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## Annex 'A' Rating Guides

- Ground Search
- Rope Rescue
- Mountain Rescue
- Swiftwater Rescue



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# **1 Introduction**

## **1.1 GSAR in British Columbia**

Volunteer ground and inland water search and rescue in British Columbia has evolved immensely since the 1960/70s, with the shift away from Civil Emergency response to finding lost persons, and rescuing those injured or stranded. Many of the GSAR groups in BC were formed following a high-profile incident in their respective communities, or through volunteers recognizing the need for better organized search capability and/or specialized rescue techniques, equipment and training.

## **1.2 Evolution of GSAR response**

Early GSAR responses were ad hoc and generally disorganized. The unpaid volunteers did the best they could with what little equipment and training they had. As governments and agencies realized the need for a more appropriate level of response they gradually began to offer more support to these volunteer groups, recognizing that unpaid volunteers with local knowledge still provided the most cost-effective solution.

Even once supported, equipped and trained, the overall incident response approach was not always consistent. It took large-scale incidents and subsequent SAR reviews to improve the level of professionalism required in a SAR incident response. The last two decades have seen even more significant improvements in the way SAR volunteers organize and implement the typical SAR response. Not only are they better prepared through planning, training and equipment, but they are also more aware of the 'big picture' and recognize the need to manage the response from the outset. Part of this professionalism is ensuring that SAR Volunteers are afforded the same protection and rights concerning their health and safety as paid agency staff.

## 2 SAR Volunteer Health and Safety

The British Columbia Emergency Response Management System (BCERMS), the Incident Command System structure under which all emergency response in the provinces operates, has the following objectives:

- provide for the safety and health of all responders,
- save lives,
- reduce suffering,
- protect public health,
- protect government infrastructure,
- protect property,
- protect the environment, and
- reduce economic and social losses.

To fulfill the number one objective of BCERMS, Emergency Management British Columbia (EMBC) develops policies under which SAR volunteers operate, including The Public Safety Volunteer Lifeline Safety Policy. The Search and Rescue Safety Program Guide and Provincial Operating Guidelines (initially published in 2009) provide additional direction and guidance specific to Search and Rescue related issues. All these documents are available at <http://www.embc.gov.bc.ca> . They should be a fundamental part of any risk assessment and management strategy and will provide a formal reference point for any critical decision-making. EMBC and the British Columbia Search and Rescue Association (BCSARA) co-chair the SAR Volunteer Joint Health and Safety Committee, which can be reached at [ohs@bcsara.com](mailto:ohs@bcsara.com) for any health and safety questions or concerns.

## **2.1 Coverage**

SAR volunteers are provided with injury, disability, and accidental death coverage under an agreement between the Federal Government and the Province of British Columbia under a task number. This coverage is administered by WorkSafe BC or in some cases under an insurance policy provided by the Province. While SAR volunteers are not considered 'Workers' under the Worker Compensation Act, the coverage provided is the same as for Workers.

The requirements pertaining to Health and Safety for Workers within WorkSafe BC regulations are not applicable to SAR volunteers. The primary references for SAR volunteers are the Public Safety Volunteer Lifeline Safety Policy, the SAR Volunteer Safety Program Guide, Provincial Operating Guidelines, and other Operating Guidelines established by SAR Groups specific to their operation and hazards.

### 3 Risk Management/Mitigation

Everything we do has an element of risk; driving to work, taking a flight, crossing the road etc. However, most if not all everyday risks have been mitigated to some extent to make them manageable. Often the need to mitigate risk is initiated by an event that caused injury or even death. Many formal SAR reviews have had a positive impact on SAR volunteer safety in helping to improve training and establish policy and/or protocols where required.

All responses to SAR incidents are different in some form or another, be it in location, environment and/or severity; the variables are infinite. A straightforward ground search in a rural area may at first appear as a low-risk endeavour, but multiple hazards can compound to present significant risks. Such risks are not always apparent at the outset and consequently any risk assessment/management strategy must always be dynamic and respond appropriately.

