NATIONAL SEARCH AND RESCUE PROGRAM
ANNUAL REPORT 2007-2008

Government of Canada
National Search and Rescue Secretariat

Gouvernement du Canada
Secrétariat national Recherche et sauvetage

Canada

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The National Search and Rescue Program in 2007/2008

1.1 Introduction

The purpose of the annual report on the National Search and Rescue Program is to provide important information to federal ministers with search and rescue (SAR) responsibilities, Parliament and the Canadian people. The report is an update on the program, its organization, and the activities undertaken in the 2007-2008 fiscal year. It also presents a summary of issues and emerging trends that are considered to be of direct relevance and importance to the program in 2008-2009 and beyond.

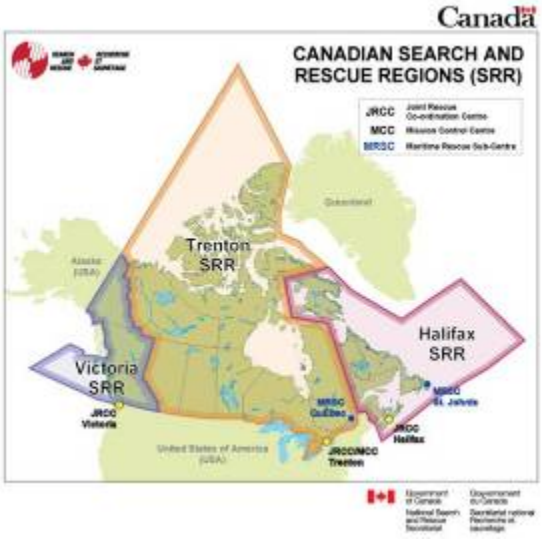
1.2 Framing the Challenge

The Canadian government has a fundamental domestic and international obligation to come to the aid of persons in distress.

Many Canadians do not realize the enormity of the challenge in meeting that obligation. This commitment extends over Canada's vast airspace, its entire land mass and territorial waters, as well as additional areas of the Atlantic, Pacific and Arctic oceans that have been established through international agreements.

This operational area encompasses over 15.5 million square miles.

The approximately 10,000 incidents that occur annually, or an average of 27 incidents *every* day of the year, require an effective response capability, as well as a National SAR Program that is founded on sound policies and principles.



In addition to the sheer vastness of Canada, its climate and geography are amongst the most varied in the world. With temperatures that range from - 45C in January to over 35C in

August, exposure to such extremes poses a major challenge to survival, especially immersion in cold water which can quickly lead to cold shock and hypothermia.

1.3 Guiding Principles

Canada's SAR program is sustained by committed individuals - paid and volunteers. They consistently display the utmost professionalism, and courage. This has, in part, contributed to the high expectations of the Canadian people with regard to the capabilities of their SAR system and responders.

The efforts and commitments of every partner organization within the National SAR Program are shaped and influenced by two operational pillars, which are:

- Response – To ensure an effective SAR response capability in all areas of Canada; and

- Prevention – To educate individuals and organizations on the assessment of risks and the importance of acquiring and using the knowledge, skills and equipment needed to minimize risk and/or loss of life.

It is an unfortunate reality that not every incident can be prevented nor every person in distress successfully rescued. This can be lessened by persuading more Canadians to better inform themselves about technologies, equipment and techniques designed to ensure their safety. For this reason, prevention through education is as important as maintaining a robust search and rescue response capability.

1.4 Teamwork and Commitment

The strength of the National SAR Program, particularly as it applies to SAR incident response, is a long tradition of mutual aid that partners federal, provincial, territorial, and volunteer agencies and organizations into a system that efficiently delivers appropriate response resources to meet SAR demands. Each partner contributes unique and invaluable services and capabilities that,

when combined and coordinated, result in collaborative response efforts to SAR incidents.

The federal government's commitment to the National SAR Program is realized through six departments, whose authority and responsibility vary in terms of prevention, response, and overall support.

They are:

- Department of National Defence - Canadian Forces (CF);
- Department of Fisheries and Oceans - Canadian Coast Guard (CCG);
- Public Safety Canada - Royal Canadian Mounted Police (RCMP);
- Environment Canada - Meteorological Service of Canada (MSC);
- Parks Canada Agency (PCA); and
- Transport Canada (TC)

Together, these entities comprise the federal Interdepartmental Committee on Search and Rescue (ICSAR), along with officials from the Treasury Board Secretariat, Natural Resources Canada, the Privy Council Office, Indian and Northern Affairs Canada, Public Safety Canada, and an observer from the Ground Search and Rescue Council of Canada (GSARCC). The National Search and Rescue Secretariat (NSS) chairs the committee.

At the provincial and territorial levels, the GSARCC aims to enhance the delivery of ground and inland water search and rescue services though the coordinated development of policies and programs. The Council is comprised of representatives from the provinces and territories, the Search and Rescue Volunteer Association of Canada (SARVAC), Parks Canada, and the RCMP. The NSS is a non-voting member of GSARCC, and also provides secretarial support to the Council.

