BRITISH COLUMBIA

Ministry of Emergency Management and Climate Readiness

PROVINCIAL SEARCH AND RESCUE OPERATING GUIDELINES

Emergency Management and Climate Readiness
October 2023

Rev	Section	Description of Change	Effective Date
0	Initial release of revised document		September 2012
1	3.14 Recovery of Human Remains	Initial release of POG on Recovery of Human Remains and handout from OSHA.	April 2014
2	1.15 Fit for Service	Initial release of POG on Fit for Service	November 2014
3	1.11 First Aid	Initial release of POG on First Aid	December 2014
4	3.09 HETS	Update and changes to Helicopter External Transport System (HETS). POG is now titled Class D Fixed Line (CDFL).	December 2014
5	3.03 Swiftwater Rescue	Revision of POG as new standard in B.C., with Qualification Competency Matrix, and a List of Recognized Swiftwater Courses.	February 2015
6	1.01 Exposure to Diseases	Revised to update references and change “SAR” to “GSAR”	October 2016
7	1.02 CISM	Changed PEP to EMBC, change “SAR” to “GSAR”	October 2016
8	1.03 Personal Protective Equipment	Updated references, and change “SAR” to “GSAR”	October 2018
9	1.04 Safety Officer	Revised to provide additional information on role and responsibilities	May 2017
10	1.06 Risk Assessment	Updated to reflect the use of RADeMS	May 2017
11	2.06 Chainsaw Bucking Operations	New, to clarify permitted use and requirements	May 2017
12	3.07 Cave Rescue	Revised to correct terms and removed Cave Rescue internal procedures	May 2017
13	2.02 ORV Operations	Extensive revisions to align with new provincial regulations and feedback, previously titled ‘ATV Operations’. Also replaces 2.03 ‘Snowmobile Operations’.	June 2017

14	2.03 Snowmobile Operations	Cancelled, now included in 2.02 ORV Operations	May 2017
15	2.05 Watercraft Operations	Definitions; added competency	August 2018
16	All P.O.G.	Changed "SAR Volunteer, SAR Group etc." to "GSAR Volunteer, GSAR Group etc." in most POG's	October, November 2018
17	3.02 Rope Rescue	Updated references	October 2018
18	1.15 Fit for Service	Added Cannabis to external influences	November 2018
19	1.09 Alcohol and Drugs	Changed 'EMBC business' to 'EMBC activities'	April 2019
20	3.15 Floodwater Response	New, to provide GSAR personnel the required knowledge to safely respond to a floodwater incident	May 2019
21	1.02 CISM	Removed reference to Road Rescue	January 2021
22	1.03 PPE	Updated references	January 2021
23	1.04 Safety Officer	Corrected typographical errors	January 2021
24	1.15 Fit for Service	Updated references	January 2021
25	2.01 Vehicle Response Safety	Updated references	January 2021
26	2.02 ORV Operations	Updated references	January 2021
27	2.05 Watercraft Operations	Updated references	January 2021
28	2.06 Chainsaw Bucking Operations	Updated references	January 2021
29	3.01 Ground Search and Rescue	Updated references	January 2021
30	3.02 Wildland Rope Rescue	Changed name from Rope Rescue, added reference	January 2021
31	3.02a Wildland Rope Recue	New, BC SAR Wildland Rope Rescue Competency Matrix	January 2021
32	3.04 Flat Ice Rescue	Updated references	January 2021

33	3.07 Cave Rescue	Updated references	January 2021
34	3.08 Avalanche Response	Updated references – Changed title to Winter Response	January 2021
35	3.09 Helicopter Class 'D'	Updated references	January 2021
36	3.10 Hover Exit	Updated references	January 2021
37	3.11 Civil Emergency	Updated references, removed references to LUSAR	January 2021
38	3.12 Canine Search	Updated references	January 2021
39	3.13 Mounted Search	Added reference for convergent volunteer	January 2021
40	3.14 Recovery of Human Remains	Updated references	January 2021
41	3.16 Tidal Operations	New, to provide GSAR personnel the required knowledge to safely operate in the tidal water zone	January 2021
42	3.02b Recognized Wildland Rope Rescue Courses	New, to provide volunteers with contact information for Wildland Rope Rescue Course providers	January 2022
43	1.01 Exposure to Diseases	Changed Communicable Disease list from image to text to improve accessibility	January 2022
44	1.11 First Aid	Changed Appendix D list from image to text to improve accessibility	January 2022
45	2.05 Watercraft Operations	Added 'valid' and footnote to licence requirements for Pleasure Craft Operators	January 2022
46	2.06 Chainsaw Bucking Operations	Moved References to end	January 2022
47	3.03 Swiftwater Training	Added 'b' to POG 3.03 Swiftwater Training	January 2022
48	3.17 Arboreal Rescue	New, to provide GSAR personnel the required processed for completing an Arboreal Rescue	February 2022
49	3.02 Wildland Rope Rescue Training	Updated links	March 2022

50	3.03 Swiftwater Training	Updated links	March 2022
51	3.02b Recognized Wildland Rope Rescue Courses	Revised list of approved Wildland Rope Rescue Providers	May 2023
52	Risk Assessment	Added to wording, added training exercise wording	October 2023
53	2.05 Watercraft Operations	Moved footnote reference number	October 2023
54	2.02 ORV Operations	Changed GSAR teams to GSAR groups	October 2023
55	1.11 First Aid	Clarified last sentence in Appendix D (first aid training)	October 2023
56	All P.O.G.	Replaced EMBC with EMCR and moved revision table to follow table of contents. Replaced EMBC logo with EMCR logo. Corrected typos, punctuation. Changed typestyle to BC Sans and colours to conform with Government designs.	October 2023

PURPOSE: To establish procedures for managing and reporting exposure of all GSAR volunteers to diseases including airborne, blood borne, blood or body fluids, non-impact skin – injection, inhalation, absorption, ingestion and exposure.

GUIDELINE: GSAR volunteers will exercise caution and utilize proper protective equipment where exposure to diseases is a concern. All exposures will be documented and reported to the GSAR leader and or manager, documented in the GSAR group first aid record and reported to EMCR.

PROCEDURE: Proper protective equipment, including the wearing of latex gloves and face/nose/eye/mouth protection, will be utilized at all incidents where exposure is possible.

EMCR will provide Hepatitis B vaccine injections to volunteers who face the risk of exposure to body fluids during GSAR operations.

If exposure occurs, the volunteer will follow proper first aid treatment including identifying the source, if possible, and recording all pertinent data as it relates to the incident.

Notify the GSAR leader immediately of the incident, who will report the incident to EMCR.

The First Aid Reporting Form will be completed by the GSAR leader and EMCR will complete the Employer Report before forwarding to WorkSafe BC.

Any GSAR volunteer who is exposed to communicable diseases will be offered testing and treatment by a responsible medical authority.

REFERENCE: EMCR Policy 1.04 Hepatitis B Prevention/Post Exposure Follow-up

Provincial Operating Guideline 1.03 Personal Protective Clothing and Equipment

Provincial Operating Guideline 1.04 Safety Officer

Provincial Operating Guideline 1.11 First Aid

Common Communicable Diseases and Their Precautions

The following list is provided by the JIBC Paramedic Academy for the information of SAR volunteers.
Note that the use of universal precautions will protect responders from all those listed.

Disease	*When Contagious*	*Precautions*
Hepatitis A (infectious)	From 1 week before onset of jaundice to 1 week after onset	• Good handwashing before and after patient contact • Wear personal protective equipment for direct contact with excreta and contaminated articles • Sanitary disposal of feces and urine by ambulance personnel
Hepatitis B and C (blood)	As long as carrier state exists	• Good handwashing before and after patient contact • Wear personal protective equipment when handling blood, body fluids, or contaminated equipment
AIDS (acquired immune deficiency syndrome)	Always	• Good handwashing before and after patient contact • Avoid direct contact of skin and mucous membranes with blood, blood products, excretions, and secretions of patients likely to have AIDS • Wear personal protective equipment when handling blood, body fluids, or contaminated equipment
Chicken pox	Highly contagious 2 days before lesions (pox) appear and while they are present	• Apply a mask to patient's face and cover the body with a sheet • Good handwashing before and after patient contact • Ambulance personnel will double-bag articles soiled by discharges from the nose and throat
Tuberculosis (TB)	Highly contagious until 2 weeks after start of treatment	• Good handwashing before and after patient contact • Wear personal protective equipment including a specialized mask • Careful disposal of sputum and soiled articles (double-bag) by ambulance personnel
Herpes simplex I (cold sores)	When the cold sore is first visible until it crusts over and disappears	• Good handwashing before and after patient contact
Pertussis (whooping cough)	From onset until 5 – 7 days after starting antibiotics	• Good handwashing before and after patient contact • Wear personal protective equipment
Meningitis	Always	• Good handwashing before and after patient contact • Wear personal protective equipment, including a mask, before going near patient • Careful disposal of soiled articles and discharge from nose and throat by ambulance personnel
Measles	10 days before rash and 7 after rash appears	• Ambulance personnel will double-bag articles soiled with secretions of nose and throat • Patient should wear mask and be covered with a sheet • Good handwashing before and after patient care
Mumps	10 days before swelling until swelling subsides	• As for measles

PURPOSE: To ensure that all EMCR GSAR volunteer members are provided with Critical Incident Stress Management services when required.

GUIDELINE: The GSAR group will make arrangements to ensure Critical Incident Stress assistance and intervention is provided as necessary.

PROCEDURE: The GSAR leader and or manager shall ensure that defusing and/or debriefing sessions are held following any significant or critical incident.

When required, the GSAR leader and or manager shall arrange for follow-up assistance for any GSAR volunteer requesting further assistance.

Any incident encountered by a GSAR volunteer that causes them to experience a distressing reaction may be considered for Critical Incident Stress intervention.

The GSAR leader and or manager will make every effort to minimize exposure to critical incidents without interfering with any on-going operation.

All GSAR leaders and or managers and volunteers will be alert for acute stress reactions in themselves and their teammates. The GSAR leader will provide support, encouragement and consultation and will, where necessary, implement the appropriate steps at the scene to assist the GSAR volunteers in dealing with stress reactions.

INTERVENTION PROCESS:

Upon recognition of the need, or upon request by a GSAR volunteer at the scene, the GSAR leader and or manager will initiate the following steps in the intervention process:

Defusing: may be asked for by any GSAR volunteer participating in an incident and will take place as soon as possible after return to the unit's headquarters. Any obvious signs of distress and/or depression by any GSAR member present will be noted by the person facilitating

the defusing session and a recommendation will be made that a full debriefing session take place. Only GSAR volunteers involved in the incident will participate in the defusing. Arrangements will be made to hold a formal debriefing, if necessary. A defusing is not a critique of departmental operations at the incident, nor will a person's performance be discussed.