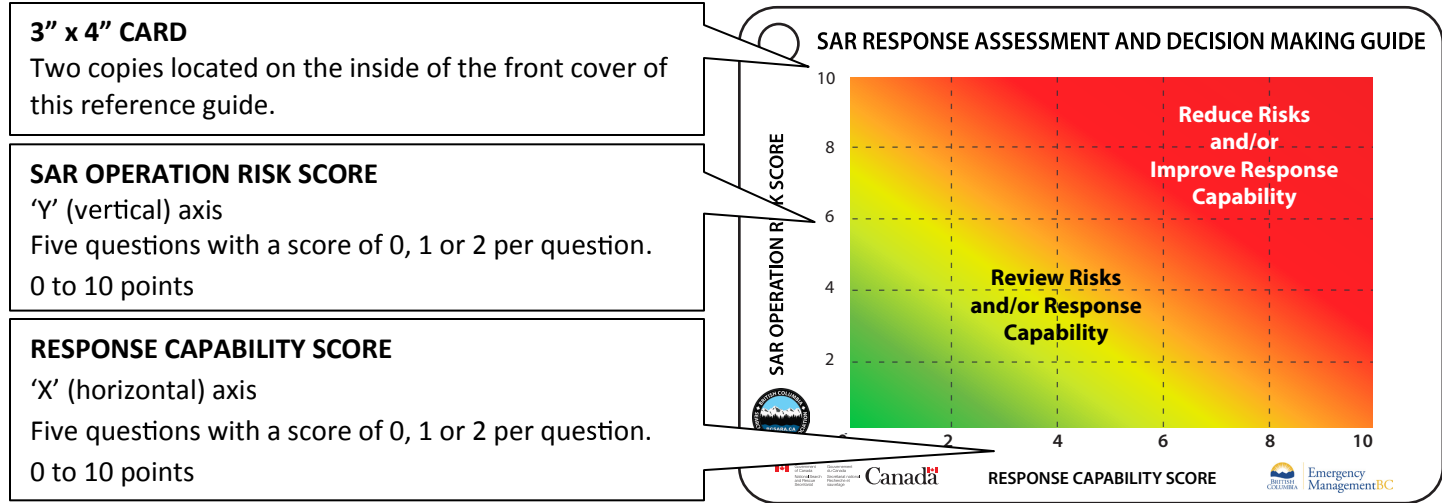
Two distinct approaches are currently in place regarding hazard assessment and risk management: rule-based policies and judgement-based protocols. EMBC has developed specific policies that can be considered 'rule-based' (i.e. the avalanche response policy). Such policies clearly demonstrate a 'Go/No-Go' approach and are appropriate in such a high-risk environment. However, there are countless situations where a 'rule-based' approach would not be applicable and would likely cause many SAR responses to be halted. The onus is therefore on all SAR volunteers to continuously assess their exposure to hazards and manage risk whenever and wherever feasible.

There are many factors that ultimately affect the degree of risk management/mitigation required. Some are obvious; some are not. This tool attempts to identify an extensive list of factors in an effort to ensure that they are considered when making decisions that could result in serious injury or even death. **This should not be interpreted as a 'Go/No-Go' gauge, but rather as an objective method to identify hazards and reduce risk.**

## 4 Approach to REPONSE ASSESSMENT AND DECISION MAKING SUPPORT

The card and reference guide are designed to be used by SAR Managers in the context of the overall response, and by Team Leaders specific to their team assignment. All SAR volunteers should be aware of these tools as part of the safety program.

The approach taken in developing this tool was to evaluate two sets of criteria in a dual-axis heat-map card format. The simple ‘green is safe’, ‘yellow is caution’ and ‘red is danger’ convention is easily recognized and understood. Once that format was established, a series of questions was required along with a scoring system.



The following generic elements and questions were developed to generate the values required for the 'X' and 'Y' axis totals:

### SAR Operation Risk Score ('Y' Axis)

- SAR Operational Complexity** .....*How complex & complicated is the task?*
- Activity Hazards** .....*How high are the hazards in the activity?*
- Environmental Conditions** .....*How high are the environmental hazards?*
- Vulnerability** .....*How exposed and vulnerable are the team members?*
- External Influence** .....*What is the level of pressure due to survivability, media, family and/or other?*  
This factor was the most difficult one to define. Subject 'survivability' should not result in risks being ignored. However, the combination of urgency along with family, media and/or agency pressure (to resolve) creates an atmosphere of stress that often leads to undue risks being taken.

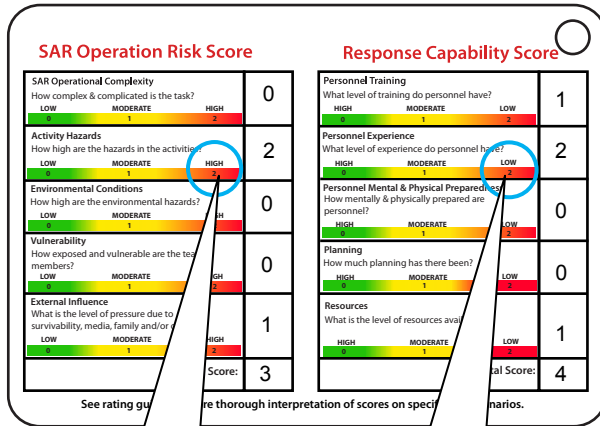
### Response Capability Score ('X' Axis)

- Personnel Training** .....*What level of training do personnel have?*
- Personnel Experience** .....*What level of experience do personnel have?*
- Personnel Mental & Physical Preparedness** .....*How mentally & physically prepared are personnel?*
- Planning** .....*How much planning has there been?*
- Resources** .....*What is the level of resources available?*

Refer to Annex 'A' Rating guides for examples (factors) on scoring the response to the above questions.