1.5 Volunteers – A Priceless Resource

Volunteer organizations play a vital role in support of the National SAR Program. The Canadian Coast Guard Auxiliary (CCGA) supports the CCG's maritime SAR program. The Civil Air Search and Rescue Association (CASARA) augments the CF's SAR operations. Both are active in delivering safety information to the boating and aviation communities through education programs.

SARVAC is the national organization that represents provincial and territorial ground SAR volunteer associations. Many ground SAR volunteer groups also have specializations in swift water, avalanche, cave, mountain, and urban SAR.

Due to the vital linkage between police forces and GSAR, the RCMP recently made the commitment to take on the role of being its champion in order to provide a common voice for GSAR within the federal domain.

1.6 Defining the Mission

SAR incidents are categorized as being either air, marine, or ground cases, as determined by the initial distress condition.

The CF have the primary responsibility for responding to aeronautical SAR incidents, supported by CASARA volunteers.

The CCG is responsible for coordinating responses to marine SAR incidents within federal waterways, including the Great Lakes, the St. Lawrence River, Canada's ocean coasts, and the offshore SAR regions for which it is responsible. The CCG is assisted with the response to marine incidents by air support from the CF, as well an extensive network of CCGA volunteers.

For the purpose of effective and efficient response coordination to aeronautical and marine incidents the CF and CCG operate three Joint Rescue Coordination Centres (JRCC). JRCC coordination is further enhanced by two Marine Rescue Sub-Centres (MRSC), operated by the CCG. The CF-operated Canadian Mission Control Centre (CMCC) in Trenton was established as a result of Canada's participation in COSPAS-SARSAT, the International Satellite System for Search and Rescue. The CMCC is responsible for disseminating pertinent

distress beacon information generated by COSPAS-SARSAT to the appropriate SAR authority within Canada.

The provincial or territorial governments (provincial/territorial jurisdiction), and in some circumstances Parks Canada (federal jurisdiction), are the primary SAR authorities responsible for the coordination of ground and inland water SAR incidents that are within their respective geographical jurisdictions. These incidents can range from avalanche rescues to boating mishaps on lakes and rivers, to wilderness searches, and searching urban areas for missing persons such as “walkaways” or young children.

Within Canada, the majority of GSAR incidents require the mobilization of volunteer resources. Recent studies have shown that in Canada, volunteers are responsible for 85 to 95 % of rescues. Those rescues are normally done during the initial 24 hours of an incident, which provides for the best chances of survival.

While each category of SAR incident has a coordinating authority, SAR response often becomes the collaborative effort of multiple SAR partners whose assets may be deemed necessary to deliver the most appropriate and timely response to an incident. Humanitarian incidents are responses by federal SAR resources to incidents outside the federal mandate but where life is in jeopardy such as medical evacuations, and assisting with or conducting rescue operations within provincial/territorial jurisdictions at the request of civil authorities.

1.7 Emerging Challenges

The increasing pace of globalization has caused an increase in maritime shipping, offshore oil and gas exploration. As a result of global warming, cruise ships are now seen in the Northwest Passage. There has also been an increase in the use of polar routes for commercial air travel between Asia and North America.

These advances in transportation and commercial exploration will generate greater northern activity and could potentially increase the frequency of SAR incidents and missions.

Another factor is Canadian demographics. With approximately 90% of the Canadian population living within 160 km of the border with the United States, the majority of Canada is sparsely populated.[1] This remoteness can limit the

[1] CIA World Factbook, https://www.cia.gov/library/publications/the-world-factbook/print/ca.html

accessibility and availability of SAR responders. In addition, decades of urbanization has resulted in a population with limited outdoor and/or survival skills. With the growing trend in ecotourism, more and more Canadians and visitors are venturing into the backcountry.[2] What used to be the purview of highly trained and equipped adventurers is now open to the unprepared and inexperienced. Many are ill-prepared for the potentially deadly challenges that nature can present such as rapidly deteriorating weather, avalanches, stormy seas and waters or something as predictable as nightfall.

Despite public education programs to promote a safe outdoors experience, whether on water or land, the number of SAR incidents stemming from outdoor enthusiasts is on the increase.[3] From recreational boating to other outdoor pursuits, several demographic groups across our society are considered to be at risk. Children - and in particular, according to the International Life Saving Federation 2007 World Drowning Report, immigrant children - may not have the skills and knowledge required to participate safely in recreational activities like swimming, boating, and other water-related activities[4]. With more families enjoying the outdoors, it is easy for young children to be distracted, wander off or find themselves in dangerous situations. The need to promote outdoor safety is increasing, both on water and on land. Investing in these important education programs begins with our youth, whether through classroom engagement, community activities or reaching them via appropriate media. It is a safe assumption that awareness, skill development and modeling behavior lay the foundation for enhancing safety across future generations.

