five rotor blades were destroyed resulting in a logistically challenging and costly repair in the field.[26] Most recently in 2022, a Cormorant crashed at the Gander airfield resulting in a comprehensive RCAF response by an explosives and ordnance disposal (EOD) team, a recovery and salvage (RAS) team, an environmental spill

[22] Canada, Department of National Defence, SMM 60-149-1000. 1 Canadian Air Division, Air Mobility, CH149 Cormorant Operations Manual. 2017. Foreword, Para 3.
[23] Canada, Department of National Defence. SAR CH11311 Crash Bella Coola, 30 April 1992. (Prior to SMMS)
[24] Canada, Department of National Defence. SAR CH146421 Crash, Labrador, 14 November 1996. (Prior to SMMS)
[25] Canada, Department of National Defence. SMMS Case #H2006-00973, SAR CH149914 Crash, Canso, 13 July 2006
[26] Anecdotal, 103 Squadron response to its own accident. Referred to as Operation Treetop. Gander, 18 October 2008 (no SMMS Case#)

response effort, and an RCAF flight safety investigation.[27] Each of these examples demonstrate the risks involved in both training and operations, particularly at night. Each is justification for why the RCAF generates and postures specialized response teams that are ready to respond to its own worst-case scenarios.

Canada and its DND are not alone when it comes to challenges of alignment and the risks that responders may face when preparing for and coordinating an effective response. The United States Department of Homeland Security (USDHS) and its Federal Emergency Management Agency (FEMA) were forced make extensive revisions to the Homeland Security Act (HSA) of 2002 in the aftermath of Hurricane Katrina.[28] Today, the National Incident Management System (NIMS) provides a consistent nationwide template to enable partners across the Nation to work together to prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location or complexity.[29] NIMS refers to the Post-Katrina Emergency Management Reform Act (PKEMRA), which significantly reorganized FEMA and provided substantial new authority to remedy gaps in response, giving it a much more robust preparedness mission and emphasizes the importance of credentialing personnel and providing a common framework of language and tools that emergency managers at all levels of government use, both routinely and to facilitate multijurisdictional coordinated responses.[30]

From a National SAR system perspective, RCAF SAR TTPs do not apply consistently to those who do not wear an RCAF uniform, and never has any level of government in Canada

[27] Canada, Department of National Defence, SMMS Case #H2022-00246, Outcast149903 Crash, 10 March 2022
[28] United States. Department of Homeland Security. Federal Emergency Management Agency. National Incident Management System. Third Edition. October 2017. p.75. https://www.fema.gov/sites/default/files/2020-07/fema_nims_doctrine-2017.pdf
[29] Ibid. Cover Letter. Signed by Acting Secretary. 10 October 2017.
[30] Ibid. p.75.

recognized a need to issue a similar mandate to any other organization with the intent of developing a common framework for responding to SAR distress using aviation resources. This gap is not satisfied by Transport Canada (TC). TC's is responsible for Canadian transportation policies and programs. In a SAR context TC is responsible for alerting and SAR prevention.[31]

To achieve its mandate, TC issues Civilian Aviation Regulations (CARs). CARS are prescriptive and provide no similar flexibility when it comes to arming its licensees with the authority to deviate. Individuals who might be forced to step outside the constraints of a rule that has not truly been considered for its applicability in a SAR context risk license suspension, termination, and personal liability.[32]

RCAF flying orders align closely with CARs because RCAF and civilian aircraft share the same airspace. However, RCAF crews are issued an RCAF 'ticket' (license) on the authority of the OAA with category endorsements applicable to the specific aircraft type and level of qualification. A SAR pilot for example is rigorously tested at each phase of their apprenticeship and on an annual recurrent basis thereafter. A similar formal process for aeronautical SAR licence accreditation does not exist.[33]

Another dissimilarity separating the RCAF from civilian SAR operators is the authority the RCAF has been given to change its own rules. One such example occurred in 2007 when the RCAF recognized an opportunity to expand the effective range of all RCAF helicopters. By amending the fuel[34] and weather[35] requirements for the intended destination, it no longer was

[31] B-GA-209-001/FP-001. 1.08.3
[32] Anecdotal. Interview with Roger Smith. Civil Aviation Safety Inspector. Transport Canada. 26 May 2022.
[33] Ibid.
[34] B-GA-100-001/AA-000. 3-3/6, Para 12
[35] B-GA-100-001/AA-000. 8-9/12, Para 31

necessary to file an alternate landing aerodrome when conditions were forecast to meet certain minimum criteria. RCAF crews can now allocate more time on scene and fly much greater distances according to instrument flight rules because they do not have to reserve significant quantities of fuel that previously made missions impossible to accept. This extraordinary change dramatically opened access to the north for RCAF helicopters but does not apply similarly to civilian helicopter operators.