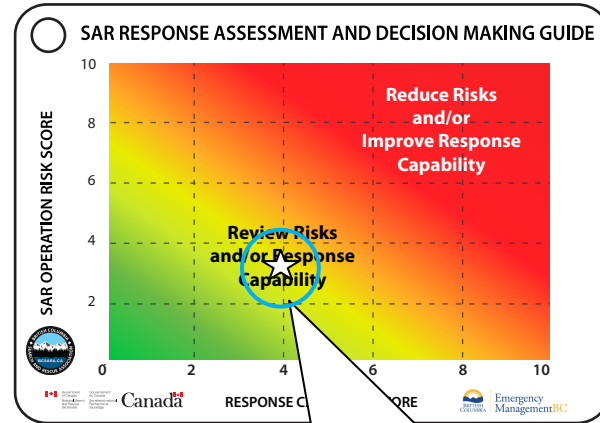
## 4.1 Understanding the Scoring

When arriving at two total scores, the corresponding location on the heat map on the front of the card may indicate an area of low to moderate risk (green or yellow). However, one or more individual elements on either axis may have a high score (2). It is therefore important to not just look at the overall rating, but to also consider how to mitigate and manage individual critical elements. This in turn will lower the overall score.



Although overall score is relatively low, one element score is **RED**

Although overall score is relatively low, one element score is **RED**



Position on the heat map could indicate that the response involves relatively moderate risk when in fact two crucial factors are showing **RED**

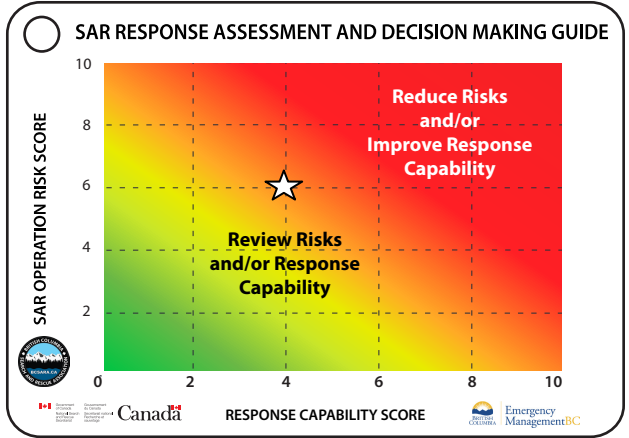
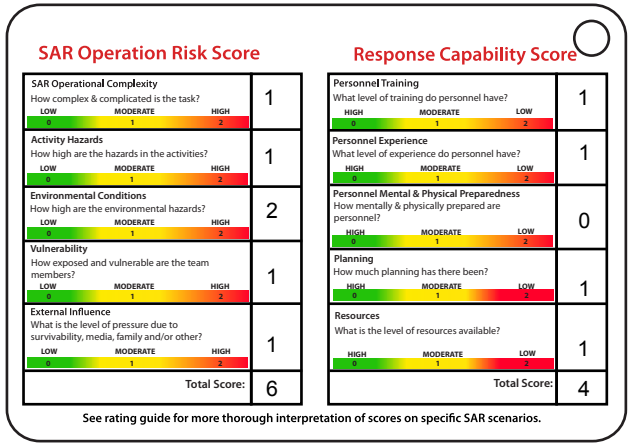
## 4.2 Using the Rating Guides

The rating guides (Annex 'A') are intended to provide examples of how to score the ten factors as they relate to several SAR disciplines (ground search, rope rescue etc.). The intent is to provide a degree of consistency in how the user interprets the scenario. 'Ground Search' will no doubt be the most widely used and is therefore most easily viewed as the default rating guide. Once the user has had some experience using the tool, the ability to score a scenario should become second nature.

As mentioned earlier, most GSAR responses are dynamic events and what may commence as a 'ground search', may become a 'rope rescue'. At this point the circumstances will likely require a re-evaluation of the situation and call for a review of the scoring using the 'rope rescue' rating guide.

### 4.3 Example

A lone skier has become separated from his party on the return leg of a day trip. It is now late afternoon and the weather forecast calls for heavy snow. Temperatures are expected to fall to -10C with strong winds. The subject is experienced, but has minimal equipment for surviving any length of time in severe weather. Location is Zoa Peak area, Coquihalla summit (8,000'). Slopes are moderate, but there is potential avalanche risk. First SAR group on call has immediately summoned mutual assistance from four other SAR groups. MOT avalanche techs (2) are on site and are part of response. All SAR personnel are in good to excellent physical condition and all field personnel have some degree of training and experience for the conditions. Communications are patchy. Command is in place and well-equipped to manage the incident. Pre-plan is in place. Little interest from media. Friends, but no family are on scene.



## 5 Pre-Planning

Pre-plans are an essential component of a safe, efficient and effective SAR response strategy. They can range from simple/generic to complex/detailed:

<b>Generic disciplined-based scenarios (ground search, rope rescue, swiftwater rescue, avalanche etc.)</b>
<b>Generic disciplined-based scenarios in specific areas, complete with travel times and geographic information</b>
<b>Specific scenarios (often multi-disciplined) in specific locations</b>
<b>Specific scenarios (often multi-disciplined) in specific locations, complete with pre-planned assignments, staging area, mutual assistance, time/distance stats etc.</b>

Pre-plans can be based on specific hazards that have not had a history of incidents, but pose a high risk to anyone venturing into them. Although some SAR groups have extremely large areas to deal with, there are often specific locations that see multiple incident responses over time. These are good examples of where a detailed pre-plan would be effective. Higher call volume SAR groups will likely have multiple locations that see similar incidents occurring, often within short time periods. A good example of an appropriate complex/detailed pre-plan would be a community evacuation in response to a disaster scenario, such as an interface fire or flood.