Other age groups are also considered high-risk, such as young adults whose passion for extreme sports is sometimes not matched by their attention to safety measures. Evidence in the Canadian Census 2001 suggests that Canada's aging population, many of whom remain healthy and active well into their senior years, are devoting significant resources to more demanding leisure pursuits. The need to design and implement safety and prevention programs is essential towards changing attitudes and behavior.

Another emerging challenge is the urban SAR phenomenon known as "walkaways". These are usually elderly individuals with Alzheimer's disease or some form of dementia, who wander away from homes or nursing care facilities.

[2] See for example, Strategic Initiatives, "AdventureSmart: Report on Program Effectiveness," March 2006, pp. 22-34.
[3] British Columbia Provincial Emergency Program, GSAR Report 2002/2003, 26 Feb 2003.
[4] http://www.lifesaving.org/download/2007%20ILS%20World%20Drowning%20Report.pdf

2.0 Fiscal Year 2007-2008: A Year of Accomplishments and Milestones

2.1 Air SAR

Canada was front and centre on the international SAR stage in 2007. Arctic SAREX, a planning and response exercise hosted by the CF, saw SAR responders from Canada, United States and Russia come together to test their abilities to respond to an Arctic aeronautical disaster at CF Base Comox, British Columbia.

As part of the exercise, CF aircraft dropped survival kits to simulated casualties below. This was followed up by Exercise Arctic Orange, with SAR technicians from 413 Squadron parachuting into CF Station Alert on Ellesmere Island in the high Arctic.

Transport Canada announced amendments to the *Canadian Aviation Regulations* that require airports and organizations providing air traffic services to implement Safety Management Systems (SMS). SMS are formalized frameworks for integrating safety into the daily operations of a transportation entity.

2.2 Ground and Inland Water SAR

In 2007-2008, the GSARCC drafted its inaugural five-year action plan, which was approved in principle by the membership. Thanks to a successful SAR New Initiatives Fund (NIF) proposal, three years of funding were secured, starting in 2008-2009, to support the implementation of the Plan and the development of a formal management framework for the Council. These measures will assure the ongoing advancement of the Council's work to enhance ground and inland water SAR in Canada.

In October 2007, the Council again profited from the opportunity to meet jointly with the federal ICSAR, and review issues common to all jurisdictions within the National SAR Program.

Due to the primary role police forces play in the delivery of SAR services, the RCMP announced at the February 2008 Council meeting that it would fund a position to act as the focal point for ground SAR at the national level. The

RCMP is well-suited for the role of ground SAR champion, as it provides police services in 11 provinces and territories. During the 2008-2009 fiscal year, the RCMP consulted with key members of the ground SAR community to better define what this role of champion will entail.

Also at the February 2008 meeting, Mr. Vern Fraser of the Nova Scotia Emergency Measures Organization was acclaimed as the new Chair of the Council, following the end of Mr. Jim McAllister's very successful two-year term and his retirement from the British Columbia Provincial Emergency Program.

Canadian SAR expertise and best practices are recognized in other parts of the world. Australia recently approached Parks Canada, to learn about the National Occurrence Tracking System (OTS) – a Parks Canada program management tool that captures and stores data on SAR-related incidents within its jurisdiction.

Protecting Canada's aging population, a focus in the Speech from the Throne, was highlighted in the Safe Home National Community Action Plan. The aim of the plan is to provide a national prevention and response initiative for patients and caregivers of Alzheimer patients and is supported by the RCMP, Ontario Provincial Police (OPP) and the Alzheimer's Society of Canada.

2.3 Northern SAR Strategy

A Northern SAR Working Group, facilitated by the NSS, highlighted the Government's commitment to the Arctic, and reflected the need to address challenges to operating within this vast and remote environment. A major Search and Rescue New Initiative Fund (SAR NIF) project to close gaps in exercise planning and target prevention campaigns to this particular audience was launched in 2007. The NSS contributed to discussions surrounding the International Polar Year and SAR implications for Canada's far north.

2.4 COSPAS-SARSAT

As a founding member of the COSPAS-SARSAT program, which supports the International Satellite System for Search and Rescue, Canada participated in several bilateral and international meetings in 2007-2008. The NSS, in partnership with the CF and its other federal collaborators, also represented Canada at a series of special Experts Working Group meetings. These groups examined quality management and long-term planning for the program, and advanced work on the next-generation Medium-altitude Earth Orbiting Satellite System for Search and Rescue (MEOSAR).

Canada is developing and testing ground technologies related to this new system, and is working closely with its international partners to define system-wide testing and performance standards that will ensure its smooth implementation.

