

It's time... Search and Rescue IN the Arctic!

The need to substantially improve Search and Rescue (SAR) in the arctic has been clearly articulated for more than five years by three important user groups: the people of Nunavut; the international airlines who fly over Nunavut on flights between North America, Europe and Asia; and the Government of Canada.

Canada's arctic economy is growing steadily, fuelled by energy, mining and mineral exploration and development, fishing, venture tourism and ecotourism, and other activities. Even cruise ships now troll the arctic archipelago and global warming will bring increased shipping to the Northwest Passage. The north also experiences Canada's highest birthrate and, as northern communities expand, the public increasingly expects the same standard of living and societal benefits as residents of southern Canada. However, northern SAR capabilities do not yet match the levels of service provided to residents of southern Canada.

The north has the world's most inhospitable climate for lost souls, or victims of accidents. Survival times are measured in minutes, or hours, in an environment barren of trees and vegetation for shelter or warmth, with the rock, water and ice landscape offering little or no protection. While police and emergency organizations

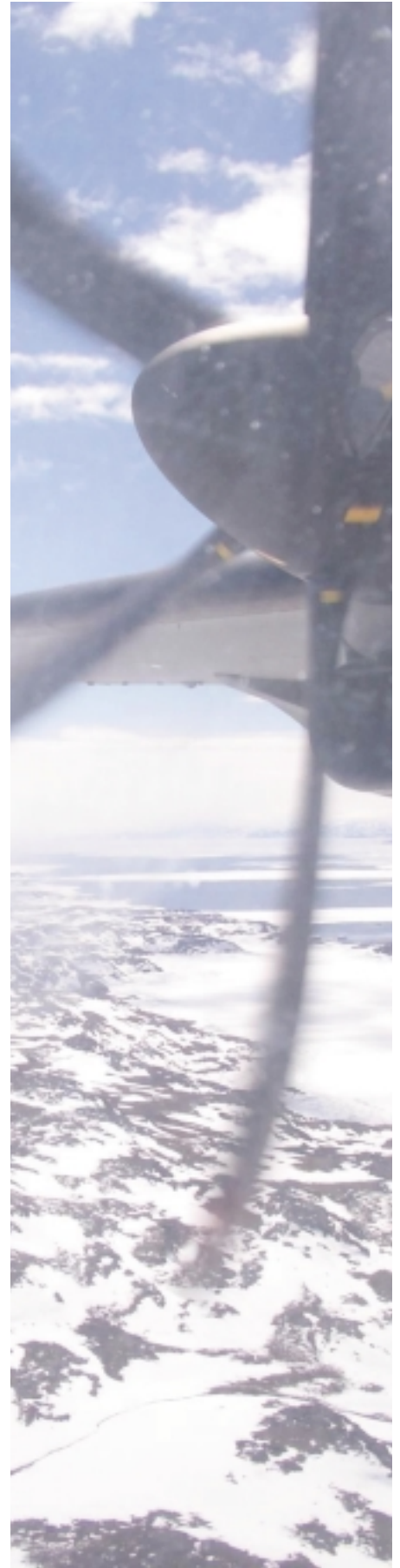
can respond quickly by road or boat in the south, the north has few civil institutions and no highway system for immediate SAR response. In reality, the north is almost totally reliant on air transportation.

Soon after the new territory was created in 1999, the Government of Nunavut launched the multi-modal *Nunavut Transportation Strategy* which recommended fundamental improvements to air, sea and land transportation systems over the next 20 years. The strategy was founded on some 400-500 consultations with Nunavumiut communities, next generation youth, and industry stakeholders.

SEARCH CAPABILITIES

"Improvements to current Search and Rescue services" was consistently identified as an "essential need" by northerners during extensive community consultations. Numerous examples of people becoming lost and dying on the land can be cited, even in recent weeks, and each has a major impact on the small, close-knit communities in the north.

The *Nunavut Transportation Strategy* was accepted by Cabinet in 2001 and included an extensive plan for modernizing all transportation modes. The existing Department of National Defence strategy for providing arctic SAR services from southern Canadian bases was found to be inadequate for the new territory. The time required to move *any* aircraft north (a minimum 8 hour response, and likely longer) before beginning an arctic search was not considered practical to achieve a



Existing Forward Operating Locations are well situated for SAR coverage of Canada's three northern territories, expanding northern air routes, and Canadian northern airspace. Southern SAR bases are poorly located to meet the emerging realities of northern development and global travel.



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successful rescue. In fact, the current CFB Trenton SAR base is closer to Cuba than it is to some parts of Nunavut.

Canada's north and our arctic archipelago stand unprotected when it comes to military search and rescue.

This was driven home in a 2001 crash in the Northwest Territories involving four occupants of a light aircraft. One passenger died on impact, but it was later determined that the other three passengers died of hypothermia before being rescued. It took 40 hours for the SAR team to reach the site, first a Hercules from Winnipeg, then a Griffin helicopter from Cold Lake Alberta.