## **5.1 Resource Lists**

Current, accurate resource lists will greatly assist in expediting resources in an efficient manner. Having this information readily at hand during initial deployment will ensure that the appropriate resources are activated in a timely manner. Human resources can be linked to pre-plans and should address deficiencies that the home SAR group is unable to develop in-house.

Equipment may belong to other SAR groups, but may also be available at short notice from other agencies or even recreational groups in the case of ATV's and/or snowmobiles.

## **5.2 Mutual Assistance**

Along with resource lists, having a good working relationship with other SAR groups and agencies will ensure that an appropriate level of response can be activated at any given time. This is particularly important during weekday/workday hours when SAR volunteer availability is generally low.

## ANNEX 'A' RATING GUIDES

DISCIPLINE	SAR OPERATION RISK SCORE	RESPONSE CAPABILITY SCORE
GROUND SEARCH	1a	1b
ROPE RESCUE	2a	2b
MOUNTAIN RESCUE	3a	3b
SWIFTWATER RESCUE	4a	4b

## Notes:

- The following factors are provided for guidance only and may not cover all aspects of a specific SAR response.
- Factors shown under some elements are consistent throughout.
- In the **LOW** category, under the element 'Personnel Mental & Physical Preparedness' is the phrase "**Personnel are negative and question decisions**". This is in no way intended to imply that SAR volunteers should not express concerns regarding their safety.

		1a SAR OPERATION RISK SCORE	RATING GUIDE – GROUND SEARCH
Operational Complexity	0	LOW	Simple operation, requiring one or two single activities (e.g. locate and escort to safety). 1-8 hour duration. Minor subject injuries.
	1	MODERATE	More complex operation, requiring multiple activities (e.g. locate and evacuate using a litter) with some challenges both in access and egress. 8-24 hour duration. Significant non-life-threatening injuries
	2	HIGH	Very complex operation involving multiple teams. Convergent volunteers. Difficult access and egress. Helicopter transport. Multi-day or multi-organization response. Life-threatening injuries.
Activity Hazards	0	LOW	Simple basic GSAR activities; orienteering, tracking and/or sweep searching. Simple terrain. Hazards are low probability and low severity.
	1	MODERATE	Potential for several disciplines required to access and evacuate the subject. Challenging terrain. Hazard probability high but severity manageable.
	2	HIGH	Response may require use of several technical disciplines; rope rescue, swiftwater and/or avalanche assessment. Difficult terrain. Hazards are high probability and high severity.
Environmental Conditions	0	LOW	Minimal hazards. Good weather, stable forecast, daylight, warm temperatures and/or good visibility. Low elevation.
	1	MODERATE	Moderate hazards. Uncertain forecast, low light, freezing temperature, moderate precipitation and/or broken visibility.
	2	HIGH	Extreme hazards. Impending forecast, drastic weather system, darkness, cold temperatures, heavy precipitation, high wind and/or obscured visibility. High elevation.
Vulnerability	0	LOW	Minimal exposure to personnel. Good searching terrain. <1 hour exposure. <3 searchers exposed. Full 2-way communications.
	1	MODERATE	Moderate exposure to personnel due to activity/environmental hazards and/or weather. Moderate terrain hazards. 1-4 hours exposure. 3-12 searchers exposed. Intermittent communications and/or relay available if required.
	2	HIGH	High exposure due to extreme activity/environmental hazards and/or weather. Broken terrain, talus slopes and/or cliff bands. >6 hours exposure. >12 searchers exposed. Poor or no communications with field personnel.
External Influence	0	LOW	Little or no degree of urgency due to either confirmed survivability or confirmed deceased (recovery). Little or no pressure from family, media or agency.
	1	MODERATE	Some degree of urgency due to subject survivability factors. Local publicity. Family on scene. Agency and/or press asking questions.
	2	HIGH	High degree of urgency due to critical subject survivability factors. High profile subject. Family on scene. Agency, national media influence and/or political pressure to resolve.

