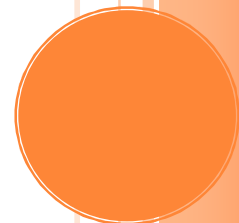




# SAR RESPONSE CAPABILITIES OF QUEBEC SEARCH AND RESCUE VOLUNTEERS

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## Table of Contents

Acknowledgements.....	2
Description and context of the mandate.....	3
Current context of Search & Rescue in Quebec.....	4
List of entities represented in the Focus group.....	5
Centre d’avalanche de la Haute-Gaspésie .....	5
L’EsQuad d’interventions bénévoles .....	5
Sauvetage Canin des Laurentides .....	5
Police: .....	6
M. Christopher S. Young:.....	6
L’Association Québécoise des Bénévoles en Recherche et Sauvetage.....	7
Methodology .....	8
Gaps Charts .....	10
Findings and Recommendations .....	19
Annex 1: Evaluation of the TCL elements by the Focus group.....	20
Definition.....	20
Expected outcome .....	20
Charts of target actions and performance measures.....	20
Annex 2 : Resource Types .....	35
Wilderness Search and Rescue Team.....	35
Air Search Team.....	38
Canine Search and Rescue Team .....	42
Quad Search and Rescue Team.....	48
Mountain Search and Rescue Team (Vertical rock) .....	51
Mountain Search and Rescue Team (Avalanche).....	55
Annex 3: Acronyms .....	58
Annex 4: Definitions.....	60
Annex 5: Documentary references .....	62
Annex 6: List of project participants.....	65

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I would also like to thank the Center for Security Science (CSS) of Defence Research and Development Canada (DRDC), for the confidence he has shown towards AQBRs, in entrusting our Association with this mandate.

Finally, it is also important to highlight the volunteer involvement of M. Christopher S. Young in regard to the final revision of this report and the constant support we have received from the Provincial Project Coordinator M. René Marchand as well as M. Robert Beaudry, who have both accompanied us throughout this exercise.

As in the case of a search for missing person, it is the sum of all these individual efforts which allowed us to carry through the mandate we were given.

*Yves Nadeau*

AQBRs President

## Description and context of the mandate

This mandate is primarily to assess the responsiveness of the Quebec Search & Rescue (SAR) volunteer community, based on the American NIMS (National Incident Management System) model.

The objectives aimed by this mandate are:

- To identify the gaps in the response capabilities of the specialized volunteers, to a Search and Rescue event;
- To identify the possible solutions to fill any gaps between the response capabilities of the specialized volunteer resources and some of the elements specified in the Target Capabilities List (TCL) and the Resource Typed sheets.

The main roles and responsibilities of AQBRs are:

- To coordinate efforts assessment of the resources designated by the provincial project coordinator, to complete the Resource Typed sheets related to the TCL;
- To organize and lead the Focus group workshops;
- To collect all information gathered, and present it in the form of a project summary report, related on the work and findings of the achievement team.

The Chemical, Biological, Radiological-Nuclear and Explosives (CBRNE) Research and Technology Initiative (CRTI) for Defence and Research Development Canada's (DRDC), sought the cooperation of the Quebec search and rescue volunteers to support and participate in a research project based on the capabilities-based planning response to the Canadian SAR community (Land-based).

This Canada-wide survey is based on the American NIMS (National incident management system) model, and takes the form of a consultation. It tries to collect data, identify gaps, find appropriate solutions and validate the effectiveness of this program, to determine its adaptability to the Canadian reality.

The Chemical, Biological, Radiological-Nuclear, and Explosives (CBRNE) Research and Technology Initiative (CRTI) is part of Canada's response, helping to sharpen the focus of our scientific and security communities on the areas that are the most relevant to today's realities.

Launched on May 10, 2002, as part of the federal government's security agenda, CRTI was a five-year initiative to significantly enhance Canada's capacity to deal with potential Chemical, Biological, Radiological-Nuclear and Explosives (CBRNE) threats to public security.

CRTI is now a program within the Centre for Security Science. This Centre was created in March 2006 as a joint endeavour between DRDC and Public Safety (PS) Canada, to deliver safety and technology services and support to address national public safety and security objectives

## Current context of Search & Rescue in Quebec

In Quebec, each disappearance is under investigation by a municipal police force or the Sûreté du Québec (SQ), according to the geographical location where it occurred.

Municipal police forces must provide a certain level of services depending on the population served or the geographic location. The Sûreté du Québec, which plays an additional role, provides higher level services to those offered by municipal police forces\*

It is the police force involved, who usually takes decisions concerning the implementation of the SAR collective efforts that will be performed, to find the missing person. It also has to answer to the community for the results of those searches. If necessary, it can request assistance to the Sûreté du Québec, to obtain specialized resources to support it in its searches.

In addition to police forces, the citizens of Quebec can also count on several groups of volunteer ground searchers, specialized in the search of missing person.

These structured groups mainly regrouped within an association named "Association Québécoise des Bénévoles en Recherche et Sauvetage" (AQBRS) and are deployed by it to assist the police forces when they request it.

This mobilisation is done through: "Le programme d'encadrement des bénévoles en sécurité civile" of the Ministère de la Sécurité Publique. This program allows the SAR volunteers, member of an AQBRS group, to receive reimbursement of some travel expenses, incurred during their participation in search efforts. It also ensures CSST coverage and civil liability exemption, when they are deployed by the Association through the mobilisation protocol established. Protective equipments are also provided to the specialized volunteers of our member groups by the Civil Protection.

In addition to these coverage, the Civil Protection also dispatch one of these resources on the field, whose primary mandate is to meet the logistical needs of the volunteers who are part of the Program, in terms of food, accommodation (if the search continues for more than one day, etc.)

In addition to helping the authorities during the searches they are organizing to find a missing person, it frequently happens that dedicated SAR groups of volunteers performed, for various reasons, further complementary searches at the request of the family. These searches are always done after having consulted the authorities in charge of the initial search, to make sure not to harm a police investigation that may in progress.

This means that the activities and responsibilities related to the search and rescue efforts service delivery in Quebec are shared among three entities: the police forces, the Civil Protection and the specialized groups of volunteers.

\*Extracted from Sécurité publique Québec web site (The Six Levels of Police Service)  
[http://www.msp.gouv.qc.ca/police/police\\_en.asp?txtSection=services\\_police&txtCategorie=desserte&txtNomAutreFichier=niveaux\\_services\\_en.htm](http://www.msp.gouv.qc.ca/police/police_en.asp?txtSection=services_police&txtCategorie=desserte&txtNomAutreFichier=niveaux_services_en.htm)

## List of entities represented in the Focus group

### Centre d'avalanche de la Haute-Gaspésie

The Avalanche Center is a non-profit organization and acts as an official resource of the Civil Protection for security advice in avalanche safety. It is an expert resource to the SQ and the SÉPAQ, in case of an avalanche incident.

The Avalanche Center deploys its qualified members at the scene of the accident / incident or at the command post, for the assessment of avalanche danger of the search and rescue area, in order to reduce the risk of the stakeholders facing this hazard.

It can also establish training plans for a search and rescue team called to intervene in avalanche areas. It is also able to create a specialized search and rescue team, in case of avalanche or disaster in a remote region under winter conditions.

### L'EsQuad d'interventions bénévoles

Founded in March 2000, L'EsQuad d'interventions bénévoles is a non-profit organization composed of volunteers specialized in Quad search. Member of the AQBRS, it works mainly on the territory of the Capitale-Nationale and Chaudière-Appalaches.

L'EsQuad has participated in the drafting and implementation of standards for certification of the AQBRS Quad searchers.

### Sauvetage Canin des Laurentides

Founded in 1993, Sauvetage Canin des Laurentides is a non-profit organization specialized in search of missing persons, with the help of canine teams (K9). Member of the AQBRS, the group has participated in the implementation of standards for certification of the AQBRS K9 teams. A certificate of achievement was presented to the group leader in 2006 by the National Search and Rescue Secretariat (NSS) of Canada, to highlight its commitment to search and rescue. In 2010, he also received an honourable mention from the Mérite Québécois de la sécurité civile, in the category "Responsible or engaged citizen", which aims to pay tribute to a citizen who has distinguished himself by his exceptional commitment in Civil Protection serving the community.

### LERPA (UQAC)

Le Laboratoire d'Expertise et de Recherche en Plein Air (LERPA) was founded to conduct some research activities in various fields associated with outdoor and adventure tourism and to spread afterward in the community, the expertise acquired. In 1997, LERPA was accredited by the Université du Québec network

More specifically, it helps the spread of its achievements, for a more enlightened and safe practice of the outdoor activities in Quebec.

## SERABEC

Sauvetage et recherche aériens du Québec (SERABEC) consists of volunteers dedicated to promoting aviation safety and provides air support for the National Search and Rescue Program of Canada. It answers to the Civil Air Search and Rescue Association «CASARA» standards.

SERABEC has its own charter, is funded by the Canadian Forces and Transport Canada and includes owners and pilots, navigators and observers trained for air search. SERABEC's mission is to support in Quebec, the Canadian Search and Rescue (SAR) programs and to promote the aviation safety.

## S.S.I. de Mont St-Hilaire

The Fire Safety Service of Mont Saint-Hilaire has established in 1994, a team of height and structure rescue technicians. Seven (7) firefighters have been trained at the time at l'École de formation Au Secours enr. In 1995, twelve (12) firefighters have joined the team formed then in 1996, ten (10) others have been trained. In 2004, the group of technicians has really been separated from the group of firefighters and an operational unit was then created.

Today, this team is composed of seventeen (17) technicians who receive a 90 hours in-house basic training. This training is added to the one already received by L'Institut de protection contre les incendies du Québec (IPIC) concerning the rescue at height. The team receive a good cooperation of officials from the McGill University, who owns much of the mountain on which they train and conduct rescue operations.

## Police:

In addition to the obligations identified in terms of levels of services by the MSP, the participants of the Sûreté du Québec present in this focus group have actively contributed to the provincial volunteer search and rescue table which gave birth to the AQBRS in 2002.

They are recognized in their fields of expertise within their organization and some of them were awarded by the MSP and by the National Assembly of Quebec, in recognition of their involvement in the search and rescue field.

## M. Christopher S. Young:

With an experience of over 29 years in Search and Rescue, Mr. Young became a reference in this field in United States and Canada. Co-author of the book "Urban Search - Managing Missing Person Searches in the Urban Environment" published in 2007, Mr. Young was invited as a speaker and as an expert by organizations such as NASAR (National Association for Search and Rescue), the National Search and Rescue Secretariat and the Canadian Coast Guard College.

It is as a consultant in this field that Mr. Young has voluntarily contributed to the project.

## L'ASSOCIATION QUÉBÉCOISE DES BÉNÉVOLES EN RECHERCHE ET SAUVETAGE

Founded in September 2002, l'Association Québécoise des Bénévoles en Recherche et Sauvetage (AQBR) is a non-profit organization, composed as its name implies, of search and rescue volunteer groups operating on the territory of the province of Quebec.

Although the main activity of the groups composing the association is the search and rescue of missing persons, we also aim to provide education services for social purposes, in order to train individuals to intervene in situations where the lives of community members is threatened as: flood, earthquake, tornado, etc..

The goals of our association are:

- Represent its members on provincial and national scope issues;
- To assist its member groups when needed, on local and regional scope issues;
- Provide social and education services, in order to train people to intervene in various search and rescue situations;
- Promote on the whole territory, the emergence of organized groups of volunteers, ready to intervene in search and rescue situations or during emergency resulting from a disaster;
- Encourage exchanges between its members, authorities and provide when necessary, mediation services to resolve or prevent conflicts;
- Promote and maintain a provincial quality delivery service, by establishing minimum standards of competence and service delivery, applicable to its members and their searchers;
- Making strategic alliances with partners, to help achieve its goals and mission.

The presence of our members throughout the province of Quebec, insure that we usually perform our search missions jointly with the Sûreté du Quebec. However, our volunteer groups are also available to assist any public authority, federal or provincial agency who asks for it.

The association expertise is recognized by the Sûreté du Quebec and also by the Civil Protection, which has entrusted it the responsibility, through a contract service, of recruitment, training and supervision of volunteers who work in search and rescue in the province of Quebec.



## METHODOLOGY

Capabilities-based planning (a construct of DND Canada, CAPDEM DIGCAP, [www.CAPDEM.FORCES.GC.CA](http://www.CAPDEM.FORCES.GC.CA)) is an approach that developed out of military research and cooperation agreements (TTCP, The Technical Co-operation Program, [www.dtic.mil/ttcp/](http://www.dtic.mil/ttcp/)) among several nations, notably the United States, Canada, Australia, New Zealand and the United Kingdom. It applies entirely to the civil sector, specifically in preparing for accidental, natural or man-made disasters.