Also notable in 2007 was the celebration of COSPAS-SARSAT's 25th anniversary. Canada chaired the Council during this anniversary year. This special milestone was recognized during the opening ceremonies of SAR*SCENE* 2007 in Victoria, British Columbia. Almost 25 years to the day, Mr. Jon Ziegelheim recounted his survival story. This incident has the distinction of being the first operational SAR case detected and assisted by the newly-commissioned COSPAS-SARSAT system. From September 1982 to December 2007, the COSPAS-SARSAT system provided assistance in rescuing at least 24,798 persons in 6,766 SAR events worldwide.[5]

At the NSS, a concerted effort to update the Canadian 406 MHz Beacon Registry continued with 203 Emergency Locator Transmitters (ELTs), 560 Emergency Position-Indicating Radio Beacons (EPIRBs) and 736 Personal Locator Beacons (PLBs) registered during 2007, an increase to the Beacon Registry of over 15%. Communications materials alerted system users of the end of 121.5 MHz satellite monitoring on February 1, 2009, and the need to switch to the more modern and capable 406Mhz ELTs.

[5] COSPAS-SARSAT System Data Document No. 34, December 2008.

2.5 Marine SAR

The CCG completed a SAR needs analysis. The results of this analysis will lay the foundation for future planning regarding capital acquisitions, roles, responsibilities and operating protocols to ensure that the provision of an effective maritime SAR capability within Canadian waters remains a priority.

The CCGA undertook to produce a SAR handbook, outlining critical procedures to enhance its members' skills and abilities during SAR missions.

Acting in its capacity as a regulator, Transport Canada introduced new safety regulations and standards for commercial rafting by using best practices set by industry.

2.6 SAR New Initiatives Fund

The Search and Rescue New Initiatives Fund (SAR NIF) has an annual allocation of $8.1 million to enhance SAR prevention and response activities in Canada. In FY 2007-2008, funding for 19 new projects was approved, in addition to 20 ongoing projects. Thirteen of the new projects funded were directed at improving response capabilities, while six were dedicated to prevention measures. Most project deliverables included equipment procurement and the funding of specialized training for volunteers.

2.7 Awareness and Prevention

Project OPPortunity, an Environment Canada volunteer weather spotter program with police agencies, became the Police Observation Project with involvement from the RCMP, the *Sureté du Québec*, and the *Service de police de la Ville de Montréal*. In a step towards a national expansion of the program, pilot projects are being explored for Saskatchewan, Québec City and Montréal. Environment Canada's volunteer weather spotter program helps provide better, more complete weather warnings. In 2006–2007, Environment Canada issued 15,000 weather warnings.

In regard to prevention programs, the National Association for Search and Rescue (NASAR) and the RCMP renewed the "Hug-a-Tree and Survive" license agreement within Canada. This agreement provides the RCMP with the authority to update this successful prevention program aimed at teaching children how not to get lost, and what to do, should they become lost.

The RCMP also partnered with the Ontario Provincial Police and the Alzheimer's Society of Canada to provide education and awareness to long-term care facilities and caregivers on "walkaways" and provide front-line resources with important search information during these situations.

The Office of Boating Safety at Transport Canada supported various organizations to expand its education and prevention programs, including the delivery of safe boating presentations to schools across the country. In partnership with the Canadian Safe Boating Council, the National Safe Boating Awareness Campaign reported 43 million media impressions on safe boating, the strongest response to an awareness campaign to date.

Environment Canada's Warning Preparedness Meteorologist program continued to evolve and the program had a busy year, handling nearly 8,500 media contacts and 1,100 contacts with emergency measures organizations across the country. It provided support to the media and emergency measures organizations during a number of severe weather patterns, such as flooding in Newfoundland, Quebec, and Manitoba; heavy rainstorms in British Columbia; heat waves in Montréal and tropical storm Florence in Atlantic Canada.

To study tornado damage, warning preparedness meteorologists were deployed with storm survey teams twice in Manitoba, 12 times in Ontario, and once each in Quebec and New Brunswick. The information gathered by these studies will be shared with the scientific and operational communities within Environment Canada to further the understanding and prediction of severe weather.

Environment Canada operates a network of 45 moored buoys, located off both the east and west coasts and inland waters, including the Great Lakes and the Gulf of St. Lawrence. In 2007, 18 "drifter" buoys were deployed in the northeastern Pacific Ocean, seven deployed in the Arctic Ocean, and six were deployed in the northwestern Atlantic Ocean. These drifters operate for about

two years, after which time their batteries reach the end of their life expectancy or the buoys beach themselves on the coast. The drifters deployed in the Atlantic follow a meandering path along the coast of Nova Scotia and Newfoundland and eventually may find their way towards Europe, thus providing an explicit Canadian contribution to the World Meteorological Organization International Drifter Program. Normally, Environment Canada's Meteorological Service purchases two beacons each year for the International Arctic Buoy Program, run under the auspices of the World Meteorological Organization and UNESCO. However, in 2006–2007, seven beacons were purchased in support of International Polar Year.