1b RESPONSE CAPABILITY SCORE		RATING GUIDE – GROUND SEARCH
Personnel Training	0	<b>HIGH</b> Documented training proficiency appropriate for the activities required. Routinely train on incident site/area. High level of training (SAR Managers, Team Leaders, GSAR).
	1	<b>MODERATE</b> Some training proficiency related to the activities required. Some training on incident site/area. Basic SAR team member training with Team Leader supervision.
	2	<b>LOW</b> Little training proficiency related to the activities required. No training on, or familiarity with the incident site/area. No training in the terrain features. Low search member certification. New search team. Convergent volunteers used.
Personnel Experience	0	<b>HIGH</b> Extensive experience appropriate for the activities required. Routinely respond to incident site/area. >20 similar responses. Many years of recreational experience. Professional experience.
	1	<b>MODERATE</b> Some experience related to the activities required. Some previous responses to site/area. 5-20 similar responses. Significant recreational experience.
	2	<b>LOW</b> Little or no experience related to the activities required. Completely unfamiliar with the location. <5 similar responses. Little or no recreational experience.
Personnel Mental & Physical Preparedness	0	<b>HIGH</b> Personnel are in good spirits, well-rested and exhibit characteristics of a cohesive team.
	1	<b>MODERATE</b> Personnel are generally positive although some are tiring. Adequate physical condition.
	2	<b>LOW</b> Personnel are negative and question decisions ( <b>see note on page 13</b> ). Resources have been on task through several assignments and are showing signs of exhaustion. Searchers have been involved for multi-operational periods. Unfit/does not exercise on a regular basis.
Planning	0	<b>HIGH</b> Plans (and/or Pre-plans) are in place, including contingencies, all documented.
	1	<b>MODERATE</b> Overall plan is in place, with some consultation. Basic notes taken about the site.
	2	<b>LOW</b> Basic discussions on overall strategies and tactics. Nothing in writing for this site.
Resources	0	<b>HIGH</b> Appropriate resources are in place to cover all anticipated eventualities, contingencies and multi-operational periods.
	1	<b>MODERATE</b> Basic resources are in place to cover response. Back-up is available, but not on site.
	2	<b>LOW</b> Resources are barely adequate. No back-up or contingency available.

2a SAR OPERATION RISK SCORE		RATING GUIDE – ROPE RESCUE	
Operational Complexity	0	LOW	Simple operation. 4 <sup>th</sup> class terrain. Trail approach. Top-down access. Requires only rappelling in. Simple lower <50 meters in length. Straight forward evacuation. One subject. Minor subject injuries.
	1	MODERATE	More complex operation. 5 <sup>th</sup> class terrain. Knot pass raise and/or lower <100 meters in length. 2 or more subjects with non-life-threatening injuries..
	2	HIGH	Very complex operation. Multiple teams. Convergent volunteers. Difficult access and egress. Multi-pitch raise and/or lower >100 meters in length. Complex evacuation. Life-threatening injuries.
Activity Hazards	0	LOW	Low hazard rope rescue activities. Low angle site. Simple terrain. Hazards are low probability and low severity.
	1	MODERATE	Moderate hazard rope rescue activities. Site hazards manageable. Challenging terrain. Hazard probability high but severity manageable.
	2	HIGH	High hazard rope rescue. Site hazards not easily managed. Complex terrain. Hazards are high probability and high severity.
Environmental Conditions	0	LOW	Minimal hazards. Good weather, stable forecast, daylight, warm temperatures and/or good visibility. Low elevation.
	1	MODERATE	Moderate hazards. Uncertain forecast, low light, freezing temperature, moderate precipitation and/or broken visibility.
	2	HIGH	Extreme hazards. Impending forecast, drastic weather system, darkness, cold temperatures, heavy precipitation, high wind and/or obscured visibility. High elevation.
Vulnerability	0	LOW	Minimal exposure to personnel. Good terrain to work in. No overhead hazards. <1 hour exposure. 1-2 rescuers exposed.
	1	MODERATE	Moderate exposure to personnel due to terrain/activity/environmental hazards and/or weather. Manageable overhead hazards. Safe zones exist to protect rescuers. Short-term exposure to hazards. 1-4 hours exposure. 2-4 rescuers exposed.
	2	HIGH	High exposure due to extreme terrain/activity/environmental hazards and/or weather. High overhead hazards. Rock fall likely. No safe-zones to protect rescuers. Long-term exposure to hazards. >4 hours exposure. >4 rescuers exposed.
External Influence	0	LOW	Little or no degree of urgency due to either confirmed survivability or confirmed deceased (recovery). Little or no pressure from family, media or agency.
	1	MODERATE	Some degree of urgency due to subject survivability factors. Local publicity. Family on scene. Agency and/or press asking questions.
	2	HIGH	High degree of urgency due to critical subject survivability factors. High profile subject. Family on scene. Agency, national media influence and/or political pressure to resolve.