The approach involves planning, prioritizing and choosing, within an economic framework, and despite some uncertainties, response capabilities that are flexible and interchangeable, in the face of a vast palette of threats and risks.

This all-risk (or multi-risk) approach maximizes the efficiency of existing systems, uses existing processes and procedures to their full capacity, smoothes over the uncertainties inherent in an all-risk approach, identifies priorities, and maximizes informed economic decision-making.

Capabilities-based planning is, in and of itself, part of a wider series of preparedness activities, which include preparation (of the stakeholders, the population, the responders...), communications, planning (response, emergency, infrastructure protection...), cooperation between the different partners (the public, private industry, NGOs, national associations, local, provincial and federal authorities), training (through exercises, workshops, simulations...), equipment (detection, response, and decontamination...), and exercises.

Various tools have been developed to support and guide the capabilities analysis: the Universal Task List (which number about 1600); All Hazards Planning Scenarios (15 in number); the **Target Capabilities List** (37 in number); and Resource Types (approximately 120 in number). These tools are useful for, notably:

- Hazard analysis
- Planning
- Justifying investments and development strategies
- Preparedness estimate
- Task-based training
- Testing response capabilities through exercises

In short, capabilities-based planning answers the following question: Do we have the right mix of training, organizations, plans, people, leadership and management, equipment, and facilities to perform a required emergency task?

Note: From the guide entitled *Developing and Maintaining, State, Territorial, Tribal and Local Government Emergency Plans*, FEMA March 2009, PDF file, p. 3

The participants to the project did confront the actual situation of the SAR response capabilities of our specialized volunteers, by comparing the TCL « Search and rescue (Land-based) » and the different NIMS Resource Types associated to it.

A project kick-off meeting was organized to bring together the different members of the Focus group, who had previously been chosen by the Provincial Project Coordinator. The objectives of this meeting were to present the project to various stakeholders, and evaluate with them the differences between the current situation and the TCL summary.

Parallel to this meeting, the Focus group stakeholders recognized for their expertise have been encountered, or have received some Resource Type sheets by email. They had to fill them up and evaluate the gaps between the current situation and the elements of their respective sheets.

Finally, an additional Resource Type sheet had to be created, for an activity that wasn't listed in the NIMS, that is: Quad search and rescue.

The result of these consultations subsequently gave birth to a preliminary version of this document. This version was presented to the Focus group during a second workshop.

Finally, the final document was produced and sent to the Provincial Project Coordinator for approval, before its translation in English.

## GAPS CHARTS

The comparison work between the SAR actual situation in Québec and the TCL content, allowed us to highlight the following gaps:

NO.	ACTIVITIES	GAPS	RECOMMENDATIONS / FINDINGS
<b>ACTIVITY 1 : DEVELOP AND MAINTAIN PLANS, PROCEDURES, PROGRAMS AND SYSTEMS</b>			
<b>EC-01</b>	Res.B4a.1.2.2	Presently, there is no established plan that applies to uncertified volunteers (spontaneous volunteers)	<u>Recommendation:</u> Suggest the establishment of a committee, to define the terms of use of uncertified volunteers in the framework of a search.
<b>EC-02</b>	Res.B4a.1.1.2	No plan has been developed aimed at empowering our specialized volunteer groups which will be deployed out-of-region, to self-sustain for up to 72 hours	<u>Recommendation:</u> Suggest the establishment of a committee to study the question.
<b>EC-03</b>	Activity 1 Performance measure 1	Scale of jurisdiction's urban search and rescue capability is related to risk/threat analysis. However this analysis is made by the police force in charge of the search operation.	<u>Recommendation:</u> The SAR specialized volunteers should be mobilised as soon as the organisation in charge of the case as the confirmation that it is, in fact, a missing person case.
<b>EC-04</b>	Activity 1 Performance measure 2	The equipment used by SAR specialized groups, do not respect the requirements of the National Incident Management System (NIMS) Resource Typing System.	<u>Finding:</u> The standards concerning the protective equipment which must be used during SAR service delivery are determined by the CSST jointly with the Civil Protection that provides some of the equipment (security vest, helmet, glasses).

SAR Response Capabilities of Quebec Search and Rescue Volunteers

NO.	ACTIVITIES	GAPS	RECOMMENDATIONS/FINDINGS
<b>ACTIVITY 1 : DEVELOP AND MAINTAIN PLANS, PROCEDURES, PROGRAMS AND SYSTEMS</b>			
<b>EC-05</b>	Activity 1 Performance measure 3	Federal, State, regional, and local SAR Capabilities are not NIMS Compliant.	N/A
<b>EC-06</b>	Activity 1 Performance measure 4	SAR plans don't address logistical support	<p><u>Finding:</u> The planning of logistical support for volunteers is performed by the Civil Protection.</p> <p>The management of spontaneous volunteers is the responsibility of the police force responsible for the search operation. He may be assisted in this task by SAR specialized volunteers.</p> <p>The assignment and re-assignment of specialized volunteers are conducted jointly between the AQBRS Coordinator and the Search Commander.</p> <p><u>Recommendation:</u> Establish roles and responsibilities of different logistic stakeholders during a search.</p>
<b>EC-07</b>	Activity 1 Performance measure 8	There is no established protocol concerning the needs for information exchanges.	<p><u>Finding:</u> The exchange of information is determined by the various stakeholders and may vary depending on the type of search conducted.</p> <p><u>Recommendation:</u> Develop a protocol for information exchanges.</p>

SAR Response Capabilities of Quebec Search and Rescue Volunteers

NO.	ACTIVITIES	GAPS	RECOMMENDATIONS/FINDINGS
<b>ACTIVITY 2 : DEVELOP AND MAINTAIN TRAINING AND EXERCICE PROGRAMS</b>			
<b>EC-08</b>	Activity 2 Performance measure 2	The equipment part which is not provided by the MSP is not defined by a standard.	<p><u>Finding:</u> In Quebec, protective equipment must conform to the requirements of the CSST.</p> <p>The protective equipments used by specialized volunteer searchers are partly provided by the MSP (eg helmet, security vest, goggles).</p> <p>Much of the personal equipment is the responsibility of the searcher who determines his own selection criteria (eg boots, backpack, etc.)</p> <p>The equipment of the group varies, depending on the skills developed and its financial resources.</p> <p><u>Recommendation:</u> Suggest the establishment of an equipment committee with: AQBRS, MSP and CSST</p>

SAR Response Capabilities of Quebec Search and Rescue Volunteers

NO.	ACTIVITIES	GAPS	RECOMMENDATIONS/FINDINGS
<b>ACTIVITY 2 : DEVELOP AND MAINTAIN TRAINING AND EXERCICE PROGRAMS</b>			
<b>EC-09</b>	Activity 2 Performance measure 3	There is no structured program of training, but there are performance standards that are validated by theoretical examinations and / or practical exercises.	<p><u>Finding:</u> Specialized SAR volunteer resources are trained mainly by their peers and / or other specialized groups. Although there are norms of delivery and common standards to respect, there is still no standardized training content for all training.</p> <p><u>Recommendation :</u> The AQBRS must complete to establish standards for delivery of specializations for which performance criteria are not yet defined.</p> <p>Establish a common terminology for the SAR concepts, knowledge and tools. AQBRS is already working on the development of this terminology.</p>

SAR Response Capabilities of Quebec Search and Rescue Volunteers

NO.	ACTIVITIES	GAPS	RECOMMENDATIONS/FINDINGS
<b>ACTIVITY 2 : DEVELOP AND MAINTAIN TRAINING AND EXERCICE PROGRAMS</b>			
<b>EC-10</b>	Activity 2 Performance measure 4	There is no annual large and complex SAR exercise.	<p><u>Finding:</u> There is a will to conduct a large and complex SAR exercise on an annual basis. Unfortunately, the availability of stakeholders and lack of financial support shall ensure that this will do not always translate into the actual implementation of such an exercise.</p> <p>Currently, exercises are conducted at regional level on an ad hoc basis.</p> <p><u>Recommendation:</u> Work with the AQBRS district coordinators, the police forces and the MSP, to prepare and maintain some district exercises on an annual basis.</p> <p>Plan to hold a large and complex provincial SAR exercise on an annual basis, together with the Civil protection and the police forces.</p>

SAR Response Capabilities of Quebec Search and Rescue Volunteers

NO.	ACTIVITIES	GAPS	RECOMMENDATIONS / FINDINGS
<b>ACTIVITY 3 : DIRECT SEARCH &amp; RESCUE TACTICAL OPERATIONS</b>			
<b>EC-11</b>	Activity 3 Performance measure 2	The frequency with which situation and resource status information are asked, is not every 30 minutes.	<u>Finding:</u> Search teams must usually refer to the search command post at an interval of approximately 3 hours.
<b>EC-12</b>	Activity 3 Performance measure 5	This measure which request a delay of 4 hours to develop and implement the Federal tactical plan, based on the Incident action plan (IAP), is not applicable.	<u>Finding:</u> There is no Federal action plan to integrate specialized volunteers from other provinces to SAR missions.
<b>EC-13</b>	Activity 3 Performance measure 6	There is no demobilisation and reassignment plan taking into account long-term personnel follow-up.	<u>Finding:</u> There are possible solutions that are currently used by some AQBRS groups.  <u>Recommendations:</u> The AQBRS and its coordinators show a willingness to extend it to all the member groups.



SAR Response Capabilities of Quebec Search and Rescue Volunteers

NO.	ACTIVITIES	GAPS	RECOMMENDATIONS / FINDING
<b>ACTIVITY 4 : ACTIVATE SEARCH &amp; RESCUE</b>			
<b>EC-14</b>	Activity 4 Performance measure 3	There is no plan to mobilize federal SAR resources.	
<b>EC-15</b>	Activity 4 Performance measure 4	There is no plan to mobilize federal SAR resources.	

NO.	ACTIVITIES	GAPS	RECOMMENDATIONS / FINDINGS
<b>ACTIVITY 5 : PROVIDE MATERIEL AND OTHER SUPPORT</b>			
<b>EC-16</b>	Activity 5 Performance measure 3	During an operation, the SAR volunteers are not self-sufficient for 72 hours.	<p><u>Finding:</u> During an operation, SAR volunteers are usually self-sufficient for 3 hours. A need for self-sufficiency over 24 hours is rarely observed in the field.</p> <p><u>Recommendations:</u> Include in the search specialized volunteer delivery standards, the concept of being self-sufficient for at least 24 hours.</p> <p>Define the difference between autonomy and survival.</p>

SAR Response Capabilities of Quebec Search and Rescue Volunteers

NO.	ACTIVITIES	GAPS	RECOMMENDATIONS / FINDINGS
<b>ACTIVITY 5 : PROVIDE MATERIEL AND OTHER SUPPORT</b>			
<b>EC-17</b>	Activity 5 Performance measure 4	There is no established protocol to check the health of the specialized volunteer searchers (human or animal) throughout the search activities.	<p><u>Finding:</u> Check of searcher's health is left to the discretion of the group leader whom the person or the animal belong.</p> <p><u>Recommendations:</u> Establish a protocol to check once per shift, the health of all the human and animal resources.</p>

NO.	ACTIVITIES	GAPS	RECOMMENDATIONS / FINDINGS
<b>ACTIVITY 7 : SEARCH</b>			
<b>EC-18</b>	Activity 7 Performance measure 4	Frequency with which updated situation and resource status report is provided is not every 30 minutes.	<p><u>Finding:</u> Updated situation and resource status report are generally provided every 3 hours. If there is a specific need, the resources are contacted by radio communications.</p>

SAR Response Capabilities of Quebec Search and Rescue Volunteers

NO.	ACTIVITIES	GAPS	RECOMMENDATIONS / FINDINGS
<b>ACTIVITY 8 : EXTRICATE</b>			
<b>EC-19</b>	Activity 8 Performance measure 2	Frequency with which updated situation and resource status report is provided is not every 30 minutes.	<u>Finding:</u> The latest status reports and position resources are provided on an ongoing basis and according to the evolution of the situation.

NO.	ACTIVITIES	GAPS	RECOMMENDATIONS / FINDINGS
<b>ACTIVITY 9: PROVIDE MEDICAL TREATMENT</b>			
<b>EC-20</b>	Res.B4a9.1.2	The medical stabilization of trapped victims under medical protocols is not supported by listed stakeholders.	<u>Finding:</u> Only Paramedics and Army SarTechs are authorized to medically stabilized the victims.  AQBRS, SQ and SERABEC stabilize (non-medically).