Debriefing: if necessary, will be arranged by the GSAR leader and or manager and will be held as soon as possible after the incident. Debriefings will be only for those members involved in the incident. Assistance through Emergency Management and Climate Readiness can be requested.

Follow-up Assistance: will be provided by the BCSARA CISM team and or EMCR as necessary. Where the GSAR leader and or manager is aware of an individual problem or receives a request from a GSAR volunteer, follow-up assistance or referral through Emergency Management and Climate Readiness shall be arranged.

TRAINING: Critical Incident Stress general awareness and management training should be provided to all GSAR volunteers.

REFERENCE: BCSARA Critical Incident Stress Management Program

PURPOSE: To provide for the use of protective clothing and equipment by GSAR volunteers.

GUIDELINE: Appropriate personal protective clothing and equipment will be worn by all GSAR volunteers during any exercise, training or operational task.

Personal protective clothing and equipment includes, but is not limited to:

- clothing to protect from the weather and environment
- limb and body protection worn during use of chainsaws or other equipment
- helmets, face/eye protection, footwear
- high visibility/distinguishing apparel
- respiratory protection, and
- Personal Flotation Devices (PFDs).

For GSAR operations on or near a roadway where there is a risk to GSAR volunteers, they are to wear hi-visibility apparel, such as a hi-visibility vest worn over a team jacket.

For GSAR operations away from roadways, GSAR volunteers are to wear apparel which is readily identifiable. This may be team jackets, vests (high-visibility or otherwise), and/or helmets or caps that contrasts with the environment.

PROCEDURE: The GSAR Leader will be responsible to ensure that GSAR volunteers follow Operational Guidelines, training materials and policies regarding the use of personal protective clothing and equipment.

Required personal protective clothing and equipment will be largely dependent on the weather conditions, the type of operational task, terrain and any specialty rescue procedures that are required to be undertaken by the GSAR volunteer.

All GSAR volunteers are responsible for their safety and will utilize proper protective equipment as prescribed within these guidelines and training materials.

All personal protective equipment will be approved by the GSAR group. No alterations to any equipment shall be done except where pre-approved by the manufacturer.

Under no circumstance is any aspect of personal safety to be sacrificed in order to increase the speed of the emergency operations.

Damage to personal protective equipment will immediately be reported to the GSAR leader and or manager, who will have the article inspected for replacement or repair as necessary.

Personal protective equipment will be inspected regularly for defects; a record is to be maintained of these inspections and the results.

Personal protective equipment will be washed regularly as per the manufacturer's guidelines to remove any build-up of contaminated materials.

GSAR volunteers who respond to any exercise, training or operational task without appropriate personal protective equipment will be limited to duties they have suitable protective gear for, or not allowed to take part in the exercise, training or operational task, at the determination of the GSAR leader.

REFERENCES:

Provincial Operating Guideline 1.04 Safety Officer

EMCR 2.02 Task Authorization

EMCR Policy 5.04 Public Safety Lifeline Equipment Repair/Replacement

WorkSafe BC OSH Regulation 8.24 standards for High Visibility Clothing

Transport Canada Approved Personal Flotation Devices

SAR Safety Program **Safety Officer**	O.G.# 1.04	
	Issued: Sept 2012	Rev: Oct 2023

PURPOSE: To provide guidance on the role of Safety Officers in ensuring the health and safety of all GSAR volunteers during training, practice and response.

GUIDELINE: GSAR Leaders are responsible for the safety of GSAR volunteers participating in training, practice or response.

During a response, part of the SAR Manager's role is to act as the Safety Officer unless that position is filled by an appropriately qualified individual. It is recommended, if possible, that a Safety Officer other than the SAR Manager be appointed.

If operational circumstances warrant, one or more Assistant Safety Officers may be appointed; the ASO reports to the Safety Officer.

PROCEDURE: The role of a Safety Officer is to monitor safety conditions and develop measures for ensuring the safety of all assigned GSAR volunteers and any other responders. The Safety Officer will:

- Obtain task briefing from the SAR Manager.
- Participate in incident planning sessions and review the Incident Action Plan for safety implications. If proposed tactics are potentially unsafe, assist in identifying safer options.
- Identify hazardous conditions or environments associated with the incident. Undertake formal risk assessment, utilizing the Response Assessment and Decision-Making Support (RADeMS) tool.
- Create and maintain the Safety Plan (ICS305), identifying hazards and mitigations.
- Review and approve the Medical Plan (ICS206), prepared by Logistics. If necessary, assign a Rapid Intervention Team (RIT).
- Supervise general responder care, including access to nutrition, hydration, rest, etc. Particular attention must be given to responder fatigue. If necessary, because of dangerous animals, supervise armed escorts (ref. POG #1.12).
- Ensure basic personal protective equipment (PPE) is available and being used by all field members. In the event of a known hazard, ensure task-

specific PPE (e.g., PFD) is available and volunteers are qualified in its use. (ref. POG #1.03)

- Ensure responders have appropriate training, skills and equipment for their assignment prior to field deployment. This is especially important when personnel are from an outside resource or convergent volunteers.
- Ensure safe practices are being followed in the field. If it is not feasible for the Safety Officer to attend, assign an Assistant Safety Officer (ASO) to ensure safety at remote sites. If an ASO is needed, a suitably qualified member should be assigned this role.
- Multiple high-risk operations may require ASO's at each site.
- In the case of imminent danger, both the Safety Officer and ASO have emergency authority to immediately terminate unsafe acts.
- Ensure the unsafe situation is corrected immediately. If this is not possible, other mitigation strategies must be discussed with the SAR Manager and the Operations Chief.
- In the event of an accident, incident with loss or near miss, the Safety Officer investigates and makes recommendations to prevent recurrences:
    - Ensure the accident scene is preserved for investigation.
    - Ensure the accident is properly documented, including statements of those involved, photographs, diagrams, etc.
    - For serious injuries or death, work with SAR Manager and EMCR Regional Manager to notify all necessary authorities (police; WorkSafe; coroner; etc.).
    - Prepare necessary reports, including recommended corrective action. (As a minimum, a GSAR group's Accident/Incident Investigation Report must be completed.)
    - A more detailed approach to accident/injury investigation and reporting, including sample forms, may be found in the GSAR Safety Program Guide.

Demobilization

- Ensure safe practices are observed during the demobilization phase of any operational or training task. This is very important, as responders may be fatigued.
- In conjunction with the SAR Manager, coordinate critical incident stress, hazardous materials, and other debriefings, as necessary. (ref. POG #1.02)

REFERENCE: BCEMS Standards – ICS 100

Provincial Operating Guideline 1.03 Personal Protective Clothing and Equipment

Provincial Operating Guideline 1.02 Critical Incident Stress Management

Provincial Operating Guideline 1.12 Animal Threats

Provincial Operating Guideline 1.06 Risk Assessment

SAR Safety Program **Team Evacuation**	O.G.# 1.05	
	Issued: Sept 2012	Rev: Oct 2023

PURPOSE: To establish a procedure to ensure that all GSAR volunteers are promptly alerted when an evacuation is required during training, practice or response.

GUIDELINE: When the SAR Leaders or Safety Officer determines that a risk within an area may soon deteriorate to the point where GSAR volunteers may be in imminent danger, an emergency evacuation signal will be issued.

PROCEDURE: When the GSAR Leaders or Safety Officer determines it is necessary for the crews to evacuate an area, the following procedure will be followed:

The GSAR Leaders or Safety Officer will broadcast a priority message over the radio that all personnel are to evacuate the area immediately and will sound a pre-established audible signal (e.g.: sounding of air horns continuously).

Upon evacuation, all GSAR volunteers are to report to the GSAR Leaders or designated area.

When evacuation is complete the GSAR Leaders will conduct a roll call of all GSAR volunteers involved at the emergency scene.

REFERENCES: Emergency Communications Operational Guideline

Provincial Operating Guideline 1.04 Safety Officer

PURPOSE: To ensure GSAR volunteers are aware of their role in safety by providing guidance on assessing risk during training, practice, and response.

GUIDELINE: The goals of the British Columbia Emergency Management System (BCEMS - 2016) are to be considered at all times. These are:

- Ensure the Health and Safety of Responders,
- Save lives,
- Reduce suffering,
- Protect public health,
- Protect infrastructure,
- Protect property,
- Protect the environment,
- Reduce economic and social losses.

To fulfill the number one objective of BCEMS, the Ministry of Emergency Management and Climate Readiness (EMCR) develops policies under which GSAR Members operate, including The Public Safely Volunteer Lifeline Safety Policy. The Search and Rescue Safety Program Guide and Provincial Operating Guidelines provide additional direction and guidance specific to Search and Rescue related activities.

The British Columbia Search and Rescue Association (BCSARA) through New Initiatives Funds (NIF) developed the Response Assessment and Decision-Making Support (RADeMS) tool to assist GSAR volunteers/ Leaders in identifying hazards and reducing risk. The card and reference guide, as well as the online tool in the BCSARA Field Guide App are designed to be used by GSAR Managers and Safety Officers in the context of the overall response, and by GSAR volunteers/Leaders specific to their team assignment. All GSAR volunteers/Leaders shall be aware of these tools, and familiar with their use, as part of the GSAR Safety Program.

PROCEDURE: All responses to GSAR 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 endeavor, 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.

GSAR Managers shall conduct risk assessments using RADeMS and record results during initial contact regarding a potential response based on information provided. As the SAR incident progresses, the assessment of risks continues and is undertaken by additional GSAR Leaders. These assessments shall be updated/recorded using RADeMS as more information becomes available including subject profile, weather, terrain, known hazards in area, and considering resource availability.

On-site risk assessment includes considering the likely hazards associated within the area of operation and verifying those hazards and others through in-field assessments as the SAR incident progresses. Hazards may be associated with one or more of the following factors:

- SAR Operational Complexity - How complex & complicated is the task
- Activity Hazards - How high are the hazards in the activities?
- 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 others?
- Personnel Training - What level of training do personnel have?
- Personnel Experience - What level of experience do personnel have?
- Personnel Mentality & Physical Preparedness - How mentally & physically prepared are personnel?
- Planning - How much planning has there been?
- Resources - What is the level of resources available?

GSAR Leaders/Safety Officers shall conduct the risk assessment using RADeMS and/or if required, engage Subject Matter Experts such as Avalanche Technicians, Conservation Officers, Swift Water Rescue Technicians.

GSAR volunteers shall conduct ongoing risk assessments, utilizing RADeMS and recording the output score, when moving through terrain or other environments. Undue risks are to be reported to the GSAR Leader/Safety Officer. Should a risk assessment determine that GSAR volunteers would be at risk that cannot be reduced to what is considered acceptable for the type of operation, then any response activity is to be halted until the risk is within acceptable parameters and/or other appropriate resources respond.