2b RESPONSE CAPABILITY SCORE		RATING GUIDE – ROPE RESCUE	
Personnel Training	0	HIGH	Documented training proficiency appropriate for the activities required. Routinely train on incident site. Rope rescue team member training with team leader supervision.
	1	MODERATE	Some training proficiency related to the activities required. Some training on incident site. Rope rescue team member training with team leader supervision.
	2	LOW	Little training proficiency related to the activities or location required. No training on incident site. No training in the terrain features. Low rope rescue certification. New rescue team.
Personnel Experience	0	HIGH	Extensive experience appropriate for the activities required. Routinely respond to incident site. >20 similar responses. Many years of recreational experience. Professional experience.
	1	MODERATE	Some experience related to the activities required. Some previous responses to incident site. 5-20 similar responses. Significant recreational experience.
	2	LOW	Little or no experience related to the activities required. Completely unfamiliar with the location. <5 similar responses. Little or no recreational experience.
Personnel Mental & Physical Preparedness	0	HIGH	Personnel are in good spirits, well-rested and exhibit characteristics of a cohesive team. Excellent personal fitness.
	1	MODERATE	Personnel are generally positive although some are tiring. Adequate physical condition.
	2	LOW	Personnel are negative and question decisions ( <b>see note on page 13</b> ). Resources have been on task through several assignments and are showing signs of exhaustion. Responders have been involved for multi-operational periods. Unfit/does not exercise on a regular basis.
Planning	0	HIGH	Plans (and/or Pre-plans) are in place, including contingencies, all documented.
	1	MODERATE	Overall plan is in place, with some consultation. Basic notes taken about the site.
	2	LOW	Basic discussions on overall strategies and tactics. Nothing in writing for this site.
Resources	0	HIGH	Appropriate resources are in place to cover all anticipated eventualities, contingencies and technical requirements.
	1	MODERATE	Basic resources are in place to cover response. Back-up is available, but not on site.
	2	LOW	Resources are barely adequate. No back-up or contingency available.

3a SAR OPERATION RISK SCORE		RATING GUIDE – MOUNTAIN RESCUE	
Operational Complexity	0	LOW	Simple operation. 4 <sup>th</sup> class terrain. Trail approach. Top-down access, requires only rappelling in. Simple lower <50 meters in length. Straight forward evacuation. One subject. Minor subject injuries.
	1	MODERATE	More complex operation. 5 <sup>th</sup> class terrain. Knot pass raise and/or lower <100 meters in length. 2 or more subjects with non-life-threatening injuries.
	2	HIGH	Very complex operation. Multiple teams. Convergent volunteers. Difficult access and egress. Multi-pitch raise and/or lower >100 meters in length. Complex evacuation. Life-threatening injuries.
Activity Hazards	0	LOW	Low hazard mountain rescue activities. Low angle alpine site. No site hazards. Simple terrain. Hazards are low probability and low severity.
	1	MODERATE	Moderate hazard mountain rescue activities. Glaciated alpine or steep alpine. Challenging terrain. Site hazards manageable. Hazard probability high but severity manageable.
	2	HIGH	High hazard mountain rescue. Glaciated & steep alpine. Avalanche, rock or icefall hazard likely, CDFL involved. Complex terrain. Site hazards not easily managed. Hazards are high probability and high severity.
Environmental Conditions	0	LOW	Minimal hazards. Good weather, stable forecast, daylight, warm temperatures and/or good visibility. Low elevation.
	1	MODERATE	Moderate hazards. Uncertain forecast, low light, freezing temperature, moderate precipitation and/or broken visibility.
	2	HIGH	Extreme hazards. Impending forecast, drastic weather system, darkness, cold temperatures, heavy precipitation, high wind and/or obscured visibility. High elevation.
Vulnerability	0	LOW	Minimal exposure to personnel. Good terrain to work in. No overhead hazards. <1 hour exposure. 1-2 rescuers exposed.
	1	MODERATE	Moderate exposure to personnel due to terrain/activity/environmental hazards and/or weather. Manageable overhead hazards. Safe zones exist to protect rescuers. 1-4 hours exposure. 2-4 rescuers exposed.
	2	HIGH	High exposure due to extreme terrain/activity/environmental hazards and/or weather. High overhead hazards. Rock fall likely. No safe-zones to protect rescuers. >4 hours exposure. >4 rescuers exposed.
External Influence	0	LOW	Little or no degree of urgency due to either confirmed survivability or confirmed deceased (recovery). Little or no pressure from family, media or agency.
	1	MODERATE	Some degree of urgency due to subject survivability factors. Local publicity. Family on scene. Agency and/or press asking questions.
	2	HIGH	High degree of urgency due to critical subject survivability factors. High profile subject. Family on scene. Agency, national media influence and/or political pressure to resolve.

3b RESPONSE CAPABILITY SCORE		RATING GUIDE – MOUNTAIN RESCUE	
Personnel Training	0	HIGH	Documented training proficiency appropriate for the activities required. Routinely train on incident site/area. Professional level certification (ACMG Alpine Guide). Instructor level mountain rescue certification.
	1	MODERATE	Some training proficiency related to the activities required. Some training on incident site/area. Mountain rescue training with team leader supervision.
	2	LOW	Little training proficiency related to the activities or location required. No training on incident site/area. No training in the terrain features. Low mountain rescue certification. New rescue team.
Personnel Experience	0	HIGH	Extensive experience appropriate for the activities required. Routinely respond on incident site/area. >20 similar responses. Many years of recreational experience. Professional experience.
	1	MODERATE	Some experience related to the activities required. Some previous responses on incident site/area. 5-20 similar responses. Significant recreational experience.
	2	LOW	Little or no experience related to the activities required. Completely unfamiliar with the location. <5 similar responses. Little or no recreational experience.
Personnel Mental & Physical Preparedness	0	HIGH	Personnel are in good spirits, well-rested and exhibit characteristics of a cohesive team.
	1	MODERATE	Personnel are generally positive although some are tiring. Adequate physical condition.
	2	LOW	Personnel are negative and question decisions ( <b>see note on page 13</b> ). Resources have been on task through several assignments and are showing signs of exhaustion. Responders have been involved for multi-operational periods. Unfit/does not exercise on a regular basis.
Planning	0	HIGH	Plans (and/or Pre-plans) are in place, including contingencies, all documented.
	1	MODERATE	Overall plan is in place, with some consultation. Basic notes taken.
	2	LOW	Basic discussions on overall strategies and tactics. Nothing in writing.
Resources	0	HIGH	Appropriate resources and team are in place to cover all anticipated eventualities, contingencies and technical requirements.
	1	MODERATE	Basic resources and team are in place to cover response. Back-up is available, but not on site.
	2	LOW	Resources and team are barely adequate. No back-up or contingency available.