2.8 Volunteer Review

Phase I of a Volunteer Review, led by the NSS, identified several issues affecting the sustainability of the Ground SAR (GSAR) community as a component of the National SAR Program. In particular, the NSS and the GSAR community worked to identify a champion for GSAR at the federal level and committed to work collectively to remove systemic barriers for SAR volunteers.

2.9 SAR*SCENE* 2007

In October 2007, Canada's national SAR conference was hosted in Victoria, BC, by the British Columbia Provincial Emergency Program, in cooperation with the BC SAR Volunteer Association. The theme for 2007 was "The Spirit of Search and Rescue".

SAR*SCENE* 2007 featured over 50 presentations from Canadian, as well as international experts. Speakers from Ireland, New Zealand, Poland, the United Kingdom, and the United States brought an international perspective to the conference and demonstrated how countries differ in their management of SAR.

The SAR*SCENE* Games also included international participation, with teams from the United States Civil Air Patrol and the Irish Coast Guard. Taking home top honours was Parks Canada, represented by wardens from the Gulf Islands National Park Reserve of Canada.

The plenary session was one of the most memorable events of the conference. It included a tribute to COSPAS-SARSAT and the Canadian Avalanche Association, as both were celebrating their respective 25th anniversaries. The tribute was followed by guest speakers who shared heart-warming stories of their experiences with SAR.

Pilot Jon Ziegelheim spoke of his dramatic rescue when the small aircraft he was flying on September 10, 1982, crashed in northern British Columbia. Mr. Ziegelheim and his two passengers were saved as a result of SAR alerting through the COSPAS-SARSAT system.

Susan Miller told the story of her four children who were rescued when their boat capsized near Nanoose, British Columbia. Ms. Miller, who watched the incident as it unfolded from the shore, described the rescue in which all of her children were saved.

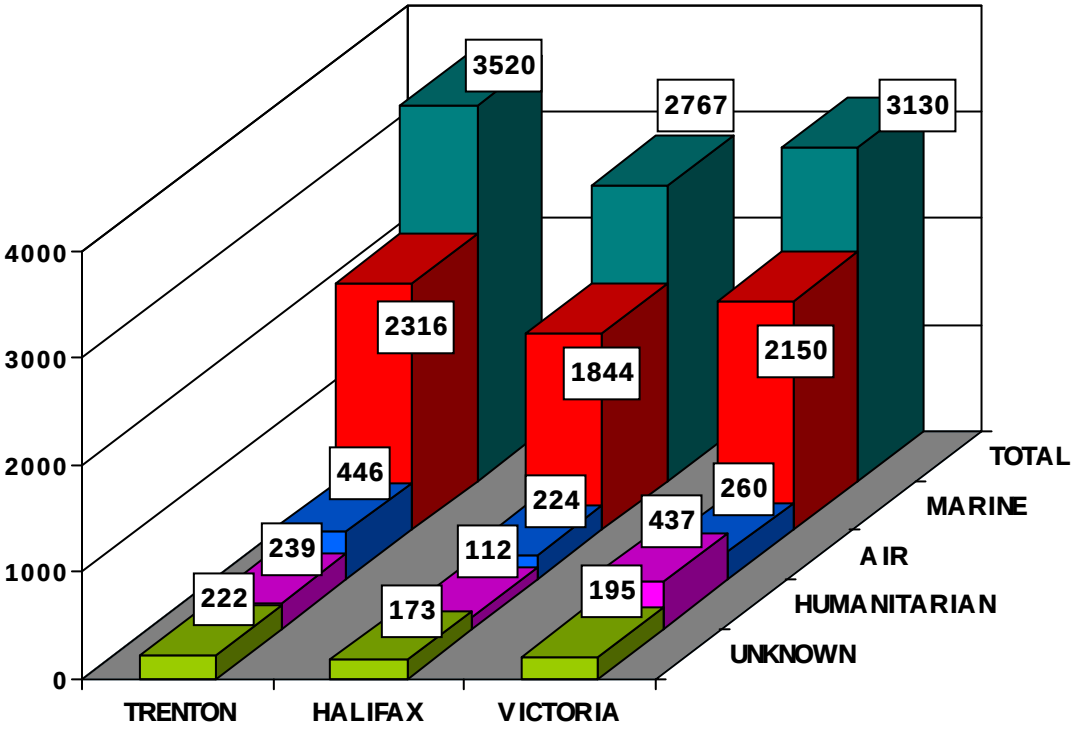
Brad Sills, a search manager with Whistler Search and Rescue, introduced a video that told the first-person account of Sam Black, a hiker who was stranded for six days in Whistler's Brandywine Mountain region.

The final story came from Larry and Jacquie Beveridge who recounted the loss of their nine year-old son Jimmy, who got lost during a family camping trip in California's Palomar State Park in 1981. They discussed the Hug-a-Tree and Survive program which was created out of the outcome of this incident and how it has spread across the United States and Canada.