During training exercises, GSAR volunteers could be exposed to a variety of hazards, and there is a potential for a safety related incident to occur -near miss, incident with loss and or injury. To mitigate this risk, training safety plans should be developed and reviewed by all participants before the start of the exercise. The training safety plan shall include at a minimum the following information:

- Recorded RADeMS score,
- Identified hazards,
- Circumstances in which training will be stopped,
- How training will be stopped in a real emergency, such as using a code like "NO DUFF",
- Location of dedicated medical equipment in case of an emergency,
- In case of a real emergency, who will be the Incident Commander,
- A training location identifier by either street address or coordinates.

REFERENCES:

Fit for Service Provincial Operating Guideline 1.15

BCSARA Field Guide App

Response Assessment and Decision-Making Support training BCSARA Member's Site – Online Learning Management System

GSAR Safety Program Guide – Component 2 – Risk Assessments

bcems_guide.pdf (gov.bc.ca)

EMCR Policy 2.12 Search and Rescue

EMCR 2.12 Search and Rescue Procedures

SAR Safety Program **Traffic Control**	O.G.# 1.07	
	Issued: Sept 2012	Rev: Oct 2023

PURPOSE: To provide traffic control to ensure safety for all GSAR volunteers, other emergency responders, patients and members of the general public when the operational task involves activities in a traffic area.

GUIDELINE: Traffic control is not a GSAR function. However, it is recognized that in some responses, such as assistance to local governments and Police during evacuations or a rope rescue beside a roadway, GSAR volunteers may need to be involved in traffic control.

The GSAR Leaders will ensure that effective traffic control is established at all emergency incidents where GSAR volunteers are working close to an active roadway.

PROCEDURE: Where traffic control is required to provide a safe working area, the GSAR Leaders will ask the Requesting Agency to provide or arrange for the provision. Should the Requesting Agency indicate they are not able to provide traffic control, the EMCR Regional Office should be contacted through the ECC for assistance.

GSAR volunteers may provide temporary traffic control to ensure GSAR volunteers safety. Only GSAR volunteers trained in emergency scene traffic control will provide traffic control.

During the course of an incident, the GSAR Leaders will ensure a safe working area for GSAR volunteers.

Roles and responsibilities for traffic control during evacuations are outlined in the Civil Emergency OG and the RCMP Evacuations Protocols.

REFERENCE: Provincial Operating Guideline 1.04 Safety Officer

Provincial Operating Guideline 1.06 Risk Assessment

EMCR 3.11 Civil Emergency

RCMP Evacuations Protocols

PURPOSE: To support GSAR volunteer safety when participating in training, response or practice by ensuring access to communications in the event of injury or threat to their safety.

GUIDELINE: GSAR Groups and GSAR Leaders will ensure that GSAR volunteers are trained in the use of, and provided with, a means of communicating with incident command or other appropriate source of assistance during training, response or practice.

PROCEDURE: Training in the use of, and legal requirements of, communication equipment will be provided before a GSAR volunteer participates in any activity which may require use.

Training will include:

- proper procedures for use, orientation of antennas/equipment,
- battery replacement,
- frequency/channel selection,
- emergency communication protocols.

Before placing into use, communication equipment is to be checked for battery level. Spare batteries should be provided if anticipated usage may exceed battery life.

Communication equipment must be suitable for the type of deployment, terrain/environment, compatible with other equipment, and provide adequate range.

Communication checks (transmit and receive) will be conducted before communication equipment is placed in use and on a pre-established schedule during deployment. Checks do not apply to emergency beacons, which should not be activated unless with test equipment, or in an emergency.

Care should be taken to ensure the transmit function of radio equipment is not inadvertently activated, e.g.: a push-to-talk microphone that catches on

equipment. This may cause an emergency frequency to be rendered unusable.

Prevent "radio feedback" when transmitting by maintaining adequate distance between radio and pager or other equipment.

If a serious injury or threat to safety requires immediate assistance, priority access to air, marine, or land VHF radio channels can be gained by calling "Mayday, Mayday, Mayday" followed by assigned call sign and nature of the emergency.

If an injury or threat to safety requires assistance, but not on an immediate basis, priority access to air, marine, or land VHF radio channels can be gained by calling "Pan Pan, Pan Pan, Pan Pan", followed by assigned call sign and nature of emergency.

The transmission of the term "No Duff" during an exercise indicates that the information is real life and not part of the exercise.

All communications will be brief, factual and without personal content.

REFERENCE: EMCR Ground Search and Rescue (GSAR) Training Manual

Communication equipment operational manuals

Industry Canada Spectrum Management and Telecommunications regulations

SAR Safety Program **Alcohol and Drugs**	O.G.# 1.09	
	Issued: Sept 2012	Rev: Oct 2023

PURPOSE: To ensure GSAR volunteers do not engage in GSAR activities while under the influence of alcohol and/or drugs

GUIDELINE: GSAR volunteers will not engage in any GSAR activities while under the influence of alcohol, legal or illegal, non-prescription drugs, or prescription medication that has been identified to impair or affect an individual's ability to drive a vehicle or operate machinery or equipment.

PROCEDURE: The GSAR leader and or manager will immediately remove a GSAR volunteer if they arrive at an exercise, training or operational task while under the influence of alcohol or drugs.

Attending any exercise, training or operational task under the influence of alcohol or drugs is a very serious and dangerous situation and will result in disciplinary action being taken.

REFERENCE: BC Motor Vehicle Act

Criminal Code of Canada

EMCR Public Safety Lifeline Volunteer Code of Conduct Policy 1.02

EMCR Public Safety Lifeline Volunteer Safety Policy 2.06

SAR Safety Program **Training Standards**	O.G.# 1.10	
	Issued: Sept 2012	Rev: Oct 2023

PURPOSE: To establish training standards for GSAR volunteers to enable them to perform their duties safely and effectively.

GUIDELINE: The GSAR group will ensure all GSAR volunteers are trained and practice skills on a regular basis. Training will be to standards that reflect best common practices and as approved by Emergency Management and Climate Readiness.

PROCEDURE: The GSAR group will be responsible for:

- Determining training needs,
- Maintaining training records for all members, and providing access to EMCR staff if requested,
- Evaluating continuity of training,
- Scheduling and coordinating special training sessions,
- Conducting training as required, and
- Instructing according to training schedule and utilizing applicable standards, manuals and Operational Guidelines, as well as other aids.

All GSAR volunteers will participate in training activities and maintain personal and professional competence relative to the skill and knowledge levels required of their respective position within the SAR group.

GSAR volunteers will maintain a record of their GSAR training and operational experience and provide the record to GSAR leaders and EMCR staff if requested.

Emergency Management and Climate Readiness will support GSAR volunteer training through courses provided through the Justice Institute of B.C. (JIBC) and other sources and approve content of courses not provided.

REFERENCE: JIBC Emergency Management Division, Search and Rescue

EMCR 1.08 Application for Training Task Number

PURPOSE: To ensure GSAR volunteers understand requirements for maintaining First Aid training, coverage for applying such training, and what levels of first aid are to be available in case of injury to a volunteer.

GUIDELINE: Individual volunteer requirements:

All GSAR volunteers are to obtain a minimum of a 7-hour First Aid course certification prior to completion of the Ground Search and Rescue (GSAR) Course and maintain[1] at least that level of certification while a registered GSAR volunteer.

Should a GSAR volunteer be unable to complete a First Aid course due to physical limitations, the volunteer may be utilized in a role within the area of the Incident Command Post (ICP) if approved by their GSAR group.

First Aid training will include, as a minimum, demonstration of the following competencies:

- identification of and performing appropriate interventions for minor soft tissue injuries, including the need for medical referral, providing follow-up care and be able to accurately complete the required First Aid Record (should the course not include record completion the GSAR group will ensure a volunteer with that training is available should injury occur),
- Identification and management of respiratory and circulatory critical interventions for responsive and unresponsive patients,
- Identification and management of bleeding critical interventions and describe how to identify and manage various medical emergencies.

PROCEDURE: It is recommended that teams (with 4 or more members) assigned outside the ICP area include a person with a minimum of 16 hours of First Aid training that includes the above requirements and the following competencies:

- Oxygen administration,

[1] Renewed before expiry or scheduled to renew within 6 months of expiry.

- Spinal immobilization and patient transfer and transport,
- Common environmental emergencies,
- Common heat and cold related emergencies.

All GSAR volunteers will carry a personal first-aid kit (suggested list attached as Appendix A) while away from the ICP when on training or response. Teams assigned outside the ICP will carry a field kit (suggested list attached as Appendix B).

Additional requirements during responses:

When the number of responders involved in activities outside the ICP exceeds 25, or the response includes specialized rescue (mountain, swiftwater, rope, avalanche), and travel time by vehicle (or by helicopter if a suitable resource is involved in the response) to a Hospital or Primary Health Care Centre exceeds 20 minutes, a person with a minimum of 70 hour First Aid (list of minimum course competencies attached as Appendix C) training or above will be assigned as First Aid Attendant.

It is recognized that SAR responses may escalate quickly; a First Aid Attendant should be in place at the earliest time possible or a plan developed to have one in place by the next operational period.

During a large response with responders in teams in various locations, the First Aid Attendant will form part of a Rapid Intervention Team (RIT), along with other specialized rescue trained personnel if likely required, within a Safety Plan that includes transportation (rotary wing if weather permits) to access, stabilize, and transport an injured responder. Members of a RIT may be assigned other roles within the ICP area provided they are immediately available to fulfil their role as a RIT member.

The First Aid Attendant may be assigned other duties, as long as medical aid is designed as their primary duty. An advanced medical kit, that includes equipment as outlined in Appendix D, will be available at the ICP when a First Aid Attendant is required.

Provision of First Aid to injured subjects

GSAR volunteers are to consider their and other responders' safety when providing first aid to subjects located during a response. A risk assessment of

the location is important; focus on the subject can result in injury to responders from missed hazards. Exposure to disease can occur when treating unrelated injuries - preventative measures should be taken.

GSAR volunteers are to only provide first aid to the level they are certified in, this is for their and the subject's safety as well as to stay within policies and limitations for liability coverage.

At the first opportunity the injured subject is to be transferred to ambulance personnel.

REFERENCE:

Provincial Operating Guideline 1.04 Hepatitis B Prevention/Post Exposure Follow-up

Provincial Operating Guideline 1.06 Risk Assessment

EMCR Policy 2.12 Search and Rescue

EMCR Policy 5.07 Injury, Disability and Accidental Death Coverage

Appendix A

Personal 1st Aid Kit Contents:

- Disposable Nitrile Gloves, appropriate size (2)
- Pocket mask (1)
- Ear plugs disposable (1pr)
- 4x4 gauze pad (2)
- 3" Gauze Roll (1)
- 2" Tensor Bandage (2)
- Band aids, assorted (8)
- Knuckle bandages (2)
- Mole Skin (1 sheet)
- Alcohol swabs (10)
- Triangular Bandage (2)
- 1" Tape (1)
- Emergency Blanket (1)
- EMT Shears (1)
- Tweezers (1)
- Sam Splint (1)
- ABD Pad (1)

Please Note:
Wilderness & Remote First Aid Field Guide should be part of your kit.