## FINDINGS AND RECOMMENDATIONS

NO.	FINDINGS	RECOMMENDATIONS
CO-01	SAR specialized volunteers have little or no knowledge of chemical, biological, radiological, nuclear and explosive (CBRNE) agents.	Increase volunteer awareness of an e-learning course: «Chemical, Biological, Radiological, and Nuclear (CBRN) First Responder Training Program», available on the web site of Public Safety and Emergency Preparedness Canada at this address: <a href="http://cbrnenligne.sppcc-psepc.gc.ca/index_e.html">http://cbrnenligne.sppcc-psepc.gc.ca/index_e.html</a>
CO-02	SAR specialized volunteers have little or no knowledge about hazardous materials (HAZMAT).	An introductory training in the recognition of hazardous materials, should be available to all SAR specialized volunteers.
CO-03	The SAR volunteer service offer is unequal from one region to another, depending on the expertise developed by the different AQBRS member groups.	<p>One of the fundamental values of the AQBRS is to respect the choices of its member groups, in regard to the expertises they wish to develop, as long as they comply with the minimum standards of the association.</p> <p>The AQBRS however will standardize the expertises she will wish to add to its provincial service offer, or to be developed by several of its member groups, in order to establish minimum standards and thereby, ensure an equal quality of service from one region to another.</p>

## ANNEX 1: EVALUATION OF THE TCL ELEMENTS BY THE FOCUS GROUP

The information contained in this section of the document, illustrate the results of the evaluation of gaps between the Quebec actual SAR situation and the « Search and Rescue (Land-Based) capability summary, included in the respond mission part of the TCL.

### Definition

Search and Rescue (Land-based) is the capability to coordinate and conduct search and rescue (SAR) response efforts for all hazards, including searching affected areas for victims (human and, to the extent no humans remain endangered, animal) and locating, accessing, medically stabilizing, and extricating victims from the damaged area.

### Expected outcome

The greatest numbers of victims (human and, to the extent that no humans remain endangered, animal) are rescued and transferred to medical or mass care capabilities, in the shortest amount of time, while maintaining rescuer safety.

### Charts of target actions and performance measures

Chart additional information:

AQBRS:	Indicates tasks that are supported by AQBRS and its member groups
Police:	Indicates tasks that are supported by Police Forces
Civil Protection:	Indicates tasks that are supported by Civil Protection
Avalanche:	Indicates tasks that can be done by Le Centre d'avalanche de la Haute-Gaspésie
SERABEC:	Indicates tasks that could be done by Sauvetage et recherche aériens du Québec
Swiftwaters:	Indicates tasks that could be done by specialized Swiftwaters intervention groups
Mountain:	Indicates tasks that could be done by intervention groups specialized in vertical rock climbing

SAR Response Capabilities of Quebec Search and Rescue Volunteers

ACTIVITY #1	DEVELOP AND MAINTAIN PLANS, PROCEDURES, PROGRAMS, AND SYSTEMS	AQBRS	Police	Civil Protection	Avalanche	SERABEC	Swiftwaters	Mountain	Comments
Res.B4a 1.1.1	Incorporate Search and Rescue (SAR) plans and procedures for urban, civil, and other search and rescue into jurisdiction's Emergency Operations Plan (EOP) or EOP Annexes.			x					
Res.B4a 1.3.2	Pre-identify typed SAR resources	x	x	x		x		x	AQBRS: A list is established for the volunteers of our member groups.
Res.B4a 1.3.3	Develop resource allocation processes and procedures for SAR capable resources that also support other capabilities/functions.			x					
Res.B4a 1.3.4	Identify resources from other agencies or capabilities that may assist with SAR, and plan to integrate such additional resources as necessary.	x	x	x				x	
Res.B4a 1.2.1	Develop plan to incorporate nationally certified SAR volunteers			x					
Res.B4a 1.2.2	Develop management plan to address uncertified volunteers.								Recommendation: Suggest a committee to define the conditions of use of uncertified volunteers during a search.
Res.B4a 1.1.2	Develop plan for SAR teams that will be deployed out-of-region to be self-sustaining for 72 hours.								
Res.B4a 1.2	Establish plans, procedures and protocols for logistical support for search and rescue assets.			x					

SAR Response Capabilities of Quebec Search and Rescue Volunteers

**Performance Mesures (Activity # 1)**

Preparedness Measure	Answers	Comments
1. Scale of jurisdiction's urban search and rescue capability is related to risk/threat analysis.	YES	The analysis is made by the police.
2. Team is equipped in accordance with the National Incident Management System (NIMS) Resource Typing System.	NO	
3. Federal, State, regional, and local SAR Capabilities are NIMS Compliant.	NO	
4. SAR plans address logistical support (e.g. directing resources, re-assigning tech-specialists, managing uncertified volunteers).	NO	It's not our mandate. -Logistical support : Civil Protection -Managing uncertified volunteers: Police -Assignment and Re-assignment of specialized volunteers: AQBRS Coordinator and Search Commander.
5. Plans address demobilisation of SAR operations (e.g. replenishing supplies and equipment, re-assigning personnel).	YES	A process addresses the re-assignments.
6. Plans address SAR personnel needs (e.g. physical, psychological, financial assistance).	YES	
7. SAR plans are integrated with the incident management structure (e.g. USAR teams coordinated with fatality management and EMS resources).	YES	The coordination of the efforts between the various entities which work on a search site is the responsibility of the organization which is in charge of the search, in the majority of the cases, a police force (or a member group of the AQBRS, when complementary searches are carried out).
8. SAR plans address information sharing requirements Activity.	NO	Not at our level.

SAR Response Capabilities of Quebec Search and Rescue Volunteers

ACTIVITY #2	DEVELOP AND MAINTAIN TRAINING AND EXERCICE PROGRAMS		AQBRS	Police	Civil Protection	Avalanche	SERABEC	Swiftwaters	Mountain		Comments
Res.B4a 2.1.2	Train and equip SAR personnel to the appropriate standards commensurate with their mission.		x	x	x		x		x		SC: Only for the equipment part

**Performance Measures (Activity # 2)**

Preparedness Measure	Answers
1. Training program has been established.	YES
2. SAR plans address information sharing requirements Activity.	NO
3. SAR personnel trained and equipped as per EOP and SOPs.	NO
4. Frequency with which SAR activities are exercised in large and complex exercises.	NO : Not Every 12 months  There is no standard adopted. However, there is a will to hold such large activity on an annual basis.



SAR Response Capabilities of Quebec Search and Rescue Volunteers

ACTIVITY #3	DIRECT SEARCH & RESCUE TACTICAL OPERATIONS								Comments
	DEFINITION : IN RESPONSE TO NOTIFICATION OF ENTRAPMENT, PROVIDE MANAGEMENT AND COORDINATION OF SAR CAPABILITY, THROUGH DEMOBILISATION FOR SINGLE OR MULTIPLE TEAMS								
	AQBRS	Police	Civil Protection	Avalanche	SERABEC	Swiftwaters	Mountain		
Res.B4a 3.1	Receive and accept SAR request/activation order.								Mountain: Local or regional calls.
Res.B4a 3.2	Participate in SAR planning process and operational briefings.								
Res.B4a 3	Plan and coordinate SAR operations at incident site.								AQBRS: YES for a complementary search.
Res.B4a 3.4.1	Direct SAR resources according to the National Incident Management System (NIMS), the Incident Command System (ICS), and consensus-level technical rescue standards.								N/A
Res.B4a 3.4.3	Determine need for deployment of additional SAR assets.								AQBRS: YES for a complementary search. Avalanche: External Counsellor.
Res.B4a 3.6.1	Provide timely situational awareness and response information.								
Res.B4a 3.6.1.1	Establish and maintain a chorological log of events in the field.								Avalanche: Systematically Observations and changes in the mountain environment (eg: snow coverage, weather etc.)
Res.B4a 3.6.2	Document and collect SAR operations information, including chronological log of events in the field for use in after action review.								

SAR Response Capabilities of Quebec Search and Rescue Volunteers

ACTIVITY #3	DIRECT SEARCH & RESCUE TACTICAL OPERATIONS							Comments	
	DEFINITION : IN RESPONSE TO NOTIFICATION OF ENTRAPMENT, PROVIDE MANAGEMENT AND COORDINATION OF SAR CAPABILITY, THROUGH DEMOBILISATION FOR SINGLE OR MULTIPLE TEAMS	AQBRS	Police	Civil Protection	Avalanche	SERABEC	Swiftwaters		Mountain
Res.B4a 3.7.3	Re-assign/rotate technical specialists, as needed.	x	x			x		x	AQBRS: Only for specialized volunteers of our member groups.
Res.B4a 3.3.3	Maintain accountability of all SAR personnel.			x				x	AQBRS: Only for specialized volunteers of our member groups. Mountain: Continuous training for human resources.
Res.B4a 3.2.1	Identify logistics capability of incident site to determine whether deployed SAR teams must be self-sustaining.		x					x	AQBRS: Only for specialized volunteers of our member groups.
Res.B4a 3.7	Develop SAR team reassignment/demobilisation plan.		x						

**Performance Measures (Activity # 3)**

Preparedness Measure	Answers
1. SAR teams are incorporated into the incident command structure.	YES
2. Frequency with which situation and resource status information are received (and also after a significant change).	NO: not every 30 minutes, but every 3 hours
3. Number of loss-time injuries per deployment of SAR personnel during SAR efforts.	YES < 1
4. Time in which tactical plan is developed and implemented by State, regional, and/or local SAR, based on the Incident Action Plan (IAP).	YES  This activity is the responsibility of the Search Commander, usually a member of a police force.
5. Time in which tactical plan is developed and implemented by Federal SAR resource(s) based on the (IAP).	Within 4 hrs from arrival on-scene: N/A
6. Demobilisation/reassignment plan is developed and takes into account long-term personnel follow-up.	YES/NO : N/A

SAR Response Capabilities of Quebec Search and Rescue Volunteers

ACTIVITY #4	ACTIVATE SEARCH & RESCUE	AQBR	Police	Civil Protection	Avalanche	SERABEC	Swiftwaters	Mountain	Comments
Res.B4a 3.1	Receive Search and Rescue (SAR) alert/activation order.	x		x				x	
Res.B4a 4.3	Participate in Search and Rescue (SAR) planning process and operational briefings.	x	x			x		x	AQBR: YES, on a complementary search.
Res.B4a 4.2	Initiate mobilisation procedure.	x	x					x	The SQ CSO contacts the COG. AQBR: YES, on a complementary search with our resources.
Res.B4a 4.2.1	Assemble personnel and equipment at designated location.	x	x	x	x	x		x	
Res.B4a 4.1.2	Deploy Federal, State, regional or local SAR resources commensurate with request.	x							AQBR: YES, on a complementary search.
Res.B4a 4.2.2	Transport team (personnel and equipment) to incident scene.	x	x	x	x	x	x	x	
Res.B4a 4.2.3	Collect and analyze incident information to assist SAR capability deployment decisions.	x	x	x	x	x	x	x	

SAR Response Capabilities of Quebec Search and Rescue Volunteers

**Performance Measures (Activity # 4)**

Preparedness Measure	Answers
1. Time in which local SAR capability arrives on-scene Within 2 hours from notification.	YES, within 2 hours from notification.
2. Time in which regional SAR capability arrives on-scene Within 12 hours from notification.	YES, within 12 hours from notification.
3. Time in which federally designated SAR capable resources are deployed Within 6 hours from task force notification of request.	N/A: within 6 hours from task force request notification.
4. Time in which first activated Federal SAR resources arrive on-scene Within 24 hours from activation.	N/A: within 24 hours from activation.

SAR Response Capabilities of Quebec Search and Rescue Volunteers

ACTIVITÉ #5	PROVIDE MATERIEL AND OTHER SUPPORT	AQBRS	Police	Civil Protection	Avalanche	SERABEC	Swiftwaters	Mountain	Comments
Res.B4a 4.3	Participate in SAR planning process and operational briefings.	x	x	x	x	x	x	x	
Res.B4a 5.1	Establish base of operations.	x	x			x		x	Avalanche and Swiftwaters will integrate an existing Command post (as consultant).
Res.B4a 5.2	Maintain accountability of team equipment/supplies.	x	x		x	x	x	x	
Res.B4a 5.1.1	Provide medical care for SAR personnel, including the K-9 first responders.	x	x		x			x	

**Performance Measures (Activity # 5)**

Preparedness Measure	Answers
1. Time in which functional Base of Operation is established and ready to support initial SAR operations.	YES: Within 60 minutes from arrival at incident site.
2. Percent of accountability for team equipment/supplies maintained.	YES : 100%
3. Percent of deployable SAR capability that can sustain its own operations for up to 72 hours without additional resources.	NO: Not 100% We are asking our resources to self-sustain for 24 hours. Reality is more around 3 hours.
4. Percent of SAR personnel and service animals whose health is monitored at least once per work cycle.	NO: Not 100% In fact it is not done, but it should be done.