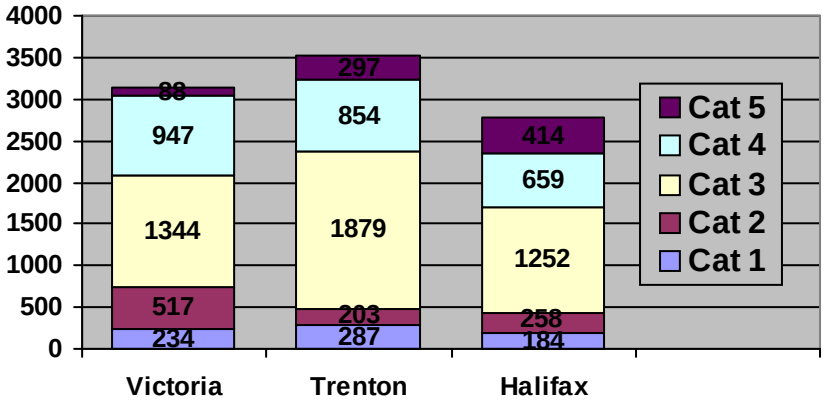
Cyndie Jones, BC PEP, with Larry and Jacquie Beveridge

2.10 Notable Federal SAR Missions (FY 2007-2008)

The following chart categorizes the SAR incidents that were either coordinated (air and marine) or monitored (unknown and humanitarian) by each JRCC:



The recorded incidents have also been categorized by their nature or degree of urgency:



Category 1	Incidents where life is in imminent danger
Category 2	Incidents where there is a strong potential for loss of life
Category 3	Incidents where assistance is required, but no life threatening distress exists
Category 4	Covers false alarms and hoaxes
Category 5	Other

The CF maintains eight SAR ready aircraft immediately available for primary air response to SAR incidents. A total of four helicopters and four fixed wing aircraft operate from five main operating bases across the country. Additional CF resources are employed when determined appropriate and according to the demands of individual incidents; however, these secondary resources do not maintain the same 24/7 response capability as the CF's dedicated air resources. The CF's dedicated SAR aircraft flew a total of 2454 hours in direct support of SAR operations, and 7078 hours in training to properly generate the capability. CASARA flew a total of 625.2 hours in direct support of CF coordinated SAR operations, while nationally flying 4231.5 hours in training and exercises.

The following table summarizes by squadron the hours flown in direct support of SAR operations:

		Hours Flown in Direct Support of SAR	
Location	Sqn	Fixed Wing	Helicopter
Comox, BC	442	369	442
Winnipeg, MB	435	305	
Trenton, ON	424	389	464
Greenwood, NS	413	345	257
Gander, NL	103		325
		1408	**1046**
		2454	

CASARA	625.2
Total Air	3079.2

The following selection of SAR mission summaries demonstrates both the seamless and robust nature of Canada's National SAR system and the importance of timely (and automatic) notification of the SAR system.

2.10.1 Halifax Search and Rescue region (SRR)

Marine SAR - On the 17th of December 2007, a commercial tugboat experienced difficulty while approaching the Canso Lock in Cape Breton, NS.

Due to extreme weather conditions (95kts of wind, 14-foot seas), the captain had to cut loose a 425-foot barge to ensure the safety of his vessel and crew. The Canadian Coast Guard Ships (CCGS) Edward Cornwallis and Terry Fox were tasked to secure the barge before it ran aground with 9,000 gallons of diesel fuel on board. During the process, extreme weather conditions prevented the recovery of three CCG crew members from the barge by CCG work boat. A Cormorant helicopter was called in and successfully extracted the CCG personnel and the CCGS Edward Cornwallis was eventually able to secure the barge. This coordinated CCG/CF effort and the brave actions of the Coast Guard crew averted a potential environmental disaster.

2.10.2 Trenton SRR

SAR Overdue Raft Wasaga Beach – On the 17th of September 2007, two teenaged girls departed Wasaga Beach on an inflatable raft for a paddle along the shore. Family members reported them overdue the following day. Upon notification, the JRCC initiated an extensive search involving two CF aircraft (a Hercules and Griffon from 424 Squadron, Trenton), Ontario Provincial Police (OPP) helicopters, five OPP vessels, four CCG vessels and a local fire department vessel.

On the second day of the search, the two teenagers were located on a small rock island at a considerable distance from their departure point.

Aeronautical SAR - On the 30th of November 2007, a twin engine Aero Commander 500 with three people on board, crashed while en route from Dryden to Geraldton, Ontario. A 121.5 MHz ELT position was picked up by the COSPAS-SARSAT satellite system that automatically notified the SAR coordinators at JRCC Trenton of the coordinates of the crash location.

Two CF aircraft (Hercules from 424 and 435 Squadrons) were immediately tasked, assisted by a ground search team from CASARA, Thunder Bay.