SAR volunteers should carry at least 48hour supply of any required personal medicines, as well carrying the following drugs (or similar) should be considered for personal use with instructions for use and awareness of any contrary indications.

Recommended Drug List

- ASA – 325 mg –Mild Analgesic
- Antibiotic Cream – Topical Antibiotic
- Anti Histamine – Allergy Relief
- Benadryl – Allergic Reaction
- Ibuprofen – Anti Inflammatory
- Imodium – Gastrointestinal
- Dextrose Tabs – Hypoglycaemia
- Electrolyte Tabs – Dehydration

Appendix B

Advanced 1st Aid Kit Contents:

Disposable Medical Gloves (XL) (6)	Alcohol swabs (10)
CPR Shield (1)	Duct tape (1)
Ear plugs disposable (1pr)	1" White medical Tape (1)
Cotton Tip Applicators (2)	Emergency Blanket (1)
Triangular bandages (2)	Large garbage bag (1)
4x4 gauze pad (4)	EMT Shears (1)
3" Gauze Roll (1)	Tweezers (1)
2" Tensor Bandage (1)	Safety Pins (4)
ABD pad 8x10 (2)	20cc irrigation syringe (1)
Band aids (8)	Disposable razor (1)
Knuckle bandages (2)	Rite in Rain Book (1)
Mole Skin (1 sheet)	Carpenters Pencil (1)
Pressure Bandage (1)	1st aid guide (1)
Steri-Strips (1)	Sam Splint (1)

Please Note:
A Wilderness & Remote First Aid Field Guide should be included in kit.

Appendix C

Minimum competencies for Advanced First Aid training with minimum of 70hrs of instruction

- Ability to perform the Primary Assessment of a patient upon arrival at medical incident.
- Identify and manage critical interventions of the Airway, Respiration and Circulation systems as well as Spinal precautions during Primary Assessment of a medical incident.
- Identify respiratory and airway structure emergencies and manage critical interventions for conscious patients and patients with a decreased level of consciousness.
- Identify circulatory emergencies and manage critical interventions for conscious patients and patients with a decreased level of consciousness.
- Prepare patients for transportation whether in Critical or Stable Condition.
- Conduct a Secondary Assessment on a medical subject.
- Assess, manage, and identify the need for medical aid referral for soft tissue injuries.
- Identify and manage head, brain, and spinal injuries for conscious patients and patients with a decreased level of consciousness.
- Identify and manage abdominal injuries.
- Identify upper and lower limb fractures and dislocations.
- Identify and manage environmental emergencies.
- Describe how to identify and manage diabetic conditions and seizures.

Appendix D

Non-EMS Trauma Kit

Module 1 – Personal Protective Equipment

Pocket Mask (1)
Stick-it Needle containment device (1)
Disposable Gloves XL (12)
Dish Gloves XL (1) (Major Bleed)
Ear plugs, disposable (6)
Masks, surgical grade or higher (6)
Safety Glasses (2)

Module 2 – Diagnostic Equipment

Stethoscope (1)
BP Cuff (1)
EMT Shears (2)
Penlight (1)
Splinter Forceps (1)
Preparation Razor (2)
OPA Set (40-100mm) (7)
Black Fine Tip Marker (1)
Pens (4)
Patient Care Report (6)
Garbage Bags (2)
Large Ziploc Bags (4)

Module 3 – Spinal Immobilization

SAM Splint (2)
Adjustable C-spine Collar – Adult (1)
Adjustable C-spine Collar – Child (1)
Emergency Blanket (4)
Triangular Bandages (12)
Duct Tape Roll (1)
Wool Blankets (3)

Module 4 – Minor Wounds

4 x 4 Gauze Sponges (2)
2 x 2 Gauze Sponges (4)
4 x 4 Telfa (4)
Steri Strips (10)
Antiseptic Towelette (24)
Alcohol Swabs (30)
Tongue Depressors (2)
Knuckle Bandages (6)
Band-aids (150)
1″ White Tape Rolls (2)
Applicator cotton tipped 15cm/6inch sterile (2)
60 ml liquid antibacterial soap (1)

Module 5 – Major Trauma

500ml sterile 0.9% Sodium Chloride Solution
4″ Gauze (4)
2″ Gauze (8)
6″ Tensors (2)
4″ Tensors (2)
2″ Tensors (2)
Abdominal pads 10″ x 12″ (10)
Crepe Roller 3″ (6)
4 x 4 Gauze Pads (10)
3 x 3 Gauze Pads (10)
2 x 2 Gauze Pads (10)
Eye Pad Gauze (4)
4 x 4 Non-Sterile Gauze Pads (5)
Pressure Bandages (4)
Elastic Splinting Straps (5)
White Tape 2″ (2)
Esmarch Bandage (1)

Note: This kit will also require the following items not outlined in the list above: Oxygen therapy unit consisting of Oxygen Regulator, Oxygen Tank, Non-Rebreather mask (2), and Bag Valve Mask (BVM) (1) The above list is the minimum requirements for this kit. SAR Groups may include any additional equipment to this kit that is within their scope of first aid training.

PURPOSE: To ensure safety when GSAR groups are attending an exercise, training or operational task in an area where there are known problems with wildlife that could put the GSAR volunteer at risk.

GUIDELINE: Before a GSAR team deploys into an area where an animal threat or concern is considered to be present, all volunteers should receive a short period of instruction on dangerous animal awareness.

PROCEDURE: All persons participating in a GSAR operation will be encouraged to take the usual precautions of carrying bear spray, bear bells, bear bangers, use of bear caches, etc.

GSAR Groups that operate in areas where dangerous animals are located should, as part of their Ground Search and Rescue Course, include a period of time devoted to dangerous animal awareness.

GSAR teams observing or encountering dangerous animals will report to Command as soon as possible.

Decision to Employ Firearms

The decision whether firearms will be allowed to be brought into a search area or base camp will rest with Command. In reaching this decision, due regard should be given to:

- The likelihood of dangerous animals being in the area (from this point forward, all reference to animals will mean any animals presenting a danger to the searchers),
- The season and its effect upon animal behaviour,
- Historical experience in encountering animals on GSAR operations in the search area,
- The nature of any recent encounters with animals in the area,
- Any other variables relevant to that GSAR operation.

In weighing the various factors outlined above, Command will consider consulting a Conservation Officer and/or other expert resource.

If there are volunteers who are not comfortable working in a team with a team guard carrying a firearm, they should be given the option of another

assignment. Alternately, if a decision is made not to use firearms in a search and searchers are uncomfortable or feeling unprotected due to the potential risk, they have the right to refuse to participate in the assignment.

Designating Persons to Carry Firearms

Command will designate those who will be permitted to possess and carry firearms either in base camp or in the field. No other person participating in a GSAR operation will be permitted to possess or carry firearms for the duration of that GSAR operation. Any person found in violation of this policy may be discharged from responsibility in the GSAR and may also be removed from the area of the operation on the grounds that they pose an unreasonable risk to other personnel.

In determining who will be authorized to carry and use firearms in the field, Command will consider:

- Whether the person has demonstrated proficiency with the firearm and possesses sufficient common sense to safely carry that firearm and utilise it in a hazardous situation, such that it will not pose a risk to other searchers and persons in the area,
- Whether the person possesses and carries a valid Firearms Licence,
- Whether the person has completed an approved course of instruction on bear awareness, firearms safety, marksmanship, or CORE training,
- Whether the person's firearm is of a sufficient type and calibre/gauge to adequately perform the job of protection,
- The possession, carrying of, and storage of that firearm shall not violate either the laws of Canada or of the Province of British Columbia or of Municipal bylaws, or any regulations except where authorized by the police of jurisdiction for the safety of GSAR personnel.

Command may designate one person in each SAR Base to possess, carry and use a firearm inside the Base Camp. Such a person will be called the "Camp Guard".

Command may designate one or more person(s) in each GSAR team to possess, carry and use a firearm outside the Base Camp. Such person(s) will be called the "Team Guard".

Those persons designated as "Peace Officers" under *The Police Act R.S.B.C.* shall have the authority to possess and carry firearms in the Base Camp and the SAR Area.

Base Camp

The odours and garbage which may accumulate when cooking for large numbers of people may cause the Base Camp to be a high attraction area for animals, thus raising the necessity for a minimum level of protection. At the same time, the high concentration of persons in this small area may cause unnecessary risk if firearms are carried or used imprudently.

Command may designate one Camp Guard to possess, carry, and use a firearm while in Base Camp. Command may delegate that authority and responsibility to other Alternate Camp Guards for those time periods in which the Camp Guard is off duty or otherwise occupied.

Should the use of Alternate Camp Guards be approved, the responsible Camp Guard shall draft a schedule showing the times for which responsibility passes between Camp Guard and Alternates. A copy of that schedule shall be kept at the Incident Command Post and by the Camp Guard and all Alternates. The Camp Guard's sole responsibility will be the protection of the camp and the position reports directly to the Safety Officer.

Those persons who are appointed as Team Guards may possess and carry both their firearm and their ammunition while in the Base Camp, however, all ammunition must be physically removed from the firearm. Ammunition will be placed in the firearm only once the GSAR team has left the Base Camp, at which time ammunition may be inserted into the firearm, which has its safety engaged. The Team Leader will observe this procedure to ensure compliance with this policy. Upon completion of the SAR task and immediately before entering the outer boundary of Base Camp, the Team Guard will physically remove all ammunition from the firearm, leave the action in the open position, place it on safe, and have the firearm physically inspected by the Team Leader before entering the Base Camp.

Shooting A Dangerous Animal

If a dangerous animal is posing a persistent nuisance and/or threat to the Base Camp or GSAR Team, the local Conservation Officer should be contacted

to deal with the animal before it becomes necessary to take more drastic measures. The Conservation Officer Service can be contacted through the Emergency Coordination Centre (1-800-663-3456).

In the event of an animal posing a significant threat to personnel and no other reasonable measures are successful in driving that animal away or if operational necessity requires it, the Guard may take such reasonable measures as deemed necessary to kill that animal.

Before implementing any measures to kill an animal, the Guard will, if reasonable under the circumstances, warn all people in the immediate area before shooting.

If an animal is killed, reasonable steps shall be taken to ensure that all relevant information is conveyed to the local Conservation Officer and that the animal is dealt with in accordance with their directions.

After shooting an animal and ensuring that there is no further hazard, the Guard will make notes on the grid reference of the shooting incident, type and size of animal, the behaviour exhibited by the animal, to whom the incident was reported and when that report was made. These notes shall be turned over to Command and a review will be conducted on the shooting incident.