SO WHAT?

Someone might argue that this paper has done a pretty good job of disputing its own thesis by describing a remarkably coherent contribution to Canada's National SAR system. So, what is the problem? The problem is that the foundation of coherence that makes the RCAF contribution impressively safe and effective applies to no one else. This wouldn't be such a problem if the RCAF mandate included the primary aviation response to all forms of distress and if the RCAF had resources/infrastructure to respond according to that scope. However, the RCAF SAR establishment has never been considered through that lens.

HOW BIG IS THE PROBLEM?

According to the SAR mission management system (SMMS) which tracks all reports of incidents of distress, there were 134,719 incidents in Canada between 2009 and 2020. Of these, 19,367 were categorized as aeronautical, 77,102 were maritime, and 11,082 were humanitarian. 27,168 were either of unknown category or the category was left blank in the system. Over this same period, RCAF aircraft were tasked 10,561 times for a total of 1,982 responses to aeronautical SAR cases, 3,839 maritime cases, and 2,019 humanitarian cases. 2,724 cases provide no indication of the scope of the distress (false alarms perhaps). From this data, in very

broad terms, the RCAF responds to roughly 1000 distress cases per year, on average. Approximately 20% are aviation-related, 40% are maritime in nature, and 20% are humanitarian. The other 20% are difficult to quantify because of missing information.[36]

With respect to the known cases and trends, there is one important question that is difficult to analyze. If the RCAF is directing roughly 20% of its effort responding to humanitarian cases (2,019 instances of 11,082 known cases), but only as a 'means of last resort', how many more instances of prolonged pain and suffering could be mitigated, or lives might be saved, if all humanitarian forms of distress were automatically considered for an aviation response, similar to federal distress incidents?

The potential to save lives isn't the only question to be answered. An equally important question to answer is… who in Canada has the legal responsibility to mitigate risk, to validate capabilities and to champion the effectiveness of those who respond to distress using aviation resources in a SAR context outside the scope and purview of the federal mandate?

The focus of this paper now shifts from incoherence to the imposing nature of Canada's aeronautical SAR system. Imposing for the potential consequences born by those who agreed to respond, sometimes as volunteers, in response to a life/death situation using their own aviation resources, but without similar formal guarantees of support.

All around the world, civilian companies have been asked to provide essential services by governments at all levels. Medical transportation services and the adaptation of long-lines for

[36] Search and Rescue Mission Management System (SMMS) data, downloaded by Capt. David Burneau, Joint Rescue Coordination Centre (JRCC) Victoria for CJOC SAR on January 20th, 2020. Consolidated by Dr. Jim Chan, Research Scientist, Defence Research & Development Canada (DRDC), 24 May 2022.

high angle rescue are two such examples. In more specialized context, operators in some sectors (namely oil & gas) have felt obligation to provide their own solutions for day/night, all-weather, medevac and SAR services.[37] The process in Canada for companies to expand their aeronautical SAR offerings is first to apply the CARs to the extent practicable. If/when faced with the constraint of a regulation that may not apply very well in a SAR context, the company must seek special authorization or a regulatory exemption. Both processes are complex, and neither will necessarily be approved. The satisfying criteria is whether the authorization/exemption is unlikely to affect aviation safety and is in the public interest. The problem with the former criteria (unlikely to affect aviation safety) is that the logic behind the request may not be scrutinized through the lens of safe SAR operations, rather, the lens of general safety for passengers.[38]