CF SAR techs parachuted into the crash site to find all three occupants alive, one requiring immediate evacuation for injuries and the others requiring timely evacuation due to the -20C temperatures. Two helicopters were provided by the Ministry of Natural Resources to evacuate the victims and SAR techs from the crash site. The rescue phase was carried out at night, aided by flare-drop illumination from the Hercules aircraft. This procedure, although common for

military operations, is not practiced by the civilian helicopter operators and therefore made the rescue efforts considerably more risky and commendable. The helicopters eventually landed at a nearby airport and from this location, the patients were then transported to Thunder Bay via air ambulance.

2.10.3 Victoria SRR

Aeronautical SAR - On the 23rd of October 2007, JRCC Victoria commenced a 10-day search for a missing Cessna 172 with a sole occupant onboard. The search involved 16 CF aircraft (six different aircraft types), 25 CASARA aircraft, one chartered civilian aircraft and numerous GSAR team members. More than 700 total flying hours were accumulated during this period, notably 335 of this amount were logged by our volunteer partner CASARA, at considerable savings to the CF. Although the search proved unsuccessful in locating the missing aircraft, it was a massive and well-coordinated operation that highlighted positive inter-agency cooperation - one of the key elements of our national SAR system.

Aeronautical SAR – Near Golden, BC - On the 28th of October 2007, JRCC Victoria coordinated the SAR effort for a crashed C172 with three persons on board.

Buffalo and Cormorant aircraft from 442 Squadron were dispatched to home in on a 121.5 MHz ELT signal, but due to extremely poor weather in the mountain valleys, the CF SAR Tech team was unable to parachute in to the scene. While the Cormorant was still on its way to the site, SAR coordinators identified a civilian helicopter, operated by Alpine Helicopters in Golden, BC, which was able to transport the SAR tech team, together with a volunteer member from Golden and District SAR, to the crash site. The GSAR volunteer was equipped with new 121.5 MHz direction-finding gear that was demonstrated just two

weeks earlier at the SAR*SCENE* 2007 conference in Victoria, BC – and was instrumental in locating the downed aircraft.

The fact that the crashed aircraft had an ELT onboard that automatically activated upon impact ultimately enabled the SAR system to save the life of a three-year-old girl, the sole survivor of the crash. The response to this incident also demonstrated the versatility and capability of Canada's SAR system, as military, private sector, and volunteer assets worked together to save a life.

3.0 The Way Forward – Plans and Priorities for 2008

In 2008, improvements to the National SAR Program were achieved through efforts, nationally and internationally, to leverage technology, expand partnerships, build additional sustainable infrastructure and place a renewed focus on prevention programs.

3.1 Leveraging Technology

Monitoring of 121.5 MHz emergency beacon signals will cease on February 1st, 2009. Carrying forward the momentum established in 2007-2008, an outreach program, led by the NSS, will continue into the foreseeable future and target specifically those within the aviation community who have not yet adopted the newer 406 MHz ELT technology.

The implications of emerging technologies utilized for distress alerting will be a key focus for the National SAR Program in the coming years, as the largely unregulated introduction of some of these technologies may have a profound effect on the SAR system. A joint working group led by the NSS –as directed at the Joint ICSAR-GSARCC meeting in October 2007– continues to examine this issue and explore options.

3.2 Public Education

On the international front, the North American Safe Boating Awareness Week will increase and sustain the focus on five key safe boating messages.

A revitalization of the prevention pillar was witnessed through the expansion of the British Columbia Provincial Emergency Program "AdventureSmart" concept to a *national* approach. The aim of this national approach is to establish a broad public awareness through a targeted outreach program, thereby reducing the number of incidents and victims.

A grants and contributions program with Transport Canada's Office of Boating Safety was renewed, which helped facilitate the provision of boating safety to a wider audience.

3.3 Working Together

Parks Canada continued to work with its SAR partners to enhance the National Public Safety Program. In June 2008, a multi-jurisdictional exercise was coordinated in Prince Edward Island National Park to showcase the effectiveness of using the Incident Command System (ICS) for managing SAR response. In addition to the live exercise involving responders from several different agencies and organization, training in ICS and a tabletop exercise was also offered to participants.

Parks Canada committed to supporting the Canadian Avalanche Centre (CAC) for three years. The CAC's main activities include public safety, prevention and educational programs and serves as a major point of contact for the Canadian public and visitors to Canada by providing avalanche safety information to these groups.

Transport Canada conducted an issue analysis/risk assessment with partners and stakeholders to identify and evaluate alternative means of alerting and locating aircraft in distress situations, following the satellite processing cessation of distress signals broadcast on the frequencies of 121.5 MHz and 243 MHz.

The Northern SAR Strategy continued to develop with work focussing on the development of a northern roundtable for SAR to tailor appropriate response and prevention strategies to this unique environment.

In consultation with provincial/territorial authorities and volunteer associations, the defining of the role of ground SAR champion was the focus for the RCMP in 2008.