If an animal is wounded and escapes before it can be killed, this will be reported to the ICP immediately and Command, in consultation with other resource persons, may consider suspending part or all of the GSAR operation temporarily until such time as the wounded animal can be dealt with or until it is believed that the hazard posed by that animal is considered to be minimal.

Carrying and Possessing Firearms

Any person with a firearm who enters the SAR area or Base Camp without being designated to do so must immediately notify the Command team of the firearm. Unless permitted to carry a firearm by Command, the firearm must be either securely locked and/or stored with all ammunition in the person's vehicle, or the firearm and ammunition must be turned over to the Equipment Manager for secure storage. If that person refuses to comply, Command may have that person removed from the SAR area.

Briefings

All persons who are designated as Guards will be briefed on this Firearms Policy upon designation or their arrival at SAR Base

References:

EMCR 2.06 Public Safety Lifeline Volunteer Safety

Provincial Operating Guideline 1.04 Safety Officer

Provincial Operating Guideline 1.06 Risk Assessment

Provincial Operating Guideline 1.14 Safety Briefings/Debriefings

PURPOSE: To provide additional information on potential hazardous materials that may be encountered during search and rescue incidents.

GUIDELINE: Hazardous materials may be encountered in any environment that GSAR volunteers respond in. It is critical that all GSAR leaders and volunteers are aware of such hazards. If there are any concerns, all GSAR leaders and volunteers are to leave the area and request an assessment by an expert. Hazmat response is not a function of GSAR volunteers. Hazardous Material (Hazmat) incidents are the responsibility of the provincial Ministry of the Environment and Climate Change Strategy, who will request appropriately trained and equipped response by Fire Departments or other resources. Federal agencies are responsible for spill response in the marine environment.

PROCEDURE: Dangerous goods are moved on every mode of transport, including road, rail, marine, and air. When responding to an incident involving a vehicle, vessel, or aircraft the following must be considered:

- When requested to respond, enquire as to the presence of dangerous goods,
- Watch for placards and labelling identifying specific materials being transported, which is required by Federal Transportation of Dangerous Goods Regulations,
- Do not rely on the presence of placards as dangerous goods may be present in small quantities, placards are not visible, or hazardous materials present that are not considered dangerous goods,
- If there are any indications of fumes or smoke, leave the area immediately: even non-dangerous goods can emit toxic fumes when burning,
- The presence of any type of fuel and batteries requires extreme caution to ensure ignition sources are extinguished and Personal Protective Clothing and Equipment is worn appropriate to potential exposure.

During a Civil Emergency or other GSAR response, caution is required due to potential hazardous materials being present:

- During a flood, sewage may be spilled contaminating houses and large areas. Contact with sewage is to be avoided.
- Fuel storage tanks may float or spill during a flood, creating a fire/explosion hazard, as well as fumes and corrosive hazard.
- Fumes from stored chemicals in both industrial and residential buildings may be toxic or create a fire/explosion hazard.
- Clandestine drug materials can potentially be encountered in any urban or rural environment.

Risk assessment of GSAR groups' areas is to include hazards known to be present. For example, in areas with gas and oil exploration/production, there are hazards such as Hydrogen Sulphide (H2S) that require specific precautions.

Should GSAR leaders and volunteers have any concerns over the presence of Hazardous Materials during a response, the requesting agency is to be notified and an assessment by qualified experts be conducted prior to GSAR volunteers entering the area.

Hazmat response and expertise can be accessed through the Emergency Coordination Centre (ECC), who will contact the appropriate response agency and notify the proper authorities.

REFERENCE:

Canadian Transport Emergency Centre (CANUTEC) Emergency Response Guidebook.

Provincial Operating Guideline 1.03 Personal Protective Clothing and Equipment

Provincial Operating Guideline 1.05 Team Evacuation

Provincial Operating Guideline 1.06 Risk Assessment

Provincial Operating Guideline 3.11 Civil Emergency

SAR Safety Program **Safety Briefings/Debriefings**	O.G.# 1.14	
	Issued: Sep 2012	Rev: Oct 2023

PURPOSE: To enhance GSAR volunteer safety through ensuring effective communication of potential hazards, and the tracking of any concerns to assist in improving the SAR Safety Program.

GUIDELINE: Safety will be part of a briefing provided to GSAR volunteers by GSAR leaders prior to deployment, the debriefing of GSAR volunteers following completion of team assignments, and during the review at the end of a GSAR response.

PROCEDURE: During a briefing of GSAR volunteers being deployed, the GSAR leader and or manager will provide:

- Any specific hazards identified during the risk assessment,
- Protocols to advise of any safety concerns, threats, or need to evacuate,
- Communication frequencies and emergency protocols,
- Reminder of safety priorities.

When debriefing GSAR volunteers returning from team assignments the following will be discussed and reported to the GSAR leader and or manager (if not reported as a threat already):

- Any hazards identified, e.g., signs of bears or cougars in area or dangerous terrain,
- Any safety concerns over assignment,
- Recommendations for further team assignments.

During a review (informal or formal) all GSAR volunteers and other agency personnel involved will be asked if there were any safety concerns or best practices identified. Any safety related items will be discussed, and recommendations forwarded to EMCR.

REFERENCE: SAR Review Process

EMCR Policy 2.06 Public Safety Lifeline Volunteer Safety

Provincial Operating Guideline 1.04 Safety Officer

Provincial Operating Guideline 1.06 Risk Assessment

PURPOSE: To ensure the health and safety of GSAR volunteers when responding to, or participation during, search and rescue activities.

GUIDELINE: SAR volunteers may receive callouts at all times of the day and night, and those callouts may extend beyond the normal workday. The volunteer may be exposed to requests that go beyond their ability to operate in a safe environment. Some of the influences that may affect the members are:

- Stimulation from external influences:
  - Alcohol
  - Cannabis
  - Prescription drugs
  - Illegal drugs
  - Exhaustion
  - Sleep deprivation
- Stimulation as a result of the task assignment:
  - Physiological effects of one or more facets of the task assignment
  - Negative outcome of the task
  - Self-questioning of actions taken during assignment

It is the responsibility of all GSAR volunteers to understand the demands that may be put on them both from personal reasons and the demands as a GSAR volunteer. GSAR leaders need to understand and recognize the signs and symptoms of the stress put on their members from both external and internal influences, and the resources that are available for their members.

GSAR volunteers may choose to respond to calls for search and rescue in a condition that may put themselves and others at risk through pre-existing conditions. The GSAR group will need to identify these conditions and develop guidelines to assist GSAR leaders in dealing with them on an individual basis. The GSAR leaders' involvement in the training of the GSAR volunteers will allow them to become familiar with the normal characteristics of the GSAR volunteer and allow them to more readily identify when the GSAR volunteer is exhibiting abnormal or unexpected behaviours at a task assignment.

The GSAR leader also needs to recognize when the actions at a task or the conditions surrounding the task may affect the SAR volunteer.

As part of the SAR Management overview the management team during their Incident Action Plan development need to determine if the task will go into the second operational period. If indications are that it will, the SAR Management team should request mutual aid from neighbouring GSAR Groups as soon as possible.

PROCEDURE:

While the recognition of when the conditions while on task may affect the ability of the GSAR volunteer to continue, or to determine if the GSAR volunteer is able to safely return to base or home is the responsibility of all GSAR volunteers involved in the task, the final decision of actions to protect the GSAR volunteer rest with the GSAR leader.

During the onsite task debrief the Team Leader/SAR Manager should, as part of the debrief, review the actions and assignments during the task to determine if there are any issues present at the time. This may give them an indication if there are any underlying issues with any of the GSAR volunteers involved in the task. This may be as simple as asking on the wellbeing of the involved GSAR volunteers. If it is apparent that the GSAR volunteers have been exposed to stress, it may be appropriate to have a Critical Incident Stress Management (CISM), session held. The SAR Manager should arrange for this through the Emergency Coordination Centre (ECC). The costs of the session are covered by EMCR as part of the active task.

If the task has come at the end of the day, and the GSAR volunteer has not had time to receive adequate rest, or the callout has been done in the early part of the day where the GSAR volunteer has had their rest disturbed, they may not have had adequate time for adequate rest. The GSAR leader may determine that a chance exists that the GSAR volunteer may be put at risk in the return trip to base or home. A number of options are available to ensure the safe return of GSAR volunteers from the field:

- Use a minimum of two GSAR volunteers per vehicle (leaving one or more vehicles on site and having them brought back by a Towing service is an acceptable task expense).

- Have fresh volunteers dispatched to site to have vehicles driven back to base.
- If the task has been conducted at a distance from the SAR base or the GSAR volunteers' home, and lodgings are available, it may be advantageous to book rooms for the GSAR volunteers to allow appropriate rest before returning home (again this is an acceptable expense, with EMCR Regional Manager Approval).

The other consideration by the GSAR leader is to ensure that there are adequate breaks provided for the GSAR volunteer while on task. This includes providing adequate time for rest periods and an adequate area for the GSAR volunteer to relax (this should include an area away from the active GSAR Command, which will allow for minimum distractions, and an area where they can recover – shade in the summer, warming area in the winter, dry area when raining, etc.).

These breaks should also allow the GSAR volunteer to hydrate and get appropriate nourishment. The Team Leader/SAR Manager should ensure that the volunteer has adequate resources available to them to provide for adequate recharge. If the resources are not available, then they should be acquired and made available to the GSAR volunteers (This is an acceptable reimbursable claim allowed under the task).

REFERENCES:

SAR Safety Program Guide – Appendix L

Provincial Operating Guideline 1.02 Critical Incident Stress Management

Provincial Operating Guideline 1.04 Safety Officer

Provincial Operating Guideline 1.09 Alcohol and Drugs

Provincial Operating Guideline 1.14 Safety Briefings/Debriefings

BCSARA Critical Incident Stress Management Program

SAR Safety Program **Vehicle Response Safety**	O.G.# 2.01	
	Issued: Sep 2012	Rev: Oct 2023

PURPOSE: To ensure the safe and efficient response of all GSAR volunteers by vehicle during emergency and non-emergency operations.

GUIDELINE: The driver of any vehicle bears full responsibility for adherence to this guideline and the BC Motor Vehicle Act and Regulations.

PROCEDURE: GSAR volunteers, while responding in a personal or other non-emergency vehicle are not provided any special privileges and as such will adhere to all statutes as outlined in the BC Motor Vehicle Act and Regulations.

GSAR volunteers should travel in the minimum number of vehicles required from an assembly point to the incident scene.

Vehicles used during a response, such as in a search along a roadway, are to be operated according to the BC Motor Vehicle Act and Regulation. Activities such as transporting people in the box of a pickup or on an external part are not legal.

It is the responsibility of the driver to ensure seatbelts are utilized by all passengers prior to moving and while the vehicle is in motion.