For example, TC adheres to a manufacturer's restriction that does not permit S92 operators to open their aft cargo ramp in flight.[39] The RCAF has learned that opening the ramp is essential for obstacle clearance when landing in unprepared locations, particularly at night. If faced with the same constraint, the DND TAA would work with the manufacturer to find agreeable circumstances when the ramp could be opened in flight. Failing that, the OAA would risk assess the option of doing it anyways.[40]

[37] Anecdotal. Most people who have been affiliated with SAR long enough would know this to be true.
[38] Interview. Smith, Roger. Former RCAF and Civilian SAR pilot. Current Civil Aviation Safety Inspector. Transport Canada. 24 May 2022.
[39] Interview. Mills, Grant. Former RCAF CH113 & CH149 SAR pilot. Current Cougar S92 SAR Pilot. 25 May 2022.
[40] Anecdotal. CH149 operational test and evaluations validated the critical requirement to open the ramp for a variety of reasons in flight, and to install rear quadrant illumination to see and avoid obstacles when landing in unprepared locations at night.

In September 2016, following a rigorous exploration of similarities and dissimilarities between Canada's military and civilian SAR policy and procedural frameworks, a civilian company submitted a proposal to the Comd RCAF and to the Government of Canada through its National Defence Policy Review committee (DPRC), simultaneously. In the cover letter, the president touched upon the challenges/risks his company faced and asked to work collaboratively on a common training and operational aeronautical SAR standard. Whereas the DPRC did not respond formally, the Comd RCAF did, in an email that states…

> I believe the best way for you to advance this idea would be for it to be forwarded to the Government of Canada, perhaps through the National SAR Secretariat in Public Safety; I am presently executing my SAR mandate in the manner that I have been asked to do so and the RCAF has not, at present, been asked to expand our existing service delivery. As the Comd of the RCAF, I am proud of the work that the Air Force provides to Canadians in this very demanding mission set, and while we continue to seek to improve upon all our missions, I anticipate no major changes to my present delivery model in the area of SAR.[41]

This response demonstrates an obligation to existing policy more than it suggests an aspirational, comprehensive vision for aeronautical SAR in the national context.

In November 2018, the Standing Senate Committee for Fisheries and Oceans, which had for some time been exploring ways/means to improve SAR response in the maritime environment, appears to have recognized the sentiments of concern being expressed by that company. In its final report entitled *When Every Second Counts*, the committee recommends…

> Recommendation #4 - …that the Canadian Armed Forces seize the opportunity afforded by the *Defence Investment Plan 2018* to increase

[41] Email exchange between Comd RCAF and President VIH (Norie). 20 August 2016.

> and diversify its search and rescue workforce to respond to the increased demand for search and rescue.[42]

and,

> Recommendation #5 – …as a pilot project, the Department of National Defence authorize a civilian helicopter operator to provide aeronautical search and rescue coverage in the Canadian Arctic and in Newfoundland and Labrador. The assessment of the pilot project, including costs and benefits, should be made public.[43]

To no avail. With so many front-page headlines attesting to uncommon bravery, and with performance that already demonstrably extends 20% beyond its primary mandate, it's as difficult to dispute a notion of overachievement as it is to explain how the institution is failing everyone whose mechanism of distress does not qualify for automatic consideration of an aviation response and those who agree to respond much more informally, at their own risk, and sometimes at their own expense.

The following examples demonstrate how either the incoherence of Canada's aeronautical SAR system or its imposing nature can impact stakeholders of Canada's aeronautical SAR system.

On 06 September 2016, an individual suffering anaphylactic shock from a bee sting needed to be rescued from an otherwise inaccessible fly-in fishing camp near Stephenville, NL. With RCAF assets already engaged in a maritime search operation, the provincial authority sought assistance from Cougar Helicopters. With client approval to set aside its offshore readiness for what was anticipated to be 4-6hrs, Cougar responded into what turned out to be foggy coastal conditions.[44]

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[42] Canada, Senate of Canada, Senate Standing Committee on Fisheries and Oceans. "When Every Minute Counts". November 2018. List of Recommendations. https://sencanada.ca/en/info-page/parl-42-1/pofo-sar-maritime/

[43] Ibid.

[44] Canada, Department of National Defence, SMMS Case #S2016-00889 – Fishell's Pond – Medical. 06 September 2016.