SAR Response Capabilities of Quebec Search and Rescue Volunteers

ACTIVITY #6	CONDUCT SEARCH AND RESCUE RECONNAISSANCE	AQBRS	Police	Civil Protection	Avalanche	SERABEC	Swiftwaters	Mountain	Comments
Res.B4a 6.1.1	Assess incident site to determine search and rescue course of action.	x	x		x			x	Avalanche: Co-evaluation of the site. AQBRS: YES during a complementary search.
Res.B4a 6.1.2	Assess the incident site for hazardous materials (hazmat) or other environmental conditions.			x	x			x	Avalanche: Environmental conditions.
Res.B4a 6.1.3	Develop map of search area to be used in SAR tactical operations.	x	x		x	x		x	Avalanche: Define danger zones. AQBRS: YES during a complementary search
Res.B4a 6.3	Communicate findings and recommend priorities to Team Management.	x	x		x	x		x	

**Performance Measures (Activity # 6)**

Preparedness Measure	Answer
1. Time in which reconnaissance team provides preliminary recommendation on search priorities and strategy.	YES: Within 1 hour

SAR Response Capabilities of Quebec Search and Rescue Volunteers

ACTIVITY#7	SEARCH	AQBRS	Police	Civil Protection	Avalanche	SERABEC	Swiftwaters	Mountain	Comments
	DEFINITION: UPON BEING ASSIGNED SEARCH AREA, BEGINS SEARCH OPERATIONS								
Res.B4a 4.3	Participate in SAR planning process and operational briefings.	x	x		x	x		x	
Res.B4a 7.1	Ensure scene/site safety (security, shoring, debris).	x	x		x	x		x	
Res.B4a 7.2	Conduct area search for victims.	x	x		x	x		x	Avalanche: YES, to help support a team.
Res.B4a 7.2.1	Search for victims using canine, physical, and electronic search capabilities.	x	x		x	x		x	
Res.B4a 7.2.2	Identify and record potential/actual victim locations (live and dead).	x	x		x	x		x	
Res.B4a 7.3	Direct ambulatory victims to safe assembly point.	x	x					x	Avalanche: Identify a safe location, but not structured to support an evacuation.
Res.B4a 7.4	Report progress of search efforts on a regular basis to SAR lead.	x	x		x	x		x	
Res.B4a 7.5	Maintain accountability for search personnel, equipment, and supplies.	x	x	x	x	x		x	

**Performance Measures (Activity # 7)**

Preparedness Measure	Answers
1. Percent of assigned area searched.	YES: 100%
2. Time in which systematic search of an area affected by a large-scale emergency is initiated.	YES: Within 30 minutes from operations briefing.
3 Percent of ambulatory victims directed to safe assembly point.	YES, 100%
4. Frequency with which updated situation and resource status report is provided (including after major change in conditions).	NO: Not every 30 minutes. Usually every 3 hours. If needed more often: available by radio.



SAR Response Capabilities of Quebec Search and Rescue Volunteers

ACTIVITÉ #8	EXTRICATE  DEFINITION: UPON NOTIFICATION OF LOCATION OF VICTIM, PERFORM EXTRICATE	AQBRS	Police	Civil Protection	Avalanche	SERABEC	Swiftwaters	Mountain			Comments
Res.B4a 7.1	Ensure scene/site safety (security, shoring, debris).	x	x	x	x		x				
Res.B4a 8.1.1	Coordinate extrication strategy with medical personnel.		x				x				Mountain: YES, but they are not on scene.
Res.B4a 8.1	Extricate trapped victims.	x	x				x				
Res.B4a 8.2	Provide periodic progress reports while rescuing.	x	x	x			x				
Res.B4a 8.3	Maintain accountability of extrication personnel, equipment, and supplies.	x	x	x			x				Mountain : Same personnel than SAR

**Performance Measures (Activity # 8)**

Preparedness Measure	Answers
1. Percent of dangerous conditions affecting extrication mitigated to allow worker and victim safety in accordance with SOP.	YES: We target 100%
2. Frequency with which updated situation and resource status report is provided (including after major change in conditions).	NO: Not every 30 minutes Continually, according to the evolution of the situation.
3. Percent of located victims extricated.	YES, 100%

SAR Response Capabilities of Quebec Search and Rescue Volunteers

ACTIVITY #9	PROVIDE MEDICAL TREATMENT  DEFINITION: UPON ACCESS TO VICTIM, COORDINATE WITH MEDICAL PERSONNEL TO TREAT AND TRANSFERT VICTIM TO MORE DEFINITIVE MEDICAL CARE	AQBRS	Police	Civil Protection	Avalanche	SERABEC	Swiftwaters	Mountain	Comments
Res.B4a 4.3	Participate in SAR planning process and operational briefings.	X	X			X		X	
Res.B4a 9.1.1	Coordinate medical treatment with extrication and medical personnel.		X					X	
Res.B4a 9.2	Transfer victims to more definitive medical care.	X	X					X	
Res.B4a 9.1.2	Medically stabilize trapped victims according to Task Force Operations Manual and Medical Protocols.								Only Paramedics and Army SARTEchs are authorized to medically stabilized victims. AQBRS, S , SERABEC stabilized (non-medically)
Res.B4a 9.1.2.1	Ensure victims are medically stabilized according to Task Force Operations Manual and Medical Protocols throughout packaging and extrication.							N/A	
Res.B4a 9.3	Maintain accountability of medical personnel, equipment, and supplies.						X	N/A	

**Performance Measures (Activity # 9)**

Preparedness Measure	Answers
1. Percent of victims whose standard of care is maintained according to local medical protocols.	YES : 100%
2. Percent of time resources were identified to transfer patient to more definitive medical care.	YES : 100%

SAR Response Capabilities of Quebec Search and Rescue Volunteers

ACTIVITY #10	DEMOBILIZE/REDEPLOY	AQBRS	Police	Civil Protection	Avalanche	SERABEC	Swiftwaters	Mountain	Comments
Res.B4a 10.2.1	Repackage equipment cache.	X	X	X	X	X		X	
Res.B4a 10.2	Demobilize base of operations.	X	X			X		X	
Res.B4a 10.1.1	Arrange transportation for personnel and equipment.	X	X	X	X	X		X	
Res.B4a 10.1.2	Debrief SAR capability personnel.	X	X		X	X		X	

**Performance Measures (Activity # 10)**

Preparedness Measure	Answers
1. Time in which equipment cache is re-inventoried and packaged for transport.	YES: Within 12 hours from start of demobilisation.
2. Time in which base of operations is returned to original conditions.	YES: Within 12 hours from start of demobilisation.
3. Percent of Search and Rescue task force personnel debriefed before leaving the scene.	We target 100%

## ANNEX 2 : RESOURCE TYPES

### Wilderness Search and Rescue Team

RESOURCE:		Wilderness Search and Rescue Team				
CATEGORY:		Search & Rescue (ESF #9)		KIND:		Team
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
COMPONENT	METRIC					
Team	Rescue Capabilities	Same as Type II <b>YES</b>	Backcountry, low-angle evacuation	Same as Type IV	Trained rescue personnel with experience in nontechnical backcountry evacuation/carryouts supported by local technical experts	
Team	Search Capabilities	Capable of conducting self-sustaining full search operations for 72 hours in all weather and low-angle wilderness terrain Competent and experienced Incident Command staff	Capable of conducting self-sustaining full search operations for 48 hours in all weather and low-angle wilderness terrain Competent and experienced Incident Command staff	Same as Type IV <b>YES</b>	Capable of searching high-probability local wilderness terrain for short durations (24 hours or less)	
Personnel	Team Composition	At least 6 team leaders and 48 team members to support at least 6 operational field units (at least 1 member of each team must be a medical specialist – see below) Management staff following ICS model	At least 4 team leaders and 28 team members to support at least 4 operational field units (at least 1 member of each team must be a medical specialist – see below) Management staff following ICS model	At least 2 team leaders and 6 team members to support at least 2 operational field units Must be supported by local EMS and technical rescue personnel	At least 1 team leader and 3 team members Must be supported by local EMS and technical rescue personnel <b>YES</b>	
Personnel	Medical Specialist	National standard EMT curriculum; ACLS, BTLS	National standard EMT-B curriculum or wilderness first responder; BTLS	Same as Type IV <b>YES</b>	Not required – supported by local EMS	
Personnel	Overhead Incident Management	Same as Type II <b>YES</b>	Incident staff capable of managing wilderness search operations	Same as Type IV	Unit level mission release No search management capabilities	
Personnel	Crew Availability	Same as Type II <b>YES</b>	Available for more than 1 full day of operations	Same as Type IV	Available for at least 1 full day of operations	
Personnel	Sustained Operations	72 hours	48 hours	Same as Type IV <b>YES</b>	24 hours	

SAR Response Capabilities of Quebec Search and Rescue Volunteers

RESOURCE:		Wilderness Search and Rescue Team				
CATEGORY: Search & Rescue (ESF #9)			KIND: Team			
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
COMPONENT	METRIC					
Personnel	Training	<p>Same as Type II plus:</p> <p>Personnel demonstrate proficiency in mantracking and working with expert mantrackers</p> <p>YES for some groups</p>	<p>Same as Type III plus:</p> <p>1 member of each team must be current to the requirements of the medical specialist (see above)</p> <p>YES</p> <p>Must also be knowledgeable of procedures involved with helicopter transport and coordination with search crews, both ground and air</p> <p>YES</p> <p>Must have the ability to operate in an ICS structure, and be able to plan, organize, and direct search and rescue missions</p> <p>NO</p> <p>Team members must have training for operations in remote locations for extended periods</p> <p>YES for some groups</p>	<p>Same as Type IV plus:</p> <p>Proficiency in backcountry navigation (including the ability to triangulate a position, ascertain a UTM, use GPS, and follow a route to a new location using a topographical map and compass)</p> <p>YES</p> <p>Must be proficient at conducting and directing search lines</p> <p>YES</p>	<p>Must be able to operate the team's equipment; Team members are not expected to operate in remote field locations for extended periods</p> <p>YES</p> <p>Must have basic navigation training using a map and compass</p> <p>YES</p> <p>Must have technical proficiency in personal survival in local wilderness terrain</p> <p>YES</p> <p>Must have awareness of mantracking and maintaining site integrity</p> <p>YES</p> <p>Must have a basic understanding of the ICS</p> <p>NO</p> <p>Must have proficiency in hasty search techniques</p> <p>YES</p>	

SAR Response Capabilities of Quebec Search and Rescue Volunteers

RESOURCE:		Wilderness Search and Rescue Team				
CATEGORY:			Search & Rescue (ESF #9)		KIND:	Team
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
COMPONENT	METRIC					
Vehicle	Transportation	4x4 vehicles that can transport each team throughout or to the search area  YES (depending on the personal or governmental vehicles available)	Vehicles that can transport each team throughout or at least to the search area 4x4s are not required, but recommended	Same as Type IV	1 vehicle that can transport the team throughout or at least to the search area  4x4s are not required, but recommended	
Equipment	Clothing	Same as Type II  YES	Same as Type III	Same as Type IV	Appropriate level of PPE for working environment	
Equipment	Communications	Same as Type II	Same as Type III plus: VHF capability to communicate with aircraft  YES (in some of the teams)	Same as Type IV plus: VHF communications capability with other teams	VHF Radios for team communications Cell Phone	
Equipment	Search & Rescue	Same as Type II  YES (for the majority of the teams)	Equipment to support remote extrication and field transport of survivors	None required	None required	
Supply	Self-sustaining	Equipped to be self-sustaining for 72 hours in local wilderness environments	Equipped to be self-sustaining for 48 hours in local wilderness environments	Same as Type IV  YES	Equipped to be self-sustaining for 24 hours in local wilderness environments	
Equipment	Medical	Same as Type II  YES	Same as Type III, plus ability to support survivors	Same as Type IV	As appropriate for level of training, as applied in wilderness environment and meeting local protocols and requirements for support of the team	
<b>COMMENTS:</b>		<p>Team members will usually only work a maximum of 12-hour shifts, depending on individual unit policies and procedures. Crew availability does not require continuous availability of specific personnel, only that crews are available to those specifications, though some personnel may have extended assignments in the field. Medical support and technical rescue equipment is expected to be provided by local EMS and other technical rescue personnel for Type III and IV teams.</p> <p>The AQBRs established during winter of 2009-2010, its Norm of certification for ground searcher (Wilderness Search and Rescue). Take note: In Quebec, the wilderness SAR teams are generally composed of 1 Team leader and 6 volunteers.</p>				