It is simply not practical or realistic to launch an aircraft from southern Canada to effect an arctic search and rescue operation with an expectation of saving lives.

The *Nunavut Transportation Strategy* recommended extensive improvements to SAR services including basing aircraft in the north, at existing bases, to provide timely local response in a harsh and unforgiving climate region where a lost person may be enduring -60°C temperatures.

The *Strategy* focused on the value of tapping local, traditional knowledge, in concert with newer technologies, to solve the transportation problems of the territory. Aboriginal people can play an integral

role in the SAR solution for the north. They have generations of experience in arctic search strategies and techniques to build on, and the modern generation is actively integrating into the northern transportation mainstream as pilots, engineers and managers.

On December 14, 2004, the Prime Minister and the three territorial Premiers released the first ever framework for a Northern Strategy. Under the goal of “Reinforcing Sovereignty, National Security and Circumpolar Cooperation” one notable objective in the current consultation framework is “effective northern-based search and rescue capacity.”

As Canada seeks ways to re-assert sovereignty in the arctic, one obvious strategy would be to base SAR assets in the north. This could be readily accomplished by activating our Forward Operating Location facilities which already contain much of the infrastructure (such as aprons, hangars, accommodation and operations buildings) suitable for aircrew deployments. Such a strategy would also create sustainable employment in the north as, with the exception of flight crews and SAR Techs, all other base support activities could be readily performed by northerners, including aircraft maintenance. In fact, the military might even be able to multi-task the northern-based aircraft if off-the-shelf aircraft, equipped with removable SAR modules, were purchased. This would be a quantum leap forward in providing northerners with a SAR service equal to that available to southern Canadians. It would also substantially bolster our northern military presence with an immediate and meaningful role.



These seldom-used facilities could be readily adapted as northern SAR bases.

SAFETY RESPONSIBILITIES

Aviation technology has advanced significantly in recent decades, resulting in new demands for international routes. These improvements have facilitated changes in flight operations both on high latitude North Atlantic Track routes, and North Pacific routes, and in the introduction a Polar Routes system.

Changes are desired by airlines to save fuel and flying time; by air navigation service providers to reduce airspace complexity; and by governments to encourage fuel conservation and to reduce atmospheric emissions to meet Kyoto commitments.

International co-operation in civil aviation was established under the 1944 *Chicago Convention*, to which Canada was a signatory. We are responsible for the safety of international operations in all of our airspace, including arctic airspace. And Canada's arctic airspace is experiencing major growth in air traffic – with a quantum increase forecast over the next five years.

It is interesting to consider that the population in our arctic skies can be far greater than the population on the ground. Some to 1,200 flights cross the North Atlantic each day, and many use northerly routings. Many more transit the North Pacific using high latitude and Polar routes over Canada. These routes offer dramatic savings in flight times, fuel consumption, and atmospheric emissions by aircraft. But international aircraft do not carry arctic survival gear (even if they do carry rafts and life preservers).

In 2003, prompted by complaints from the International Air Transport Association (IATA), Transport Canada commissioned airline consultations to determine the need to develop a *Long Range Strategy* for international aircraft operating over Canada's arctic polar and high latitude flight routes between North America, Europe, and Asia. Both the United States Federal Aviation Administration (FAA) and the Joint Airworthiness Authority (JAA) of Europe have been developing such policies in the absence of Canada having its own plan for northern Canadian overflights.

Northern airport operators (representing over 60 airports) and 50 international airlines and domestic carriers were



Inuit members of 795 Royal Canadian Air Cadet Squadron in Nunavut represent the next generation who will increasingly participate in the northern air transportation industry.

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There are no highways and only two paved runways in all of Nunavut.

approached to provide in-depth comment about their needs for alternate airports and emergency services in the north in case of in-flight emergencies. They provided extensive data on their unscheduled northern landings, and current and evolving needs.

A recurring concern in airline interviews was the lack of a "real" search and rescue capability in the Canadian arctic. The consulted parties believed the current southern-based SAR service offered little more than a "search and recovery" effort,

rather than a realistic search and rescue role in case of emergency.

One surprising finding was that U.S. air carriers are not usually equipped with Emergency Locator Transmitters. It is assumed they will always be flying within radar coverage which is not the case in Canada's arctic. This should have major implications for Canada's current and future SAR strategies

The facts speak for themselves: Canada needs SAR aircraft based in the north – in Iqaluit and Yellowknife at a minimum, and possibly elsewhere – to save lives. **FL**

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A summary of the Nunavut Transportation Strategy can be found on the Government of Nunavut web site, and is also available from its authors, LPS Aviation Inc., at www.lpsaviation.ca.

Information on the Long Range Strategy study is available from Transport Canada Public Relations. The Consultation Report was delivered to Transport Canada in January 2004 and released to stakeholders for comment 14 months later, in March 2005.