The responsibility of the driver during a response will be to operate the vehicle safely. The operation of a radio or device is to be delegated to a crew member. If there is no other passenger, the driver will operate the radio or device only if it can be done safely.

Before backing up, the driver should ensure they are guided by another GSAR volunteer using recognized hand signals. This guide will be safely positioned at the rear of the vehicle on the driver side whenever possible. The driver will sound the horn indicating before backing up.

The driver of a vehicle is responsible to ensure that the vehicle is in a state of readiness. This includes ensuring that equipment is in place and stored safely and all doors are closed and secured before a response.

The GSAR leaders, upon arrival at an emergency scene, will evaluate the need for other vehicles to continue to respond or not. Whenever possible, other responding vehicles not needed at the scene shall be advised of a status change and redirected as required.

When approaching an emergency scene, the driver will watch for vehicles approaching from other directions. The driver will be on the alert for civilians and other emergency personnel who may inadvertently step in front of the approaching vehicle.

. Operation of Emergency Vehicles

Under specific conditions GSAR volunteers, with the appropriate approvals and licences as required by the Dec 7, 2011 Ministry of Transportation and Infrastructure (MOTI) Policy Directive and the Motor Vehicle Act and Regulations may operate an emergency vehicle.

The driver of an emergency vehicle may exercise the privileges granted in Section 122 of the Motor Vehicle Act of BC. The driver must take into account factors such as:

- The nature, use and condition of the highway,
- The amount of traffic,
- Visibility; and
- Pedestrians.

The driver of any emergency vehicle responding to an incident will continually assess whether utilizing Section 122(4) of the BC Motor Vehicle Act poses an inordinate risk to other members within the vehicle and to that of the general public.

Only members who have the necessary licenses and endorsements for the vehicle being operated, as required by the BC Motor Vehicle Act, and who are accepted by the organization, shall be permitted to drive, except when under supervision of a trainer for the purpose of driver training.

Warning devices and emergency lights will be operated in compliance with the Motor Vehicle Act and Regulations. Emergency vehicles will respond on an emergency basis only when all warning devices are in continuous operation (emergency lights and siren).

Each organization must ensure that all operating permits for emergency lights and sirens are obtained and current.

The driver will maintain a speed consistent with the safe operation of the vehicle under prevailing conditions. If conditions permit, the maximum speed limit may be exceeded, in accordance with Section 122 the BC Motor Vehicle Act.

Driving in the oncoming traffic lane is dangerous and should be avoided whenever possible. If it is necessary to drive in the oncoming traffic lane, extreme caution will be exercised, and a safe operating speed maintained.

Intersections are dangerous areas to approach during an emergency response. The following precautions shall be observed by all responding vehicle operators:

- When a responding vehicle must approach an intersection in the oncoming traffic lane, the driver will come to a complete stop until other traffic in the intersection has yielded.
- When approaching a controlled intersection with a stop sign or red light, the driver will come to a complete stop until all other traffic in the intersection has yielded.
- The driver will use good judgement with respect to proceeding through an intersection; however, the maximum allowable speed through any intersection will be the posted speed limit.

Passing other emergency vehicles is dangerous. If passing is necessary, radio communications will be made, if possible, with the driver of the other vehicle prior to passing.

The driver of the emergency vehicle will ensure that a trip inspection is conducted on the vehicle and a record maintained.

REFERENCE:

BC Motor Vehicle Act and Regulations

Dec 7, 2011, Ministry of Transportation and Infrastructure (MOTI) Policy Directive

EMCR 2.05 Red Flashing Light and Siren Permits

Provincial Operating Guideline 1.06 Risk Assessment

PURPOSE: To increase GSAR volunteer safety when participating in training, response or practice involving the operation of, or transportation by Off Road Vehicles (ORVs).

GUIDELINE: GSAR groups and GSAR leaders and or managers will ensure that GSAR volunteers are competent in the use of, and provided with, appropriate protective equipment before participating in any activities involving the operation of, or transport by, ORVs during training, response or practice.

For the purposes of this Operational Guideline, ORVs include:

- All-terrain vehicle (ATV), a vehicle that runs on 4 or more wheels or is self-propelled by means of 2 or more endless belts driven in contact with the ground, and has a seat designed for the driver to sit astride and normally has handlebars for steering purposes,
- Utility Task Vehicles (UTV), a vehicle that runs on 4 or more wheels or is self-propelled by means of 2 or more endless belts driven in contact with the ground, and has a seat designed for the driver to sit on and normally has a steering wheel or steering levers for steering purposes,
- Snowmobile, a vehicle that is designed to travel on snow or ice, has one or more steering skis, is self-propelled by means of one or more endless belts driven in contact with the ground, and has a seat designed for the driver to sit astride,
- Motorcycle, a vehicle that runs on 2 or 3 wheels and is designed to have the driver ride astride the vehicle and normally has handlebars for steering purposes,
- Tracked vehicles (Snocats, etc.), are self-propelled by means of 2 or more endless belts driven in contact with the ground and usually equipped with an enclosed cab and used for transportation in snow or wet terrain,

- Bicycle, a human powered, pedal driven, single-track vehicle with two wheels attached to a frame, one behind the other.

GSAR volunteers shall not use three-wheel motorcycles (ATC, trikes)

PROCEDURE:

GSAR groups and GSAR leader and or managers will ensure that GSAR volunteers are competent* in the use of the specific type of ORV that they will be expected to operate or be transported in/on before any activity which may require use or operation or transported in/on the specific ORV.

*For purposes of this Operating Guideline, competence may be gained through training, education or experience (or a combination thereof):

- A GSAR group may use a commercially available training course for basic operation of the specific ORV,
- The GSAR group may develop a skills checklist that each authorized member would be evaluated against prior to operating any group ORVs,
- The skills checklist may also be used when the members personal ORV may be used on task or training.

All GSAR volunteers who are required to operate, or be transported in/on an ORV will be provided with proper procedures for:

- safe operation,
- procedures to be used in response to potential emergencies that may arise as a result of the use of the ORV,
  - mechanical failure,
  - hypothermia and frostbite, and
  - terrain issues (water and topography).

The ORV and all equipment carried are to be checked before placing in to use to ensure they are being used in the manner for which they are intended and:

- the ORV is in good mechanical condition (belts, spark plugs, etc.),
- all required maintenance spares are in place,
- that an adequate supply of fuel is available.

All GSAR volunteers that operate, or are transported on motorcycles, snowmobiles or ATVs will:

- wear an approved helmet under Section 22 of the British Columbia Off-Road Vehicle Regulations (motorcycle style) and approved eye protection (or in the case of a bicycle, an approved helmet under the BC Motor Vehicle Act, Bicycle Safety Helmet Standards Regulation),
- wear clothing suitable for the environmental conditions, and
- wear suitable gloves and clothing which covers the ankles and legs and the arms to the wrist when necessary to protect against anticipated hazards.

All GSAR volunteers that operate, or are transported in/on other ORVs will:

- wear a helmet (motorcycle style, climbing or other) that is secured and eye protection,
- wear clothing suitable for the environmental conditions.

All UTV's must have adequate roll-over protection in place to protect all occupants, and all occupants must wear approved restraint devices (seat belts or personal restraints) and helmets.

Those GSAR groups that choose to use a UTV for patient transport shall have a written guideline for operation of the UTV while in patient transport mode (speed, side hill travel, patient and attendant securement etc.).

Riding on the exterior or in the box of an ORV is forbidden, unless on a seat or device designed for that purpose by the supplier/manufacturer.

Transportation in a trailer (unless specifically designed and authorized by the supplier/manufacturer), is prohibited for GSAR volunteers.

All ORVs will be operated in accordance with the B.C. Off-Road Vehicle Act and Regulations and considering GSAR volunteer safety first.

GSAR volunteers operating or being transported in/on ORVs in mountainous terrain in winter, must comply with the requirements of Provincial Operating Guideline 3.08 Winter Response

REFERENCE:

Canada Safety Council ATV Training

B.C. Off-Road Vehicle Regulation

B.C. Motor Vehicle Act Bicycle Safety Helmet Standards Regulation

WorkSafe B.C List of approved helmet standards

Provincial Operating Guideline 1.03 Personal Protective Clothing and Equipment

Provincial Operating Guideline 3.08 Winter Response

PURPOSE: To increase GSAR volunteer safety when participating in training, response or practice involving the operational use of, or transportation by helicopters.

GUIDELINE: GSAR leaders will ensure that GSAR volunteers are trained in the use of and provided pre-flight briefings and provided with appropriate equipment before participating in any activities involving the operation of or transport by helicopters during training, response or practice.

PROCEDURE: Training in the use of the specific type of helicopter selected will be provided before a GSAR volunteer participates in any activity which may include the use of that model of helicopter.

Training will include:

- proper procedures for safe operation,
- orientation on the helicopter by the pilot, and
- the procedures to follow in the event of emergencies on or around the helicopter and launching and landing zone area.

Communication between ground and air shall be established at all times during the operation of the helicopter, using one ground contact person.

The individual assigned the air operations role shall be designated as the person to supervise the non-flight (the pilot will retain the control of all flight operations), safety around the helicopter.

Safe work procedures include:

- No smoking within 20 metres of the helicopter,
- Unless assigned specific responsibilities by the air operation person - remain at least 20 metres away from the helicopter,
- Exercise extreme caution when working around the helicopter especially when helicopter engine is running,
- Leave and approach the helicopter from the front - with caution,

- At all times, keep eyes and head forward and maintain eye contact with the pilot,
- Avoid rear and tail sections of helicopter at all times,
- Never walk under tail section of helicopter,
- Do not extend any equipment vertically into rotor blades – such as backboards, skis, ski poles stretchers, etc.,
- Carry all equipment parallel to ground within 20 metres of helicopter,
- Do not slam a helicopter door, gently close and latch it,
- Pilots are the authorities concerning all helicopter flight operations; if you have questions, ask them,
- Never, under any circumstances, throw any loose material such as pack contents, clothing, paper, etc. around the helicopter - whether it is running or not,
- The landing area should be cleared of debris and, where necessary, wet down,
- Protect your eyes as well as your equipment when helicopter is landing and taking off,
- Plot plans and maps will be prepared to locate landing area, intended flight paths, designated emergency landing sites, and location,
- The pilot in command will have final approval as to aerial traverse and hovering positions of the aircraft.

REFERENCE: Canadian Aviation Regulation

EMCR Policy 2.11 Search and Rescue Helicopter Usage

General Hand Signals

	**"Mayday"** **Wave arms frantically from your side to over your head.**
	**"All is well"** **Thumb up**
	**"Not ready – fly another circuit"** **As the helicopter is approaching, one arm above your head, swing your arm in a wide circle**
	**"Wind direction"** **With back to the wind, outstretch arms like a windsock pointing downwind. Point to helispot if possible.**
	**"Shut down the helicopter"** **Hand and arm making a cutting motion in front of your neck.**

SAR Safety Program **Watercraft Operations**	O.G.# 2.05	
	Issued: Sep 2012	Rev: Oct 2023

PURPOSE: To provide for GSAR volunteer safety when participating in training, response or practice involving the operation of, or transportation by powered or unpowered watercraft.