SAR Response Capabilities of Quebec Search and Rescue Volunteers

Air Search Team

Resource:		Air Search Team (Fixed-Wing)				
CATEGORY:		Search & Rescue (ESF #9)		KIND:	Team	
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
Component	Metric					
Vehicle	Fixed-Wing Aircraft	Same as Type II	IFR Capable Fixed-Wing Observation Aircraft	Same as Type IV	Fixed-Wing Observation Aircraft	25 planes with team: Pilot, co-pilot and observer
Vehicle	Capacity	4-8 passengers with cargo not to exceed design specification of aircraft	Same as Type III YES	Same as Type IV	2-4 passengers with cargo not to exceed design specification of aircraft	
Equipment	Flight Suit	Same as Type II	Same as Type III	Same as Type IV	Appropriate level of PPE	NO. Not required in SERABEC
Equipment	Communications	Same as Type II except: Satellite Phone	Same as Type III	Same as Type IV except:VHF Radios YES	Standard FAA FM Radio NO	Each one has its own equipment, not generalized.
Equipment	Video/ Electronic	Same as Type III except: Capable of Airborne Video Transmission	Same as Type III except: Capable of flying back video or still imagery	Electronic Direction Finding Capable YES	None	
Aircrews	Training & Ratings	Pilot – Commercial (instrument) or higher certificate and complete unit certification program  10%  Observer – Complete unit certification program	Pilot – Private Pilot (instrument) or higher certificate and complete unit certification program  Only few  Observer – Complete unit certification program	Same as Type IV	Pilot – Private Pilot or higher certificate and complete unit certification program  YES  Observer – Complete unit certification program  YES	
Aircrews	Crew Availability	Aircrew(s) available for extended operations  YES	Aircrew(s) available for 8 to 14 days of operations	Aircrew(s) available for 3 to 7 days of operations	Aircrew(s) available for at least 2 days of operations	

SAR Response Capabilities of Quebec Search and Rescue Volunteers

<b>Resource:</b>		<b>Air Search Team (Fixed-Wing)</b>				
<b>CATEGORY:</b>		Search & Rescue (ESF #9)		<b>KIND:</b>	Team	
<b>MINIMUM CAPABILITIES:</b>		<b>TYPE I</b>	<b>TYPE II</b>	<b>TYPE III</b>	<b>TYPE IV</b>	<b>OTHER</b>
<b>Component</b>	<b>Metric</b>					
Management Support	Overhead Incident Management	Full incident command staff capable of managing all phases of air search operations  YES	Incident staff capable of managing air operations branch	Incident staff capable of supporting independent flight release	Unit level flight release; No search management capabilities	
<b>COMMENTS:</b>		Aircrews can work a maximum of 12-hour shifts, depending on individual unit policies and procedures. Aircraft will be maintained in accordance with Federal Aviation Administration Regulations. Aircraft will be expected to operate out of established airfield with paved runways. Aircrews will indicate fuelling and runway requirements for the aircraft provided. Crew availability does not require continuous availability of specific personnel, only that crews are available to those specifications.				



SAR Response Capabilities of Quebec Search and Rescue Volunteers

<b>Resource:</b>		<b>Airborne Reconnaissance (Fixed-Wing)</b>				
<b>CATEGORY:</b>		Search & Rescue (ESF #9)		<b>KIND:</b>	Team	
<b>MINIMUM CAPABILITIES:</b>		<b>TYPE I</b>	<b>TYPE II</b>	<b>TYPE III</b>	<b>TYPE IV</b>	<b>OTHER</b>
<b>Component:</b>	<b>Metric:</b>					
Vehicle	Fixed-Wing Aircraft	Same as Type II	IFR Capable Fixed-Wing Observation Aircraft  10% limited	Same as Type IV  YES	Fixed-Wing Observation Aircraft	
Equipment	Capacity	4-8 passengers with cargo not to exceed design specification of aircraft	Same as Type III  YES	Same as Type IV	2-4 passengers with cargo not to exceed design specification of aircraft	
Equipment	Flight Suit	Same as Type II	Same as Type III	Same as Type IV	Appropriate level of PPE  NO	
Equipment	Communications	Same as Type II except: Satellite Phone	Same as Type III	Same as Type IV except: VHF Radios  YES	Standard FAA FM Radio  NO	
Equipment	Video/ Electronic	Capable of flying back video or still imagery  Capable of High Resolution Airborne Video Transmission  Desired: FLIR or other infrared capabilities  Desired: Capable of supporting Hyperspectral Imaging Requests	Same as Type III except:  Capable of Low resolution Airborne Video Transmission  Desired: FLIR or other infrared capabilities	Capable of flying back video or still imagery	None  YES	
Personnel	Training & Ratings	Pilot – Commercial (instrument) or higher certificate and complete unit certification program  Observer – Complete unit certification program	Pilot – Private Pilot (instrument) or higher certificate and complete unit certification program  10%  Observer – Complete unit certification program  YES	Same as Type IV  YES	Pilot – Private Pilot or higher certificate and complete unit certification program  Observer – Complete unit certification program	

SAR Response Capabilities of Quebec Search and Rescue Volunteers

<b>Resource:</b>		<b>Airborne Reconnaissance (Fixed-Wing)</b>				
<b>CATEGORY:</b>		Search & Rescue (ESF #9)		<b>KIND:</b>	Team	
<b>MINIMUM CAPABILITIES:</b>		<b>TYPE I</b>	<b>TYPE II</b>	<b>TYPE III</b>	<b>TYPE IV</b>	<b>OTHER</b>
<b>Component:</b>	<b>Metric:</b>					
Personnel	Crew Availability	Aircrew(s) available for extended operations  YES	Aircrew(s) available for 8 to 14 days of operations	Aircrew(s) available for 3 to 7 days of operations	Aircrew(s) available for at least 2 days of operations	
Management Support	Overhead Incident Management	Full incident command staff capable of managing all phases of air search operations  YES	Incident staff capable of managing air operations branch	Incident staff capable of supporting independent flight release	Unit level flight release; No search management capabilities	
<b>COMMENTS:</b>		Aircrews can work a maximum of 12-hour shifts, depending on individual unit policies and procedures. Aircraft will be maintained in accordance with Federal Aviation Administration Regulations. Aircraft will be expected to operate out of established airfield with paved runways. Aircrews will indicate fuelling and runway requirements for the aircraft provided. Crew availability does not require continuous availability of specific personnel, only that crews are available to those specifications.				

SAR Response Capabilities of Quebec Search and Rescue Volunteers

Canine Search and Rescue Team

Resource:		Canine Search and Rescue Team – Wilderness Air Scent				
CATEGORY:		Search & Rescue (ESF #9)			KIND:	Team
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
Component:	Metric:					
Single Resource	Search Capabilities	Capable of search and self-sustaining for 72 hours in all weather and low angle wilderness terrain or larger areas of 60+ acres  <b>YES for some teams</b>	Capable of searching and self-sustaining for 48 hours in all weather and low angle wilderness terrain or larger areas of 60+ acres  <b>YES for some teams</b>	Capable of searching high probability local wilderness terrain for short durations (24 hours or less) or small areas 40-60 acres  <b>YES</b>	Capable of searching high probability local wilderness terrain for short durations (12 hours or less) or small areas 40-60 acres	Human discriminating (scent source necessary)
Single Resource	Search Capabilities	Capable of searching and self-sustaining for 72 hours in all weather and low angle wilderness terrain or larger areas of 120+ acres  <b>YES for some teams</b>	Capable of searching and self-sustaining for 48 hours in all weather and low angle wilderness terrain or larger areas of 120+ acres  <b>YES for some teams</b>	Capable of searching high probability local wilderness terrain for short durations (24 hours or less) or small areas of 60-120 acres  <b>YES</b>	Capable of searching high probability local wilderness terrain for short durations (12 hours or less) or small areas of 40-60 acres	Non-discriminating (locate all human indication in area)
<p><b>COMMENTS:</b> There are significant differences in the training required for urban versus wilderness environments, both in air scent/area and trailing/tracking. Because of the vast differences, often a resource highly skilled in one environment may not function as well in the other environment because of a lack of continuous training in the environment. Teams may be cross-trained in both environments, depending on the team training criteria.</p> <p><b>Note:</b> Many of these resources are capable of searching in a disaster environment, such as a wilderness team in outlying areas of a tornado zone, etc. It is critical that canine management personnel, knowledgeable in multiuse of canine resources, are available to Incident Command. This will not necessarily be reflected in this document.</p> <p><b>5 teams. Human discrimination (scent source necessary). Non-discriminating (locate human indication). Member groups of AQBRS must comply with provincial Norms of certification in order to be deployed on SAR missions.</b></p>						

SAR Response Capabilities of Quebec Search and Rescue Volunteers

Resource:		Canine Search and Rescue Team – Water Air Scent				
CATEGORY:		Search & Rescue (ESF #9)		KIND:	Team	
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
Component:	Metric:					
Personnel	Dog team	Dog 1 Handler 1 Support Person  YES				5 teams. Zodiac boats and utility boat Electrical and gasoline engine
Team	Search Capabilities	Capable of working swiftwater/stillwater environments; Trained and equipped to perform search ops on foot and from any type of watercraft  YES for some teams	Capable of working stillwater environments; Trained and equipped to perform search ops on foot and from any type of watercraft  YES for some teams	Capable of working swiftwater and stillwater ops from shore only  YES	Capable of working swiftwater ops from shore only	Type V capable of working stillwater ops from shore only  Type VI capable of working salt-water and very large fresh water environments from both boat and shore  YES  Type VII capable of working salt-water and very large fresh water environments from shore only  YES
Team	Knowledge and Equipment	Water Helmet; Class V Water Vest; Throw Rope  Swiftwater lifesaving skills; Knowledge of water rescue and boat operations; First Aid for both human and dog; Personal/dog safety  Radio communications  YES	Water Helmet; Class III-V Water Vest; Throw Rope  Stillwater lifesaving skills; Knowledge of water rescue operations in stillwater environment; First Aid for both human and dog; Personal/dog safety  Radio communications equipment	Same as Type I	Same as Type I	Type V same as Type II  Type VI, VII same as Type I
<b>COMMENTS:</b>		<b>Note:</b> Many of these resources are capable of searching in a disaster environment, such as a wilderness team in outlying areas of a tornado zone, etc. It is critical that canine management personnel, knowledgeable in multiuse of canine resources, are available to Incident Command. This will not necessarily be reflected in this document.				

SAR Response Capabilities of Quebec Search and Rescue Volunteers

Resource:		Canine Search and Rescue Team – Avalanche Snow Air Scent				
CATEGORY:		Search & Rescue (ESF #9)		KIND:	Team	
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
Component:	Metric:					
Personnel	Dog team	Dog 1 Handler 1 Support Person  YES	Same as Type I			5 Teams No certification
Equipment	Search Capabilities	Capable of self-sustaining and searching for 24 hours in extreme weather and terrain conditions through avalanche debris fields  YES	Capable of self-sustaining and searching for 24 hours in snow-covered environments in extreme weather conditions and moderate terrain			
Personnel	Equipment	Personal snow travel equipment and gear to self-sustain for 24 hours. Equipped to include cross-country skis or snow shoes, poles, probe poles, snow shovel, and avalanche beacon.  YES	Same as Type			
Personnel	Training	Training, including avalanche safety and winter survival, including building snow cave, First Aid for both human and dog, personal/ dog safety, and radio communications  YES for some teams	Same as Type			Training at Centre d'avalanche de la Haute Gaspésie and Tremblant
<b>COMMENTS:</b>		Note: Many of these resources are capable of searching in a disaster environment, such as a wilderness team in outlying areas of a tornado zone, etc. It is critical that canine management personnel, knowledgeable in multiuse of canine resources, are available to Incident Command. This will not necessarily be reflected in this document.				