The crew eventually completed its task, but at greater risk than anticipated, and returned just in time to avoid a costly default on its primary obligation to support the offshore flying program.[45]

On 26 August 2018, answering a similar call, this time by JRCC, Cougar responded as a supplement to the federal mandate by agreeing to conduct a maritime hoist extraction off the F/V Northern Challenger. The operation went off without a hitch.[46] However, the RCAF would appreciate how its partnering relationship with the CCG and access to its auxiliary provides essential training opportunities to prepare for all sorts of vessel configurations, both in routine and more dangerous, time-sensitive circumstances.[47] Similar training opportunities with the CCG and its auxiliary and the Cougar SAR team are prohibited for concerns related to liability.[48]

On 01 August 2020, at 4:20pm, a hiker suffered an immobilizing injury on Newfoundland's East Coast Trail. Despite precedent for seeking assistance from the Cougar SAR team, 15 minutes away, and with favourable weather conditions, decision-makers elected an RCAF response.[49] Impeded by enroute weather, the Cormorant arrived at 7:11pm but could no longer access the site for the fog bank that had rolled in. The GSAR team were left with no choice but to carry the patient over difficult terrain, an exhausting distance, culminating in a treacherous descent down an embankment, in the dark. Patient delivered to the ambulance at 9:55pm.[50]

[45] Anecdotal. Post operation debrief with Cougar SAR management team. 07 September 2016.
[46] Canada, Department of National Defence, SMMS Case #H2018-01717 – F/V Northern Challenger – Medical, 26 August 2018
[47] Anecdotal. The RCAF and CCG train extensively to prepare for all types of maritime distress.
[48] Interview. Mills. 24 May 2022.
[49] Canada, Department of National Defence, SMMS Case #H2020-01085, Injured Hiker East Coast Trail, 01 August 2020
[50] Interview and transcripts of case log provided by Mr. Paul French. Rovers GSAR Team Leader. 09 May 2022.

On 24 November 2021, Cougar was tasked by the Government of NL in response to a significant weather event that washed out numerous sections of the Trans-Canada highway in western NL.[51] Cougar responded to consecutive tasks that spilled into the night, landing in a variety of challenging locations, prepared to hoist if/as required.[52] This, all in a context of a major domestic operation with Joint Task Force (Atlantic) involved in the coordination and delivery of effects.[53] Significant weather events and their corresponding multi-agency response are exactly representative of the circumstances that prompted the USDHS to significantly amend its doctrinal infrastructure (NIMS) to better mitigate risks and to improve the interoperability and effectiveness in easily confused multi-jurisdictional situations.

Finally, on 30 January 2012, a teenage boy from Labrador perished on sea ice while the SAR system deliberated its response.[54] In its final report, the Commissioner of the *Public Inquiry Respecting Ground Search and Rescue for Lost and Missing Persons* 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.
>
> Alternatively, the Commissioner recommends that the Government of Newfoundland and Labrador contract air assets to address this identified capacity gap.[55]

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[51] List of Government Operations and Taskings. Provided by Mr. JJ Gerber. Operations Service Manager, Cougar Helicopters. 02 May 2022.
[52] Post Operation Mission Report. Cougar Helicopters.24 November 2021.
[53] Canada, Department of National Defence, RDIMS# 614782, JTF(A) Operation Order 001 – Operation Lentus 21-07 – CAF response to Significant Weather Event, 24 November 2021.
[54] Canada, Department of National Defence, SMMS Case #H2012-00140 – Makkovik, 30 January 2012
[55] Igloliorte, James, Commissioner. Final Report - Public Inquiry respecting Ground Search and Rescue for Lost and Missing Persons. November 2021. Summary of Recommendations. p.132. https://www.nlgsarinquiry.ca/files/11-30-2021-Final-Report-GSAR-Inquiry.pdf

In the context of this paper's argument, the primary recommendation above is one aspect of the solution but the alterative does not go far enough to solve either of the two problems of incoherence and imposition.