GUIDELINE: BC GSAR groups and GSAR leaders will ensure that GSAR volunteers are trained in the use of and provided with appropriate equipment prior to participating in any activities involving the use of watercraft.

Definitions

- Watercraft - includes ships, boats, canoes, kayaks, rafts, barges, hovercraft, amphibious vehicles, catamarans, paddleboards, Personal Watercraft (e.g., Jet Skis) and any other vehicle or vessel used on water,
- Operator - any person in control of a watercraft,
- Crewmember - any person(s), other than the Operator, with assigned duties associated with either the operation of a watercraft, or a Flatwater/Swiftwater SAR response from a watercraft,
- Passenger - any person on a watercraft that is not an operator or crewmember including subjects, GSAR volunteers, and other personnel being transported.

RESPONSIBILITIES: Motorized Watercraft

Motorized watercraft less than or equal to 8 meters in length and operated less than 2 nautical miles from shore (sheltered waters) are considered "small commercial vessels" per Transport Canada for the purpose of volunteer SAR, and therefore must be registered, insured, equipped and maintained per standards as defined by Transport Canada.[2] Operators of small commercial vessels are required to possess a valid Pleasure Craft Operator Card and have completed Basic First Aid training.

[2] A Pleasure Craft Licence that was issued or updated after 2010 is valid for 10 years. At the end of that period, you must renew your licence. *https://tc.canada.ca/en/marine-transportation/marine-safety/licensing-pleasure-craft#obtain*

If the motorized vessel is longer than 8 meters, operated farther than 2 nautical miles from shore, or carries more than 6 passengers (excluding Operator or Crew), the Operator must possess a "Small Vessel Operator Proficiency Certificate (SVOP)" certificate.

The Operator must be trained in the operation of the type of watercraft being used and:

- Under direction of SAR Management or Team Leader is responsible for the operation of the watercraft, and is in overall command of the watercraft, crew, and passengers at all times while on the water,
- Possess and carry a Pleasure Craft Operators Certificate (PCOC) or Small Vessel Operator Proficiency (SVOP) Certificate during watercraft operations,
- For operation during a swiftwater rescue or on swiftwater, the operator will be trained at the Swiftwater Operation Level as a minimum or be accompanied by a Swiftwater Technician.

All crewmembers will be trained in the use of and legal requirements for the specific type of watercraft employed. Passengers will be under the direction of a Swiftwater Technician when the watercraft is operated in a swiftwater environment.

A pre-departure checklist will be performed prior to launch. This checklist should incorporate all factors that could affect the operation of the watercraft and the safety of its crew (see Manufacturers' Recommendations or Transport Canada's Pre-departure checklist).

Unpowered Watercraft

Operators and crewmembers of unpowered watercraft will be trained and experienced in the use of the type of watercraft utilized.

Operators and crewmembers of unpowered watercraft used for swiftwater rescue or on swiftwater will possess swiftwater certification at the Technician Level or higher and be under the direction of a Swiftwater Rescue Team Leader. The operator of an unpowered watercraft on swiftwater will be trained appropriate to the type of watercraft, such as the British Columbia

River Outfitters Association (BCROA) River Guide or SAR specific qualification. Crewmembers will be under the direction of the operator.

PROCEDURE:

All watercraft shall be operated in accordance with applicable rules and regulations and considering safety first. The rated capacity of any watercraft is not to be exceeded. The number of crewmembers should be kept to the minimum required for the task, and with consideration to space for passengers on return.

All watercraft operators, crewmembers, and passengers will wear appropriate PPE, including Personal Flotation Devices, during all watercraft operations.

Competency

All operators of watercraft must demonstrate competency with the craft, through education, training and experience, in the environment in which it will be operated.

TOWING:

On the water towing of a disabled watercraft is only to be undertaken at the discretion of the operator, if it is unsafe to leave it where it is located, and then only to the nearest safe place. No person shall be on board the disabled watercraft while being towed.

REFERENCE:

SVCP Detailed Compliance Report and Guidance Notes TP15111

EMCR Policy 2.06 Public Safety Lifeline Volunteer Safety

Provincial Operating Guideline 1.03 Personal Protective Clothing and Equipment

Provincial Operating Guideline 1.06 Risk Assessment

Provincial Operating Guideline 3.03 Swiftwater Rescue

Checklists and maintenance for boating – Transport Canada

PURPOSE: To provide GSAR personnel with the required knowledge in planning safe work procedures while engaged in or in the proximity of chainsaw bucking operations.

DEFINITION: Bucker is a worker who cuts up trees on the ground.

Faller is a worker who manually falls trees larger than 6 inches in diameter.

GSAR volunteers who are not certified fallers will not fall trees.

GUIDELINE: GSAR groups and GSAR leaders will ensure that GSAR volunteers are familiarized in the use of, and provided with, appropriate equipment before participating in any activities involving the operation of chainsaws during training, response or practice.

Chainsaw bucking training will include, as a minimum, demonstration of the following competencies:

- Personal Protective Equipment (PPE) Competency
  - Identify hazards that PPE mitigates
  - Identify PPE used to minimize specific chainsaw injuries
- Handtools and Equipment
  - Identify the chainsaw working tools and equipment used by Buckers
  - Identify hazards and solutions to minimize hazards
  - Identify three (3) categories of injuries associated with using chainsaw tools
- Chainsaw Safe Use Operations
  - Chainsaw Maintenance
  - Starting a chainsaw
  - Refueling a chainsaw
- Identify and Understand Safe Bucking Operations
  - Safe working conditions
  - Recognizing Danger trees
  - Chainsaw kickbacks
  - Limbing
  - Bucking
  - Bucking procedures

- Basic bucking cuts
- Windthrow
- Terrain and ground debris

PROCEDURE:

Training in the use of the chainsaw will be provided before a GSAR volunteer participates in any activity which may require its use or operation.

A recognized, commercially available training course for basic operation may be used, or the GSAR group may develop a skills checklist that each authorized member would be evaluated to prior to operating any group chainsaw.

All GSAR volunteers that operate chainsaws will wear approved Personal Protective Equipment specific to chainsaw use.

Each GSAR volunteer that operates a chainsaw will have a means of communication with the search base.

Every GSAR volunteer that operates a chainsaw shall work with a safety spotter.

PERSONAL PROTECTIVE EQUIPMENT:

Hard hat

Approved eye and face safety gear

Hearing Protection Devices

Hand Protection (Gloves)

Protective Pants or full-length chaps

Safety footwear

High Visibility apparel

Whistle

First Aid kit and pressure dressing

REFERENCE:

BC Wildfire Service Fallers and Buckers work procedures

WorkSafe B.C List of approved personal protective equipment

Provincial Operating Guideline 1.03 Personal Protective Clothing

Provincial Operating Guideline 1.06 Risk Assessment

Provincial Operating Guideline 1.08 Emergency Communications

Provincial Operating Guideline 1.10 Training Standards

PURPOSE: To ensure the safety of GSAR volunteers when participating in Ground Search and Rescue (GSAR) training, response or practice involving the search for lost persons, and/or the care and transportation of subjects.

GUIDELINE: GSAR groups and GSAR leaders will ensure that GSAR volunteers are trained and provided with appropriate equipment, before participating in any Ground Search and Rescue (GSAR) activity.

All Operational Guidelines (OGs) within the GSAR Safety Program are applicable to aspects of GSAR. OGs such as Personal Protective Equipment (PPE) provide specific information to be referenced, while specialized rescue OGs such as for Mountain Rescue define activities that are not to be undertaken without additional training and equipment.

PROCEDURE: GSAR volunteers engaged in GSAR activities outside a command post, camp, vehicle, or building environment will wear long pants, long/short sleeve top, eye protection, and footwear with adequate protection and traction. They will also wear or carry other clothing suitable for climatic conditions likely to be encountered.

All GSAR volunteers while participating in GSAR activities outside a camp, command post, vehicle, or building environment will wear clothing which includes distinctive reflective markings, and/or a reflective vest, which is visible. See Personal Protective Equipment OG for acceptable retro-reflective standards.

Before undertaking any GSAR activity, GSAR volunteers will be provided with a briefing on potential hazards within their assigned area by a GSAR leader and or manager.

All vehicles, watercraft, and aircraft used to transport GSAR volunteers will be operated in accordance with applicable rules and regulations and considering safety first. GSAR volunteers will follow instructions of vehicle, watercraft, and aircraft operators at all times.

Each GSAR volunteer will have an emergency whistle (pea-less) attached to an article of clothing, or otherwise readily available, and carry a headlamp suitable for lighting the way ahead and signalling in darkness.

GSAR volunteers conducting a search in residential areas (rural or urban) are to wear clothing or other visible articles that readily identifies them as part of the search operation.

When operating as a Search Team, at least one volunteer will carry Emergency Communications equipment. Other team members must remain within voice contact range or carry alternative communications capable of reaching team members with emergency communications. Wherever possible it is recommended that each field team member carries a piece of communications equipment that is capable of communicating with the command post.

GSAR response may require extended time away from command posts or other resources. Additional clothing, food, water, and protection from the weather suitable for at least 24hrs are to be carried.

REFERENCE:

EMCR Ground Search and Rescue Training Manual

Public Safety Lifeline Volunteer Safety Policy

Search and Rescue Safety Program Guide

Search and Rescue Provincial Operating Guidelines

PURPOSE: To provide for GSAR volunteer safety while participating in training, practice or response requiring the use of ropes and associated apparatus in search, rescue or recovery operations. To allow safe access through challenging terrain during an operation and/or to provide safe access to and/or transport of trapped or injured persons.

GUIDELINE: GSAR groups and GSAR leaders will ensure that GSAR volunteers are appropriately trained and equipped according to current procedures outlined in the EMCR Search and Rescue Rope Rescue Manuals.

DEFINITIONS: Control Zone - the area that extends at least two metres back from the cliff edge due to the fall hazard and requires anyone working within that area to be connected to a safety rope.

Dual Capability Two Tensioned Rope System (DCTTRS) - A two rope system in which the load is shared roughly equally between the ropes and each rope is both capable and competent as a main system and a belay (backup).

High Angle Rescue: A rope rescue on a slope of generally more than 70 degrees or one that contains drops of greater than 2 metres (cliffs, buildings, vertical drops) conducted from the top-down where:

a) The rescue personnel have their weight supported by the rope system

b) The weight of the stretcher is supported solely by the rope or ropes

c) There is usually one stretcher attendant, but a second attendant may be used if conditions warrant.

Safe Zone - the area where rescuers can safely move un-roped (this area excludes the Control Zone).