SAR Response Capabilities of Quebec Search and Rescue Volunteers

Resource:		Canine Search and Rescue Team – Land Cadaver Air Scent				
CATEGORY:		Search & Rescue (ESF #9)			KIND:	Team
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
Component:	Metric:					
Personnel	Dog team	Dog 1 Handler 1 Support Person  YES	Same as Type I	Same as Type I	Same as Type I	3 Teams Training for biological environment-No equipment – Training in collection of clue
Team	Search Capabilities	Capable of locating less than 15 grams of human remains during disaster ops;  Capable of self-sustaining for 24 hours  YES	Capable of locating deceased persons (greater than 15 grams) in disaster ops;  Capable of self-sustaining for 24 hours	Capable of locating less than 15 grams of human remains buried, hanging, ground level, or in vehicles, nondisaster	Capable of locating less than 15 grams of human remains buried, hanging, ground level, nondisaster	Capable of locating deceased persons (greater than 15 grams) buried, hanging, ground level, nondisaster
Team	Knowledge and Equipment	Same as Type II  YES	Same as Type III plus:  Disaster ops training and capabilities	Same as Type IV	Training and equipment for biohazard environment, including OSHA guidelines, scene preservation, documentation, collection, chain of custody, and scene security. First Aid for both human and dog, personal/ dog safety, and radio communications	North American Standards
COMMENTS:						

SAR Response Capabilities of Quebec Search and Rescue Volunteers

Resource:		Canine Search and Rescue Team – Disaster Response				
CATEGORY:		Search & Rescue (ESF #9)			KIND:	Team
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
Component:	Metric:					
Personnel	Dog team	Dog 1 Handler 1 Support Person  <b>YES</b>				3 Teams No standards in Quebec (Disaster Search Canine Readiness Evaluation)
Personnel	Search Capabilities	A disaster search canine that has successfully completed the DHS/FEMA Disaster Search Canine Readiness Evaluation for both Type II and Capable of national and international responses	A disaster search canine that has successfully completed the DHS/FEMA Disaster Search Canine Readiness Evaluation for Type II only; Capable of national and international response  <b>YES</b>	A disaster search canine that has successfully completed Disaster Search Canine Readiness Evaluation through an organized disaster task force – non-FEMA; Capable of national and international responses	A search canine with minimal exposure to disaster search; Capable of local/regional response only; No task force participation	
Team	Knowledge and Equipment	All requirements as set forth by DHS/FEMA National US&R Response System  <b>YES</b>	All requirements as set forth by DHS/FEMA National US&R Response System	All requirements as set forth by organized task force for availability for national/international response	Agility; Obedience; First Aid-Human/Dog; HazMat; Disaster; Environment Exposure minimal; Initial responder readiness through local agency	Internal training No HazMat
<b>COMMENTS:</b>		Please note that many of these resources are capable of searching in a disaster environment, such as a wilderness team in outlying areas of a tornado zone, etc. It is critical that canine management personnel, knowledgeable in multiuse of canine resources, are available to Incident Command. This will not necessarily be reflected in this document.				

SAR Response Capabilities of Quebec Search and Rescue Volunteers

Resource:		Canine Search and Rescue Team – Wilderness Tracking/Trailing				
CATEGORY:		Search & Rescue (ESF #9)			KIND:	Team
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
Component:	Metric:					
Personnel	Dog team	Same as Type IV <b>YES</b>	Same as Type IV	Same as Type IV	1 Dog 1 Handler 1 Support Person	<b>2 Teams for trailing</b> <b>5 Teams for tracking</b>
Team	Search Capabilities	Capable of trailing in wilderness terrain aged 24+ hours; 1 mile or longer; Heavy contamination <b>YES</b>	Capable of trailing in wilderness terrain aged 4-12 hours; 1 mile or longer; Heavy contamination <b>YES</b>	Capable of trailing in wilderness terrain aged 1.5-4 hours; .5-1 mile; Heavy contamination	Capable of trailing in wilderness terrain aged 0-1.5 hours; .25-.5 mile; Heavy contamination	Discriminating (scent source must be available)
Personnel	Equipment	Personally equipped for 24 hours for dog/handler <b>YES</b>  First Aid for both human and dog <b>YES</b>  Radio communications <b>YES</b>	Same as Type I	Same as Type I	Same as Type I	N/A
Personnel	Knowledge	Wilderness survival skills <b>YES</b>  Capable of establishing and maintaining direction of travel <b>YES</b>  First Aid for both human and dog <b>YES</b>  Personal/ dog safety <b>YES</b>  Skill in collection of scent articles <b>YES</b>	Same as Type I	Same as Type I	Same as Type I	N/A
<b>COMMENTS:</b>		As these dogs use scent articles, they are commonly referred to as trailing dogs. However, occasionally, a unit may refer to such dogs as tracking dogs. They do have the capability of human discrimination between sources with the aid of a provided scent source. Care should be taken to determine if a tracking dog requires the use of an article or not.  <b>Note:</b> Many of these resources are capable of searching in a disaster environment, such as a wilderness team in outlying areas of a tornado zone, etc. It is critical that canine management personnel, knowledgeable in multiuse of canine resources, are available to Incident Command. This will not necessarily be reflected in this document.				



SAR Response Capabilities of Quebec Search and Rescue Volunteers

Quad Search and Rescue Team

RESOURCE:		Quad Search and Rescue Team				
CATEGORY:		Search & Rescue	KIND:		Team	
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
COMPONENT	METRIC					
Team	Rescue Capabilities	Same as Type II <b>YES</b>	Backcountry, low-angle evacuation	Same as Type IV	Trained rescue personnel with experience in nontechnical backcountry evacuation/carryouts supported by local technical experts	
Team	Search Capabilities	Capable of conducting self-sustaining full search operations for 72 hours in all weather and low-angle wilderness terrain  Competent and experienced Incident Command staff	Capable of conducting self-sustaining full search operations for 48 hours in all weather and low-angle wilderness terrain  Competent and experienced Incident Command staff	Same as Type IV <b>YES</b>	Capable of searching high-probability local wilderness terrain for short durations (24 hours or less)	
Personnel	Team Composition	At least 6 team leaders and 48 team members to support at least 6 operational field units (at least 1 member of each team must be a medical specialist – see below)  Management staff following ICS model	At least 4 team leaders and 28 team members to support at least 4 operational field units (at least 1 member of each team must be a medical specialist – see below)  Management staff following ICS model	At least 2 team leaders and 6 team members to support at least 2 operational field units <b>YES</b>  Must be supported by local EMS and technical rescue personnel	At least 1 team leader and 3 team members  Must be supported by local EMS and technical rescue personnel <b>NO. Autonomy in First aid</b>	
Personnel	Medical Specialist	National standard EMT curriculum; ACLS, BTLS	National standard EMT-B curriculum or wilderness first responder; BTLS	Same as Type IV <b>YES</b>	Not required – supported by local EMS	
Personnel	Overhead Incident Management	Same as Type II <b>YES</b>	Incident staff capable of managing wilderness search operations	Same as Type IV	Unit level mission release  No search management capabilities	
Personnel	Crew Availability	Same as Type II <b>YES</b>	Available for more than 1 full day of operations	Same as Type IV	Available for at least 1 full day of operations	
Personnel	Sustained Operations	72 hours	48 hours	Same as Type IV <b>YES</b>	24 hours	

SAR Response Capabilities of Quebec Search and Rescue Volunteers

RESOURCE:		Quad Search and Rescue Team				
CATEGORY:			Search & Rescue	KIND:		Team
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
COMPONENT	METRIC					
Personnel	Training	<p>Same as Type II plus:</p> <p>Personnel demonstrate proficiency in mantracking and working with expert mantrackers</p>	<p>Same as Type III plus:</p> <p>1 member of each team must be current to the requirements of the medical specialist (see above)</p> <p><b>NO. All trained in First aid</b></p> <p>Must also be knowledgeable of procedures involved with helicopter transport and coordination with search crews, both ground and air</p> <p><b>YES</b></p> <p>Must have the ability to operate in an ICS structure, and be able to plan, organize, and direct search and rescue missions</p> <p><b>YES in the Quebec structure</b></p> <p>Team members must have training for operations in remote locations for extended periods</p> <p><b>NO</b></p>	<p>Same as Type IV plus:</p> <p>Proficiency in backcountry navigation (including the ability to triangulate a position, ascertain a UTM, use GPS, and follow a route to a new location using a topographical map and compass)</p> <p><b>YES</b></p> <p>Must be proficient at conducting and directing search lines</p> <p><b>YES</b></p>	<p>Must be able to operate the team's equipment; Team members are not expected to operate in remote field locations for extended periods</p> <p><b>YES</b></p> <p>Must have basic navigation training using a map and compass</p> <p><b>YES</b></p> <p>Must have technical proficiency in personal survival in local wilderness terrain</p> <p><b>YES</b></p> <p>Must have awareness of mantracking and maintaining site integrity</p> <p><b>YES</b></p> <p>Must have a basic understanding of the ICS</p> <p><b>NO</b></p> <p>Must have proficiency in hasty search techniques</p> <p><b>YES</b></p>	
Vehicle	Transportation	<p>4x4 vehicles that can transport each team throughout or to the search area</p> <p><b>YES</b></p>	<p>Vehicles that can transport each team throughout or at least to the search area</p> <p>4x4s are not required, but recommended</p>	Same as Type IV	<p>1 vehicle that can transport the team throughout or at least to the search area</p> <p>4x4s are not required, but recommended</p>	
Equipment	Clothing	<p>Same as Type II</p> <p><b>YES</b></p>	Same as Type III	Same as Type IV	Appropriate level of PPE for working environment	
Equipment	Communications	Same as Type II	<p>Same as Type III plus:</p> <p>VHF capability to communicate with aircraft</p>	<p>Same as Type IV plus:</p> <p>VHF communications capability with other teams</p> <p><b>YES</b></p>	<p>VHF Radios for team communications</p> <p>Cell Phone</p>	

SAR Response Capabilities of Quebec Search and Rescue Volunteers

RESOURCE:		Quad Search and Rescue Team				
CATEGORY:			Search & Rescue	KIND:		Team
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
COMPONENT	METRIC					
Equipment	Search & Rescue	Same as Type II <b>YES</b>	Equipment to support remote extrication and field transport of survivors	None required	None required	
Supply	Self-sustaining	Equipped to be self-sustaining for 72 hours in local wilderness environments	Equipped to be self-sustaining for 48 hours in local wilderness environments	Same as Type IV <b>YES</b>	Equipped to be self-sustaining for 24 hours in local wilderness environments	
Equipment	Medical	Same as Type II <b>YES</b>	Same as Type III, plus: Ability to support survivors	Same as Type IV	As appropriate for level of training, as applied in wilderness environment and meeting local protocols and requirements for support of the team	
<b>COMMENTS:</b>		<p>Team members will usually only work a maximum of 12-hour shifts, depending on individual unit policies and procedures. Crew availability does not require continuous availability of specific personnel, only that crews are available to those specifications, though some personnel may have extended assignments in the field. Medical support and technical rescue equipment is expected to be provided by local EMS and other technical rescue personnel for Type III and IV teams.</p> <p><b>Member groups of AQBRs must comply with provincial Norms of certification in order to be deployed on SAR missions.</b></p>				

SAR Response Capabilities of Quebec Search and Rescue Volunteers

Mountain Search and Rescue Team (Vertical rock)

RESOURCE:		Mountain Search and Rescue Team (Vertical rock)				
CATEGORY:		Search & Rescue (ESF #9)			KIND:	Team
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
COMPONENT	METRIC					
Team	Personnel	Same as Type II	Same as Type III	Same as Type IV	Field team leader <b>YES</b>  Field team members <b>YES</b>  Medical specialist <b>YES</b>	
Personnel	Navigation Training	Same as Type II	Same as Type III	Same as Type IV plus:  Proficiency in back country navigation including: The ability to triangulate a position, ascertain a UTM, utilize GPS, and follow a route to a new location using a topographical map and compass  <b>NO</b>	Navigation (map and compass)  <b>YES for few technicians</b>	
Personnel	Survival Training	Same as Type II	Operational and technical proficiency in personal survival in mountainous terrain and snow and ice environments	Technical proficiency in personal survival in mountainous terrain and snow and ice environments	Technical proficiency in personal survival in mountainous terrain  <b>NO</b>	<b>1 day training on vertical iced rock climbing (information session on survival skills)</b>
Personnel	Technical Training	Same as Type II plus:  Proficient at estimating the mechanical forces involved in technical rescue systems and estimating factors of safety; Proficiency in the use, placement and analysis of mechanical anchors and anchor systems; Proficiency in the use of highlines; Proficiency in the use of slings, etriers, Prusik hitches and mechanical ascenders; <b>YES</b>  Proficiency in the organization and direction of technical litter evacuation <b>YES</b>	Same as Type III plus:  Understanding of the mechanical forces involved in technical rescue systems;  Proficiency in the selection and setup of rescue anchor systems;  Proficiency in technical litter evacuation and transport; Litter descents (on steep, vertical, and overhanging rock, on scree and snow, and traversing); Lowering of a subject without a litter; Raising a subject or litter;  Knowledge of procedures involved with helicopter transport	Proficiency in bagging, coiling, throwing and storing static and dynamic ropes; Proficiency in tying common knots, and knowledge of their applications and strength efficiencies;  Proficiency in search techniques including in hasty and line search techniques, directing line searches, and probe lines		