At the provincial/territorial levels, building capacity, standardization and interoperability are scheduled to lead GSARCC's five-year action plan.

3.4 Volunteers - Sustaining and Promoting the Vital Link

At the volunteer level, SARVAC, with the support of a three-year NIF project sought to solidify its governance structure, increase its role in prevention and maximize its members' expertise in the delivery of outreach programs at the local level. It also provided toolkits to promote standardization and consistency in exercise design, as well as command and control functions.

3.5 Emerging Issues:

Infrastructure Sustainability

Across Canada, aging equipment and infrastructure are placing a strain on SAR resources. The Canadian Forces fixed wing (FWSAR) fleets dedicated to the SAR role are nearing the end of their expected life cycles which affects their operational effectiveness and availability. Although a replacement for FWSAR is on the horizon, a formal commitment by the Government has not yet been announced. The Chief of the Air Staff has identified a FWSAR replacement aircraft as one of his highest priorities, such that the CF will continue to provide no less than the level of service that it currently provides.

On the volunteer side, CASARA, the CCGA and SARVAC all face operational pressures to maintain their equipment. Combining new approaches and partnerships to minimize the financial burden on maintaining and/or replacing aging equipment and infrastructure will continue to be vital to the future of the role played by volunteers in the National SAR Program.

Recruiting and Retaining People

Whether paid or volunteer, the challenge to recruit and retain the right people is a daunting one for service delivery providers such as the CF, the CCG, the RCMP and Parks Canada and the volunteer associations that assist these departments and other levels of government across Canada.

Emerging Technology

The transition to 406 MHz ELTs poses a risk to the portion of the general aviation community that have not yet converted their ELTs. The risk is measured in terms of greater exposure time to those relying on 121.5 MHz ELTs to provide distress alerting, as delays in alert notification to SAR authorities will result in delays in mounting a SAR effort. A prolonged

transition will not only increase the demands on already limited CF resources, but will also expose CF and CASARA SAR crews more often to additional risks. The Canadian military remains fully supportive of performance-based regulations and is hopeful that final approval and implementation will occur without delay. Thorough understanding of emerging technologies and their impact on the SAR system will guide the development of protocols to address changes in a consistent and cohesive manner.

4.0 Conclusion

In October 2007, the rescue of three year old Kate Williams from an airplane crash that claimed the life of her grandfather and his business partner made headlines across Canada and illustrated both the horizontality and resilience of the National SAR Program.

The challenge for the future will be ensuring that this rapid and seamless response continues – from first alert through to the coordination of an effective rescue mission. Equally important for the National SAR Program will be the continued momentum and delivery of safety programs designed to prevent incidents from occurring in the first place.

Annex A

NATIONAL SEARCH AND RESCUE PROGRAM

The vision of the National Search and Rescue Program is:

"A Canada where the critical importance of search and rescue is reflected in a multi-jurisdictional approach to promoting individual, collective and organizational behaviour that minimizes the risk of injury or loss of life, while maintaining timely and effective response services."

SAR Response Objective

To ensure an effective SAR response (capability) in all areas of Canada.

SAR Prevention Objective

To educate individuals and organizations on the assessment of risks and the importance of acquiring and using the knowledge, skills and equipment needed to minimize injury and/or loss of life.

NSP Strategies

Six strategies guide the development of federal SAR policies and programs and are a vital component of the federal government's commitment to public safety. The following strategies are engrained in both the response and prevention mandates of the NSP:

SAR Program Information Management and Data Exploitation

- Integrating data management with management decisions;
- Using SAR incident data and analysis to guide planning decisions and develop prevention and awareness campaigns; and
- Using SAR data to provide the link between resource inputs, service outputs and safety outcomes.

Interoperability

- Eliminating the barriers that prevent SAR partners from working together;
- Establishing the procedures, plans, training, equipment and communications that facilitate an integrated, coordinated response on land, at sea and in the air in any SAR operation; and

- Validating the foregoing through joint training and multi-jurisdictional exercises.

Public Education and Awareness

- Identifying and sharing best practices, as well as education and awareness plans and campaigns among partners to minimize the number of SAR incidents; and
- Leveraging the resources dedicated to prevention and awareness campaigns.

Enhancing the SAR Volunteer Community

- Reducing the systemic barriers that prevent SAR volunteers from reaching their full potential;
- Increasing the capability (training, equipment and availability) of volunteer organizations;
- Generating, maintaining and retaining committed SAR volunteers; and
- Exploring new associations and community-based partnerships.

Leveraging Technology

- Using technology to improve effectiveness and reduce risk to SAR responders;
- Identifying and developing best practices; and
- Investing in new technologies to improve performance and develop new capabilities.

SAR Partnership with the Public Safety Community

- Strengthening partnerships with the public safety community to facilitate and enhance SAR prevention, coordination and response activities.