		4a SAR OPERATION RISK SCORE		RATING GUIDE – SWIFTWATER RESCUE	
Operational Complexity	0	HIGH	Simple operation. Single tasks. One subject. Minor injuries. Rescue from shore is possible.		
	1	MODERATE	More complex operation. Multiple single tasks. Significant non-life-threatening injuries. Rescuers in the water without anchored rope systems involved.		
	2	LOW	Very complex operation. Compound tasks. Life-threatening injuries. Rescue includes anchored rope systems. Complex mechanical advantage required.		
Activity Hazards	0	HIGH	Low hazard swiftwater rescue activities. Shore-based response in low risk environment. Little or no direct contact with subject. Indirect contact from shore. Little to no site hazards. Hazards are low probability and low severity.		
	1	MODERATE	Moderate hazard swiftwater rescue activities. Shore or water-based. Simple and compound rope access. Tethered swimmer in low-moderate risk swiftwater environments. Site hazards manageable. Hazard probability high but severity manageable.		
	2	LOW	High hazard swiftwater rescue. Shore and swim based. Technical, horizontal aquatic rope access. Complex rope, advanced rescue protocols. Rescuers in the water. Site hazards not easily managed. Hazards are high probability and high severity.		
Environmental Conditions	0	HIGH	Minimal hazards. Class 1. Simple waves. Pool drop. Velocity <5 km/hr. Drop <5m/km. Sand/gravel bottom. Water temp >20 C. Water clarity > 2m. Free flow hydraulics. No hard hazards. No entrapment potential. Clear load. Stable weather forecast.		
	1	MODERATE	Moderate hazards. Class 2-3. Compound waves to 1m. Staggered rapids. Velocity 5-12 km/hr. Drop 6-10m/km. Boulder bottom. Water temp 10-20 C. Water clarity 0.3-1 m. Potential holding hydraulics. Some hard hazards. Surface & suspended load. Uncertain weather forecast, low light, freezing temperature.		
	2	LOW	Extreme hazards. Site hazards not easily managed. Class 4+. Complex waves 2m. Continuous rapids. Velocity 10 km+. Boulder & ledge bottom. Water temp <10 C. Water clarity <0.3m. Entrapment hydraulics. Frequent hard hazards. Surface/suspended & bottom load. Impending weather forecast, darkness, cold temperatures, heavy precipitation, high wind.		
Vulnerability	0	HIGH	Minimal exposure to personnel. Good terrain to work in. No downstream hazards. No rescuers exposed to hazards.		
	1	MODERATE	Moderate exposure to personnel due to terrain/activity/environmental hazards and/or weather. Downstream hazards exist but are manageable. Short-term exposure to hazards. 1 rescuer exposed to hazards.		
	2	LOW	High exposure due to extreme terrain/activity/environmental hazards and/or weather. Dangerous downstream hazards exist. Medium to long-term exposure to hazards. >1 rescuer exposed to hazards.		
External Influence	0	HIGH	Little or no degree of urgency due to either confirmed survivability or confirmed deceased (recovery). Little or no pressure from family, media or agency.		
	1	MODERATE	Some degree of urgency due to subject survivability factors. Local publicity. Family on scene. Agency and/or press asking questions.		
	2	LOW	High degree of urgency due to critical subject survivability factors. High profile subject. Family on scene. Agency, national media influence and/or political pressure to resolve.		