SAR Response Capabilities of Quebec Search and Rescue Volunteers

RESOURCE:		Mountain Search and Rescue Team (Vertical rock)				
CATEGORY: Search & Rescue (ESF #9)			KIND: Team			
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
COMPONENT	METRIC					
Personnel	Alpine Training	Proficiency in winter camping in any area, including above timberline; <b>YES</b>  Proficiency in snow and ice climbing; <b>Basic</b>  Proficiency in avalanche search and rescue, including recognition of avalanche hazards, avalanche search and rescue organization and leadership, scuff searches, use of SAR dogs;  Proficiency in high and low-angle, technical snow and ice rescues and evacuations <b>Basic</b>	Ability to recognize avalanche hazards and to perform avalanche search and rescue including probe lines and avalanche          Avalanche awareness training	Understanding of the fundamentals of mountain weather          Avalanche awareness training	Basic understanding of mountain weather <b>NO</b>  Ability to walk in mountainous terrain <b>YES</b>  Ability to backpack personal equipment plus one rope at least four miles with an elevation gain of at least 2000 feet <b>YES</b>  Avalanche awareness training <b>NO</b>	<b>Information session on ice risk awareness with the SQ</b>
Personnel	Basic Training	Same as Type II plus:  Technical proficiency in one-person rescue and self-rescue techniques <b>YES</b>  Proficiency in mantracking  Ability to integrate into and operate using ICS  Ability to plan, organize and direct search and rescue missions <b>YES</b>	Same as Type III plus:  Ability to operate using ICS	Same as Type IV	Proficiency in search techniques <b>Basic training</b>  Awareness of mantracking and maintaining site integrity <b>NO</b>  Understanding of the ICS <b>NO</b>	<b>Site preservation: YES</b>
Personnel	Medical Specialist Operations	National standard EMT curriculum; ACLS, BTLS	National standard EMT-B curriculum or advanced wilderness first responder; BTLS	Same as Type IV	National standard first responder or wilderness first responder curriculum; BTLS	<b>1 Paramedic 5 First responders</b>
Team	Sustained Operations	60 hours  <b>YES</b>	48 hours	24 hours	12 hours	

SAR Response Capabilities of Quebec Search and Rescue Volunteers

RESOURCE:		Mountain Search and Rescue Team (Vertical rock)				
CATEGORY: Search & Rescue (ESF #9)			KIND: Team			
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
COMPONENT	METRIC					
Team	Rescue Capabilities	Same as Type II plus: Highly trained rescue personnel with multipitch, high-angle experience on vertical rock, ice, and steep snow <b>YES</b>	Same as Type III plus: Single pitch, high-angle rock rescue	Backcountry, low-angle scree evacuation	Trained rescue personnel with experience in non-technical backcountry evacuation/carryouts	
Team	Search Capabilities	Capable of searching during the day or night <b>YES</b>  Capable of searching any terrain, including severe rock <b>YES</b>  Competent IC and section chief <b>NO</b>	Capable of searching steep, timbered terrain, excluding severe rock, day or night Competent search team leaders/technicians	Self-sustaining for 48 hours in all weather/terrain, except severe winter/rock	Capable of searching moderate terrain May be outdoorsmen with basic training	
Equipment	Rescue Supplies and Materials	Same as Type II plus: 8-10 ropes of various lengths (200-400 ft) <b>YES</b>	Same as Type III plus; 6-8 ropes of various lengths and a full complement of rescue/climbing gear	Same as Type IV plus: 4-6 ropes of various lengths	Harnesses; Helmets; Basic hardware; Rope; Radio communications on a common frequency	
Equipment	Search Supplies and Materials	Equipped to be self-sustaining for 60 hours in all environments; Radio communications on common frequency	Equipped to be self-sustaining for 48 hours in all environments; Radio communications on common frequency	Equipped to be self-sustaining for 24 hours in all weather/terrain, except severe winter/rock <b>YES</b>	Equipped to be self-sustaining for 12 hours in all weather/terrain, except severe winter/rock	
Equipment	Personal Supplies and Materials	Same as Type II plus: Food for 60 hours	Same as Type III plus: Water container of two-liter capacity and/or quantity of water appropriate for the conditions Food for 48 hours Second light source	Same as Type IV	Appropriate clothes and footgear for both fair and foul weather; Water container of 1-liter capacity and/or quantity of water appropriate for the conditions; Day pack; Five large, heavy-duty plastic trash bags; Food for 24 hours; <b>YES</b>  Headlamp or flashlight; Lighter, matches and candle, or equivalent waterproof fire source <b>NO</b>	

SAR Response Capabilities of Quebec Search and Rescue Volunteers

RESOURCE:		Mountain Search and Rescue Team (Vertical rock)								
CATEGORY:			Search & Rescue (ESF #9)		KIND:		Team			
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER				
COMPONENT	METRIC									
					Knife; Compass; Personal First Aid Kit; Waterproof pen/pencil and paper; Whistle; Two pairs plastic or vinyl examination gloves  YES					
Equipment	Medical Supplies and Materials	Same as Type II	Same as Type III	Same as Type IV	As appropriate for level of training, as applied in wilderness environment and meeting local protocols and requirements  YES					
<b>COMMENTS:</b>		Search for and rescue people in trouble either above the timberline or in high-angle areas below the timberline, which can include glacier, crevasse, backcountry and alpine search and rescue and educate the population in safe activities so they will be able to avoid the dangers that result in the need for rescue.								
		Definitions								
		<table border="1"> <tr> <td>GPS</td> <td>Global Positioning System</td> </tr> <tr> <td>Navigation</td> <td>The practice of charting a course for a group of people (team) using basic tools such as a map and compass.</td> </tr> </table>					GPS	Global Positioning System	Navigation	The practice of charting a course for a group of people (team) using basic tools such as a map and compass.
GPS	Global Positioning System									
Navigation	The practice of charting a course for a group of people (team) using basic tools such as a map and compass.									

SAR Response Capabilities of Quebec Search and Rescue Volunteers

Mountain Search and Rescue Team (Avalanche)

RESOURCE:		Mountain Search and Rescue Team (Avalanche)				
CATEGORY:		Search & Rescue (ESF #9)			KIND: Team	
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
COMPONENT	METRIC					
Team	Personnel	Same as Type II	Same as Type III	Same as Type IV	Field team leader <b>Capability to provide a team leader</b>  Field team members  Medical specialist	<b>SEPAQ or Civil Protection in charge</b>  <b>Note:</b> <b>Civil Protection:</b> <b>There are few resources in this field of activity and they play a limited role.</b>
Personnel	Navigation Training	Same as Type II	Same as Type III	Same as Type IV plus:  Proficiency in back country navigation including: The ability to triangulate a position, ascertain a UTM, utilize GPS, and follow a route to a new location using a topographical map and compass	Navigation (map and compass)  <b>Untrained.</b> <b>Go to the site with assistance.</b>	
Personnel	Survival Training	Same as Type II  <b>YES</b>	Operational and technical proficiency in personal survival in mountainous terrain and snow and ice environments	Technical proficiency in personal survival in mountainous terrain and snow and ice environments	Technical proficiency in personal survival in mountainous terrain	<b>Plan risk management</b>
Personnel	Technical Training	Same as Type II plus:  Proficient at estimating the mechanical forces involved in technical rescue systems and estimating factors of safety; Proficiency in the use, placement and analysis of mechanical anchors and anchor systems; Proficiency in the use of highlines; Proficiency in the use of slings, etriers, Prusik hitches and mechanical ascenders;  Proficiency in the organization and direction of technical litter evacuation	Same as Type III plus:  Understanding of the mechanical forces involved in technical rescue systems;  Proficiency in the selection and setup of rescue anchor systems;  Proficiency in technical litter evacuation and transport; Litter descents (on steep, vertical, and overhanging rock, on scree and snow, and traversing); Lowering of a subject without a litter; Raising a subject or litter;  Knowledge of procedures involved with helicopter transport	Proficiency in bagging, coiling, throwing and storing static and dynamic ropes; Proficiency in tying common knots, and knowledge of their applications and strength efficiencies;  Proficiency in search techniques including in hasty and line search techniques, directing line searches, and probe lines		<b>Does not include vertical rescue</b>



SAR Response Capabilities of Quebec Search and Rescue Volunteers

RESOURCE:		Mountain Search and Rescue Team (Avalanche)				
CATEGORY: Search & Rescue (ESF #9)			KIND: Team			
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
COMPONENT	METRIC					
Personnel	Alpine Training	<p>Proficiency in winter camping in any area, including above timberline;</p> <p>Proficiency in snow and ice climbing;</p> <p>Proficiency in avalanche search and rescue, including recognition of avalanche hazards, avalanche search and rescue organization and leadership, scuff searches, use of SAR dogs;</p> <p>Proficiency in high and low-angle, technical snow and ice rescues and evacuations</p>	<p>Ability to recognize avalanche hazards and to perform avalanche search and rescue including probe lines and avalanche</p> <p>Avalanche awareness training</p>	<p>Understanding of the fundamentals of mountain weather</p> <p>Avalanche awareness training</p>	<p>Basic understanding of mountain weather</p> <p>Ability to walk in mountainous terrain</p> <p>Ability to backpack personal equipment plus one rope at least four miles with an elevation gain of at least 2000 feet</p> <p>Avalanche awareness training</p>	<p>Possibility to buy an avalanche dog</p>
Personnel	Basic Training	<p>Same as Type II plus:</p> <p>Technical proficiency in one-person rescue and self-rescue techniques</p> <p>Proficiency in mantracking</p> <p>Ability to integrate into and operate using ICS</p> <p>Ability to plan, organize and direct search and rescue missions</p>	<p>Same as Type III plus:</p> <p>Ability to operate using ICS</p>	<p>Same as Type IV</p>	<p>Proficiency in search techniques</p> <p>Awareness of mantracking and maintaining site integrity</p> <p>Understanding of the ICS</p>	
Personnel	Medical Specialist Operations	<p>National standard EMT curriculum; ACLS, BTLS</p>	<p>National standard EMT-B curriculum or advanced wilderness first responder; BTLS</p>	<p>Same as Type IV</p>	<p>National standard first responder or wilderness first responder curriculum; BTLS</p> <p>40 hours and 80 hours Wilderness and Remote First Aid (Sirius)</p>	
Team	Sustained Operations	60 hours	48 hours	24 hours	12 hours	
Team	Rescue Capabilities	<p>Same as Type II plus:</p> <p>Highly trained rescue personnel with multipitch, high-angle experience on vertical rock, ice, and steep snow</p>	<p>Same as Type III plus:</p> <p>Single pitch, high-angle rock rescue</p>	<p>Backcountry, low-angle scree evacuation</p>	<p>Trained rescue personnel with experience in non-technical backcountry evacuation/carryouts</p> <p>Concerns only the one who are doing vertical rock climbing</p>	

SAR Response Capabilities of Quebec Search and Rescue Volunteers

RESOURCE:		Mountain Search and Rescue Team (Avalanche)						
CATEGORY:			Search & Rescue (ESF #9)		KIND:		Team	
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER		
COMPONENT	METRIC							
Team	Search Capabilities	Capable of searching during the day or night Capable of searching any terrain, including severe rock  Competent IC and section chief	Capable of searching steep, timbered terrain, excluding severe rock, day or night Competent search team leaders/technicians	Self-sustaining for 48 hours in all weather/terrain, except severe winter/rock	Capable of searching moderate terrain May be outdoorsmen with basic training  <b>Concerns only the ones who are doing vertical rock climbing and ground search</b>			
Equipment	Rescue Supplies and Materials	Same as Type II plus:  8-10 ropes of various lengths (200-400 ft)	Same as Type III plus:  6-8 ropes of various lengths and a full complement of rescue/climbing gear	Same as Type IV plus:  4-6 ropes of various lengths	Harnesses; Helmets; Basic hardware; Rope; Radio communications on a common frequency	<b>SEPAQ radio are used all winter long</b>		
Equipment	Search Supplies and Materials	Equipped to be self-sustaining for 60 hours in all environments; Radio communications on common frequency	Equipped to be self-sustaining for 48 hours in all environments; Radio communications on common frequency	Equipped to be self-sustaining for 24 hours in all weather/terrain, except severe winter/rock	Equipped to be self-sustaining for 12 hours in all weather/terrain, except severe winter/rock			
Equipment	Personal Supplies and Materials	Same as Type II plus: Food for 60 hours	Same as Type III plus: Water container of two- liter capacity and/or quantity of water appropriate for the conditions Food for 48 hours Second light source	Same as Type IV	Appropriate clothes and footwear for both fair and foul weather; Water container of 1-liter capacity and/or quantity of water appropriate for the conditions; Day pack; Five large, heavy-duty plastic trash bags; Food for 24 hours;  Headlamp or flashlight; Lighter, matches and candle, or equivalent waterproof fire source  Knife; Compass; Personal First Aid Kit; Waterproof pen/pencil and paper; Whistle; Two pairs plastic or vinyl examination gloves			
Equipment	Medical Supplies and Materials	Same as Type II	Same as Type III	Same as Type IV	As appropriate for level of training, as applied in wilderness environment and meeting local protocols and requirements			
<b>COMMENTS:</b>		Search for and rescue people in trouble, either above the timberline or in high-angle areas below the timberline, which can include glacier, crevasse, backcountry and alpine search and rescue and educate the population in safe activities so they will be able to avoid the dangers that result in the need for rescue.						
		Definitions						
		GPS      Global Positioning System						
		Navigation      The practice of charting a course for a group of people (team) using basic tools such as a map and compass.						