SUMMARY

Solving the incoherence and the imposition of Canada's aeronautical SAR system requires something more than an MOU between a province/territory, the federal government, and the service provider. It requires the RCAF to recognize a more comprehensive role as Canada's institutional aeronautical SAR leader; a role that does not, nor should it ever oblige the RCAF to respond as the primary means to all forms of distress. But as the only formally recognized aeronautical SAR provider in Canada, responsible for the provision of aeronautical SAR services, its mandate should, at the very least, require that all significant incidents of distress be automatically considered for an aviation response and responded to accordingly. Signatory obligations and an effective accountability structure provide the essential foundation of Canada's aeronautical SAR system; one that should never be threatened by credentialled civilian capability.

Consider this. What if Canada was forced to consider a drastic change in response to an imminent threat and the only choice was to re-assign all uniformed CAF personnel to war-fighting roles? How would the Canadian public respond to the potential abandonment of RCAF SAR capability without a certifiable means to generate and sustain a compatible alternative?

Arguably, it is in Canada's best interest to reconsider historical paradigms and pivot towards a more comprehensive aeronautical SAR model; one that provides automatic consideration of an

aviation response to all forms of distress; one that is generated, sustained, and coordinated by recognized contributors of a collaborative network; one that includes both military and similarly credentialled civilian SAR service providers.

CONCLUSION

Today's aeronautical SAR system is incoherent and imposing. It is incoherent because it responds overwhelmingly in favour of federal distress and only as a means of last resort to the non-federal context. It is imposing because responders outside the RCAF are not supported similarly when obliged to help deliver on the either level of the government's mandate.

The Comd of the RCAF is in the best position to help solve both problems. Part of the motivation is simple… to reduce pain and suffering and to save more lives. The other reason is to better safeguard the lives/livelihoods of those who would also be called to the rescue when circumstances warrant the use of an equally safe and effective alternative.

Acknowledging these problems and accepting its role as institutional aeronautical SAR champion would effectively cement the RCAF's rightful place at the top of the SAR pyramid. That others may live… and not risk getting fired because of a risky attempt to come to the rescue.

About the Author

Major Stephen Reid is a twenty-year veteran of the RCAF regular force. A CH113/A Labrador and CH149 Cormorant SAR helicopter pilot with 4000 flying hours and having flown on approximately 250 SAR cases. Career highlights include (twice) recipient of Air Command Commendations for harrowing SAR performance and appointment as Commanding Officer, 103 SAR Squadron. Lauded by the Commissioner for contributions to the Offshore Helicopter Safety Inquiry (2009). Profoundly appreciative of risks and their potential consequences for both victim and responder.

In a civilian capacity, Stephen spent four years on the ExxonMobil 'Hebron Project'. His role on this mega-construction project was to generate a multi-stakeholder emergency management framework (Incident Command System) and a technical industrial emergency response team, from scratch. Challenged by extraordinary complexity in multi-jurisdictional regulatory environment. Recipient of an ExxonMobil Silver Coin of Excellence.

Post Hebron, Stephen was subsequently contracted by Cougar Helicopters to assist in a comprehensive comparative analysis of military and civilian aeronautical SAR operations. That experience is evidentiary to this report.

In 2018, Maj Reid re-joined the RCAF as a member of the primary reserve. His currently occupies the position of 9 Wing Plans Officer in 9 Wing Headquarters.

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Mr. Harry Blackmore – Harry is a founding member of the Search and Rescue Volunteers Association of Canada (SARVAC) and the current President of the Newfoundland and Labrador Search and Rescue Association (NLSARA). Harry is a consummate professional who continues to demonstrate an extraordinary commitment to the effective, coordinated foundation of the GSAR component of Canada's National SAR system. Thank you for your GSAR perspective.

Mr. Paul French – Paul is the National Prevention Coordinator for SARVAC and a highly experienced Team Leader on the Rovers GSAR team. Paul was the GSAR TL during the rescue event on 01 Aug 2020 on the East Coast Trail. Thank you for providing GSAR perspective, mission reports, and other anecdotal information.

Maj (Ret'd) Roger Smith. Roger is a twenty-year veteran of the RCAF. A Sea King, Labrador, and Griffon SAR helicopter pilot. Former CO 444 Squadron. Former Officer in Charge of JRCC/CMCC Trenton. Former Cougar/CHC SAR pilot (9 years). Current Civil Aviation Safety Inspector with Transport Canada (9 years). Thank you for providing uncommon insight into the comparative context of military and civilian SAR aviation.

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