4b RESPONSE CAPABILITY SCORE		RATING GUIDE – SWIFTWATER RESCUE
Personnel Training	0	<b>HIGH</b> Documented training proficiency appropriate for the activities required. Skill and knowledge to perform multiple complex specialized rescue tasks in high-risk swiftwater. Routinely train on incident site/area. Professional level rescuer certification.
	1	<b>MODERATE</b> Some training proficiency related to the activities required. Skill and knowledge to perform compound tasks in moderate swiftwater environments. Some training on incident site/area. All SRT certified rescuers.
	2	<b>LOW</b> Little training proficiency related to the activities or location required. Survival, awareness, or basic level swiftwater training only. No training and/or experience on incident site/area. Low SRT certification. New SRT team.
Personnel Experience	0	<b>HIGH</b> Extensive experience related to the activities required. Routinely respond on incident site/area. >20 similar responses. Many years of recreational experience. Professional experience.
	1	<b>MODERATE</b> Some experience related to the activities required. Some previous response on incident site/area. 5-20 similar responses. Significant recreational experience.
	2	<b>LOW</b> Little or no experience related to the activities required. Completely unfamiliar with the location. <5 similar responses. Little or no recreational experience.
Personnel Mental & Physical Preparedness	0	<b>HIGH</b> Personnel are in good spirits, well-rested and exhibit characteristics of a cohesive team, excellent physical fitness.
	1	<b>MODERATE</b> Personnel are generally positive although some are tiring. Adequate physical condition.
	2	<b>LOW</b> Personnel are negative and question decisions ( <b>see note on page 13</b> ). Resources have been on task through several assignments and are showing signs of exhaustion. Responders have been involved for multi-operational periods. Unfit/does not exercise on a regular basis.
Planning	0	<b>HIGH</b> Plans (and/or Pre-plans) are in place, including contingencies, all documented.
	1	<b>MODERATE</b> Overall plan is in place, with some consultation. Basic notes taken.
	2	<b>LOW</b> Basic discussions on overall strategies and tactics. Nothing in writing.
Resources	0	<b>HIGH</b> Appropriate resources and team are in place to cover all anticipated eventualities, contingencies and technical requirements.
	1	<b>MODERATE</b> Basic resources and team are in place to cover response. Back-up is available, but not on site.
	2	<b>LOW</b> Resources and team are barely adequate. No back-up or contingency available.

NOTES:

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NOTES:

### SAR Operation Risk Score

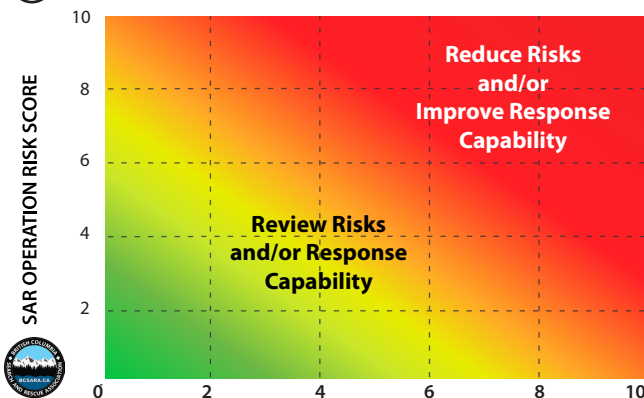
<b>SAR Operation Complexity</b> How complex & complicated is the task?	
LOW      MODERATE      HIGH	
0      1      2	
<b>Activity Hazards</b> How high are the hazards in the activities?	
LOW      MODERATE      HIGH	
0      1      2	
<b>Environmental Conditions</b> How high are the environmental hazards?	
LOW      MODERATE      HIGH	
0      1      2	
<b>Vulnerability</b> How exposed and vulnerable are the team members?	
LOW      MODERATE      HIGH	
0      1      2	
<b>External Influence</b> What is the level of pressure due to survivability, media, family and/or other?	
LOW      MODERATE      HIGH	
0      1      2	
<b>Total Score:</b>	

### Response Capability Score

<b>Personnel Training</b> What level of training do personnel have?	
HIGH      MODERATE      LOW	
0      1      2	
<b>Personnel Experience</b> What level of experience do personnel have?	
HIGH      MODERATE      LOW	
0      1      2	
<b>Personnel Mental &amp; Physical Preparedness</b> How mentally & physically prepared are personnel?	
HIGH      MODERATE      LOW	
0      1      2	
<b>Planning</b> How much planning has there been?	
HIGH      MODERATE      LOW	
0      1      2	
<b>Resources</b> What is the level of resources available?	
HIGH      MODERATE      LOW	
0      1      2	
<b>Total Score:</b>	

See rating guide for more thorough interpretation of scores on specific SAR scenarios.

### SAR RESPONSE ASSESSMENT AND DECISION MAKING GUIDE



Department of National Defence  
Ministère de la Défense nationale

Canada

RESPONSE CAPABILITY SCORE



Emergency Management BC

## Acknowledgements

**Jim McAllister**

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**Karl Klassen**

Canadian Avalanche Centre

**Jim Lavalley**

Rescue Canada

**Gilles Valade**

Canadian Avalanche Centre

**Jeremy Vandekerkhove**

Vernon SAR

And the many BC SAR volunteers who provided input during the initial development of the prototype.

**Ross Cloutier**

Risk Management Consultant, Bhudak Consultants LTD.

**Neil Brewer**

Project Manager, Kent Harrison SAR



Government  
of Canada

National Search  
and Rescue  
Secretariat

Gouvernement  
du Canada

Secrétariat national  
Recherche et  
sauvetage

**Canada**

**We would like to acknowledge the financial support of the Government of Canada for this project through the Search and Rescue New Initiatives Fund (SAR NIF).**