## ANNEX 3: ACRONYMS

<b>AQBRs:</b>	Association Québécoise des Bénévoles en Recherche et Sauvetage
<b>CBRN:</b>	Chemical, Biological, Radiological and Nuclear
<b>COG:</b>	Centre des Opérations Gouvernementales (Québec)
<b>CPRC:</b>	Canadian Police Research Center
<b>CRTI:</b>	(CBRNE) Research and Technology Initiative
<b>CSO:</b>	Centre de suivi opérationnel de la Sûreté du Québec
<b>CSS:</b>	Centre for Security Science
<b>CSST:</b>	Commission de la santé et de la sécurité du travail
<b>DRDC:</b>	Defence Research and Development Canada
<b>EOP:</b>	Emergency Operations Planning
<b>FEMA:</b>	Federal Emergency Management Agency
<b>HAZMAT:</b>	HAZardous MATerials
<b>ICS:</b>	Incident Command System
<b>MSP</b>	Ministère de la Sécurité Publique (Québec)
<b>NCPP:</b>	National Civil Protection Plan
<b>NGO:</b>	Non-governmental organization
<b>NIMS:</b>	National incident management system
<b>NSS:</b>	National Search and Rescue Secretariat
<b>OQLF:</b>	Office Québécois de la langue française
<b>OSHA:</b>	Occupational Safety & Health Administration (USA)

## SAR Response Capabilities of Quebec Search and Rescue Volunteers

<b>PSST:</b>	Public Security Science and Technology
<b>PSTP:</b>	Public Security Technical Program
<b>RCMP:</b>	Royal Canadian Mounted Police
<b>R&amp;D:</b>	Research and Development
<b>SAR:</b>	Search and rescue
<b>SEPAQ:</b>	Société des établissements de plein air du Québec
<b>SOP:</b>	Standard Operating Procedures
<b>SQ:</b>	Sûreté du Québec
<b>TCL:</b>	Target Capabilities List
<b>USAR:</b>	Urbain Search and Rescue

## ANNEX 4: DEFINITIONS

To facilitate understanding of the text that you find in this document, here are some definitions:

### Specialized volunteers:

Volunteers from an AQBRS member group.

Volunteers commit to follow the provincial standards of the Association related to their fields of expertise (eg: ground searcher, K9 Teams, Quad searcher). They follow specialized training (search techniques, map and compass, GPS, lost person behaviours, radio-communications, first aid, crime scene preservation, survival, etc.). They train regularly on the field and pass certification exams. All this knowledge and this approach, ensure they are prepared to respond adequately during a search and rescue operation.

### Spontaneous Volunteers:

Volunteers who are not part of an AQBRS group.

These are people of goodwill who are coming to the search scene and decide to give their time during an operation (eg: family friend, colleague, citizen, etc.). For purposes of this document, search and rescue organized volunteers who are not part of the AQBRS, also fall into this category, because it is impossible for the Association to determine their levels of competence.

### Extrication:

Action to rescue human or animal victims trapped under the rubble (eg: collapsed buildings), following a major disaster.

### Search:

Search mission initiated by a public agency (mostly a police force), that uses the service of the AQBRS members through the deployment procedure in place. The standard searches are carried out under the responsibility of the requesting agencies.

### Complementary search:

This search takes place outside the framework of a standard search (see above). Such search is supported by one or several AQBRS SAR member groups, usually after having received a request from a family in distress.

### Urban Search:

Search of a missing person carried out in cities or suburbs (street, garden, park, small wood, industrial zone, etc.)

### USAR or US&R:

Urban Search and Rescue (USAR) is the general term for a group of specialized rescue skills supplemented by search, medical and structural assessment resources combined in a mobile, highly integrated team.

The purpose of a USAR team is to rescue victims from major structural collapse or other entrapments, resulting of a major disaster (earthquake, tornado, etc.) or of other natures (terrorism, etc.). The job is to make searches in collapsed buildings, to locate, stabilize and extricate victims out of the rubble and transferring them to emergency medical services.

## SAR Response Capabilities of Quebec Search and Rescue Volunteers

### Major disaster\*:

Exceptional event due to a natural hazard, a technological failure or an accident resulting or not from a human-made hazard, which poses serious threat to the people or important damages to property, and requires unusual measures from the affected community (eg: flood, earthquake, soil movement, explosion, toxic emission or pandemic.)

### Minor disaster\*:

Same nature event as a major disaster, but which only treats the security of one or few persons.

### Victim:

Missing person who is the subject of a search. The disappearance of a person is considered a minor disaster.

\* Free translation of the French definition from the Civil Protection

## ANNEX 5: DOCUMENTARY REFERENCES

**AQBRs (Association Québécoise des Bénévoles en Recherche et Sauvetage)**

<http://www.aqbrs.ca/>

Norms for certification of Ground Searchers

[http://www.aqbrs.ca/index\\_Normes\\_Sol.htm](http://www.aqbrs.ca/index_Normes_Sol.htm)

Norms for certification of K9 teams

[http://www.aqbrs.ca/index\\_Normes\\_K9.htm](http://www.aqbrs.ca/index_Normes_K9.htm)

Norms for certification of Quad Searchers

[http://www.aqbrs.ca/index\\_VTT.htm](http://www.aqbrs.ca/index_VTT.htm)

OPS documents :

[http://www.aqbrs.ca/index\\_Biblio.htm](http://www.aqbrs.ca/index_Biblio.htm)

**Basic Ground Search and Rescue – (Wayne Merry)**

[http://www.scr.ca/html/notre\\_boutique.html](http://www.scr.ca/html/notre_boutique.html)

**CRTI (CBRNE Research and Technology Initiative)**

<http://www.css.drdc-rddc.gc.ca/crti/index-eng.asp>

**CSS (Centre for Security Science)**

<http://www.css.drdc-rddc.gc.ca/index-eng.asp>

**DRDC (Defence Research and Development Canada)**

<http://www.drdc-rddc.gc.ca/>

**FEMA (Federal Emergency Management Agency)**

<http://www.fema.gov/index.shtm>

<p><b>Ground Search Management Training (Sûreté du Québec)</b> Only available to SQ SAR Technicians</p>
<p><b>LERPA (Laboratoire d'expertise et de recherche en plein air du Québec)</b> OSUF Project – Regional SAR simulation exercise in Parc de la Gaspésie <a href="http://www.youtube.com/watch?v=LXvTqQFntcc">www.youtube.com/watch?v=LXvTqQFntcc</a></p>
<p><b>Ministère de la Sécurité publique du Québec (Civil Protection)</b>  Concepts de base en sécurité civile <a href="http://www.msp.gouv.qc.ca/secivile/secivile.asp?txtSection=publications&amp;txtCategorie=concepts_base">http://www.msp.gouv.qc.ca/secivile/secivile.asp?txtSection=publications&amp;txtCategorie=concepts_base</a>  Approches et principes en sécurité civile <a href="http://www.msp.gouv.qc.ca/secivile/secivile.asp?txtSection=publications&amp;txtCategorie=approche_principes">http://www.msp.gouv.qc.ca/secivile/secivile.asp?txtSection=publications&amp;txtCategorie=approche_principes</a>  Gestion des risques en sécurité civile <a href="http://www.msp.gouv.qc.ca/secivile/secivile.asp?txtSection=publications&amp;txtCategorie=gestion_risques">http://www.msp.gouv.qc.ca/secivile/secivile.asp?txtSection=publications&amp;txtCategorie=gestion_risques</a>  Le bénévolat un travail d'équipe <a href="http://www.msp.gouv.qc.ca/secivile/secivile.asp?txtSection=colloques&amp;txtCategorie=benevolat_2009">http://www.msp.gouv.qc.ca/secivile/secivile.asp?txtSection=colloques&amp;txtCategorie=benevolat_2009</a></p>
<p><b>NSS (National Search and Rescue Secretariat)</b> <a href="http://www.nss.gc.ca/site/index_e.asp">http://www.nss.gc.ca/site/index_e.asp</a>  National Criteria for Ground Search and Rescue <a href="http://www.nss.gc.ca/site/groundSAR/volunteerCriteriaVoll_e.asp">http://www.nss.gc.ca/site/groundSAR/volunteerCriteriaVoll_e.asp</a></p>
<p><b>Public Safety and Emergency Preparedness Canada</b>  Chemical, Biological, Radiological and Nuclear (CBRN) First Responder Training Program <a href="http://cbrnenligne.sppcc-psepc.gc.ca">http://cbrnenligne.sppcc-psepc.gc.ca</a></p>



SAR Response Capabilities of Quebec Search and Rescue Volunteers

<b>Resource Types</b> <a href="https://www.rkb.us/nims.cfm">https://www.rkb.us/nims.cfm</a>
<b>Responder knowledge base (RKB)</b> <a href="https://www.rkb.us/">https://www.rkb.us/</a>
<b>Target Capabilities list (TCL)</b> <a href="https://www.rkb.us/">https://www.rkb.us/</a>
<b>Urban Search - Managing Missing Person Searches in the Urban Environment</b> <a href="http://www.dbs-sar.com/Urban/index.htm">http://www.dbs-sar.com/Urban/index.htm</a>

## ANNEX 6: LIST OF PROJECT PARTICIPANTS

Link	Name	Organization	Title
AQBRS	Yves Nadeau	Association Québécoise des Bénévoles en Recherche et Sauvetage <a href="http://www.aqbrs.ca">www.aqbrs.ca</a>	President Project Manager : <i>SAR Response Capabilities of Quebec SAR Volunteers</i>
AQBRS	Clément Daigle	Association Québécoise des Bénévoles en Recherche et Sauvetage  L'EsQuad d'interventions bénévoles	Vice-president  SAR Volunteer – Specialty : Quad Search and rescue
AQBRS	Isabelle Comeaux	Association Québécoise des Bénévoles en Recherche et Sauvetage	Secretary Executive assistant: <i>SAR Response Capabilities of Quebec SAR Volunteers</i>
CPRC	Robert Beaudry	Canadian Police Research Center <a href="http://www.css.drdc-rddc.gc.ca/cprc/index-eng.asp">http://www.css.drdc-rddc.gc.ca/cprc/index-eng.asp</a>	Emergency Response Counsellor
CRTI	René Marchand	CBRNE Research and Technology Initiative <a href="http://www.css.drdc-rddc.gc.ca/crti/index-fra.asp">www.css.drdc-rddc.gc.ca/crti/index-fra.asp</a>	CRTI Provincial Project Coordinator
	Philippe Gautier	Centre d'avalanche de la Haute-Gaspésie <a href="http://www.centreavalanche.qc.ca">http://www.centreavalanche.qc.ca</a>	Forecaster
COCOSAR	Christopher S. Young	Contra Costa County Sheriff's SAR Team <a href="http://www.contracostasar.org">http://www.contracostasar.org</a>	SAR Volunteer
CalEMA		California Emergency Management Agency	Consultant /Instructor
NASAR		National Association for Search & Rescue	Consultant /Instructor

SAR Response Capabilities of Quebec Search and Rescue Volunteers

Link	Name	Organization	Title
	Alain Croteau	Police officer	Ground SAR Technician
	Arnold Lessard	Police officer	Coordinator of Ground SAR Volunteers
	Martin Lecomte	Police officer	Ground SAR Technician
RCMP	Johnathon McArtur	Royal Canadian Mounted Police <a href="http://www.rcmp-grc.gc.ca/index-fra.htm">www.rcmp-grc.gc.ca/index-fra.htm</a>	National SAR Analyst
SCL	Guy Lapointe	Sauvetage canin des Laurentides <a href="http://www.sauvetagecanin.com">www.sauvetagecanin.com</a>	Group leader and Dog-Handler
SERABEC	Louis Dufresne	Sauvetage et recherche aériens du Québec <a href="http://www.serabec.org">http://www.serabec.org</a>	President SAR Volunteer – Expertise : Air Search and Rescue
SSI du Mt-St-Hilaire	Éric Bouchard	Service de sécurité incendie du Mont-St-Hilaire	Lieutenant Expertise: Vertical rock climbing Rescue
UQAC	David Mepham	Université du Québec à Chicoutimi Laboratoire d'expertise et de recherche en plein air (LERPA) <a href="http://lerpa.uqac.ca">http://lerpa.uqac.ca</a>	Professor and person in charge of outdoor and adventure tourism Baccalaureat Expertise : Swiftwaters