Scope of Training – a summary of the requirements of the training program that GSAR volunteers took part in. Example: A RRTM that has been transitioned can go over the edge (hot zone) using the techniques and equipment they were evaluated on when they took the course.

Slope Rescue: Term broadly covering rope rescue on a range of slopes up to 70° and subdivided by key transition angles at which a change in the number of attendants is often warranted. See Tech 1 Manual for full definition.

Working Zone - the area where rope systems are set up and operated.

BC GSAR Group and Rope Rescue Individual and Team Response Capability Levels –

Rope Rescue Awareness: Completion of the on-line Rope Rescue Awareness course. Prerequisite course for Rope Rescue Technician 1.

Rope Rescue Technician 1 (RRT1): A person who has completed BC GSAR Rope Rescue Technician 1 training and who has demonstrated proficiency in the requisite skills and knowledge.

- *Transition: An existing Rope Rescue Team Member or Rope Rescue Team Leader who successfully demonstrates competency and understanding of the DCTTRS through a formally structured transition training workshop will be recognized as having equivalency to Rope Rescue Technician competencies. RRTM and RRTL's can still go over the edge (hot zone) within the scope of their training*

Rope Rescue Technician 2 (RRT2): A person who has completed BC SAR Rope Rescue Technician 2 training and who has demonstrated proficiency in the requisite skills and knowledge.

- *Transition: An existing Rope Rescue Team Member or Rope Rescue Team Leader who successfully demonstrates competency and understanding of the DCTTRS through a formally structured transition training workshop will be recognized as having equivalency to Rope Rescue Technician 2 competencies, within the scope of their training.*

Rope Rescue Team Leader (RRTL): A RRTL will have successfully completed the RRTL Assessment (please see note below) and the PSLV Leadership course:

Or:

- *Transition: Existing RRTL must have successfully completed the formally structured DCTTRS transition training workshop, or a Rope Rescue Technician 2 Fundamentals course with Chapters 3.1, 3.3, and 3.4 to maintain their RRTL status*

(Please note: EMCR is assessing options for the assessment of RRTL, and updates will be provided as they become available.)

PROCEDURE:

Training: Any BC GSAR volunteer conducting/leading technical rope rescue training, practice, or response will have received appropriate recognized training. GSAR volunteers are not to engage in any activities, enter higher risk environments, or use any equipment in which they are not trained or competent, except under supervision of a qualified team leader or instructor during training.

Leadership: GSAR groups and GSAR leaders will ensure that qualified and trained GSAR Leaders are assigned as follows:

Control Zone Operations: To operate within the "Control Zone", a BC GSAR volunteer will be led by a Rope Rescue Team Leader. A Rope Rescue Technician 1 is qualified to operate up to the edge. Those who operate over the edge must be either a Rope Rescue Technician 2, who has completed the Rope Rescue Technician 2 Foundations course and evaluation; or a Rope Rescue Team Member who has successfully completed the transition training as on Page 2.

- *Transition: Until the transition to the DCTTRS technique and training structure is complete, existing qualified Rope Rescue Team Members may perform technical functions within the Control Zone.*

Working Zone Operations: To perform technical rope rescue functions within the "Working Zone", a BC GSAR volunteer will be qualified as a Rope Rescue Technician 1. Non-technical functions within the Working Zone may only be performed by BC GSAR personnel who have completed BC SAR Rope Rescue Awareness training.

- *Transition: Until the transition training to the DCTTRS technique and training structure is complete, existing qualified Rope Rescue Team Members may perform technical functions to the level of the scope of their training within the Working Zone.*

Continuing Competency: To maintain qualification as a Rope Rescue Team Leader, Rope Rescue Technician 2, or Rope Rescue Technician 1, an individual must have recorded with their team 20 hours per year of rope rescue practice or operations.

Record Keeping: GSAR groups and GSAR leaders will ensure proper records are kept of GSAR volunteer's training, operational experience and annual practice in rope rescue (this requires at least 20 hours of logged rope rescue practice in any year for all Rope Rescue Team Members and Rope Rescue Team Leaders), and of maintenance of appliances/apparatus.

Equipment: All hardware and software used for rope rescue tasks will meet the standards and testing as set out in the EMCR Search and Rescue Rope Rescue Manual and in all manufacturer's instructions and recommendations.

A use log will be kept for all ropes used for rope rescue and ropes will be taken out of service when they reach the retirement age specified by the manufacturer.

All hardware and software will be inspected by a qualified rope rescue technician after every use to ensure that it is still fit for service.

- All rope or soft goods that have been subjected to a shock load or any item that has obvious damage, or if its integrity is at all in question, will be immediately removed from service and tagged for inspection.
- Any equipment removed from service may only be put back into service if it has been inspected by a qualified person and determined to fully meet all operational strength and integrity requirements as set out in the EMCR Search and Rescue Rope Rescue Manual and in all manufacturer's instructions and recommendations.

Any equipment removed from service will be destroyed immediately or reserved for non-life-safety purposes if, upon inspection by a qualified person, it has been determined that it does not meet all strength and integrity requirements as set out in the EMCR Search and Rescue Rope Rescue Manuals and in all manufacturer's instructions and recommendations.

BC Rope Rescue Qualifications for Individual GSAR Volunteers

Competencies (specific skillsets) for these individual qualifications are outlined in the BC SAR Rope Rescue Course Competency Matrix (see 3.02a)

- BC Search and Rescue Rope Awareness
- BC Search and Rescue Rope Technician 1
- BC Search and Rescue Rope Technician 2
    - Chapter 3.1, Ascending and Descending
    - Chapter 3.2, High Directional Rigging and Use of Winches (currently in development)
    - Chapter 3.3, Stretcher Handling Techniques
    - Chapter 3.4, Pick-off Techniques
    - Chapter 3.5, Highlines and Guiding Lines (currently in development)
- BC Search and Rescue Rope Rescue Team Leader

REFERENCE: EMCR Search and Rescue Rope Rescue Manuals

- EMCR Rope Rescue Awareness
- EMCR Rope Rescue Technician 1
- EMCR Rope Rescue Technician 2

PURPOSE: To ensure safety and consistent standards for BC Search and Rescue Rope Rescue training.

GUIDELINE: GSAR groups, GSAR leaders, and BC Search and Rescue Rope Rescue training providers will ensure that GSAR volunteers are appropriately trained according to current procedures outlined in the EMCR Search and Rescue Rope Rescue Manual.

DEFINITIONS: BC Search and Rescue Rope Rescue Course – One of the following formally structured training events:

- DCTTRS transition training
- Rope Rescue Awareness
- Rope Rescue Technician 1 (RRT1) Training and Evaluation
- Rope Rescue Technician (RRT2) Chapters 3.1, 3.2, 3.3, 3.4, 3.5 – Training and Evaluation (Chapters 3.2 and 3.5 are not currently included in Rope Rescue Technician 2 Fundamentals)

In-house training – Training within a GSAR Group with volunteer instruction provided by RRTLs and others, within the scope of their training.

PROCEDURE: BC Search and Rescue Rope Rescue training must be approved by EMCR, and a task number issued in order to be eligible for Workers Compensation and other coverages.

In addition to formal rope rescue courses, rope rescue training may also be provided in-house within GSAR groups by Rope Rescue Team Leaders within the scope of their training.

Participation in a RRT1 training course is not required in order to attend a RRT1 evaluation course provided that the GSAR group is confident the candidate has received sufficient in-house training to assure successful completion of the evaluation process. Candidates not meeting the requirements of the evaluation will not be successful in becoming a Rope

Rescue Technician 1, you will be required to take the formal Rope Rescue Technician 1 course in its entirety.

BC SAR Wildland Rope Rescue Competency Matrix

January 10, 2017

Note: "Competency" includes both knowledge and skill, as applicable.

ROPE RESCUE AWARENESS

Minimum Duration of Course: Online

Chapter 1.1 – Rope Rescue in BC		
Competency	Knowledge	Skills/Techniques
Explain SAR Rope Rescue training in British Columbia	Structure of training - levels, role of teaching aids (manuals, visual aids, etc.)	
	Expectations/ Vision Statement	
	Rope Rescue training structure	
	Rope Rescue structure & command	
Chapter 1.2 – BC SAR Rope Rescue Governing Principles		
Competency	Knowledge	Skills/Techniques
Explain the BC SAR Rope Rescue governing principles	Define and explain the five governing principles for BC SAR Rope Rescue 1. Top down,	

	2. Dual Capability Two Tensioned Rope System (DCTTRS), 3. Force limiting 6-12 kN range, 4. Equipment designed for the purpose, within the manufacturer's specifications, and tested, 5. Minimum system & component breaking strength of 20kN.	
Chapter 1.3 – Rescue Response Overview		
Competency	Knowledge	Skills/Techniques
	Risk assessment/hazard assessment – objective & subjective hazards	
	Safety, efficiency, simplicity	
	Critical point ("weakest link")	
	Necessity for effective communications (p.11-3&4), pre-arranged backup communications (verbal, radio, whistle signals, hand signals, rope tugs, etc.); radio protocols, separate channel for off-site communications, etc.; "no-duff" rule for real situations during training	
	Differentiate between technical rope rescue (2 ropes) and rope assist (1 rope)	
	Differentiate between high angle and slope rescue. This also directly relates to the number of people allowed on the system along with the best system of rigging for the angle.	
	Rescue site layout – safe areas, working zone, control zone, gear cache, cordon	
	Rescue team roles (RRTL, "Control", safety officer, first responder, Descent Control Device operators, stretcher attendant, stretcher bearers, edge, brake, belay, haul)	

	Rescue organization – site approach, initial organization, planning, briefing, system set-up, rescue, tear-down, debrief/review	
	Terrain assessment – angle/steepness, rock fall zone, line of sight, fall line, change of directions	
(Chapter 1.4 – Equipment)		
Competency	Knowledge	Skills/Techniques
Understanding of team and personal equipment used in BC SAR Rope Rescue	Rationale for SAR RR default equipment selection	
	Equipment standards	
	Rope – construction, low stretch/static, high stretch/dynamic.	
	Rope care – 10 guidelines: dirt, UV radiation, drying, friction, kinks, inspection, washing & storage, replacement, rope log	
	Accessory cord – Prusiks and the required rope properties. Proper handling and care. i.e., wash and dry before storage. Only use floppy cord. Discard if the rope becomes stiff.	
	Webbing – nylon & Dyneema	
	Carabiners – types, composition, locking mechanisms, improper loading	
	Tri-links, maillons	
	Pulleys – construction, types, size	
	Rigging plates & rings	
	Personal descent control devices - in-line devices (ATCs, etc.), personal brake racks,	

	Scarabs, figure-8, bobbin types, slotted belay/rappel devices;	
	Multi-person descent control devices – rescue brake racks (types, threading), Scarabs, MPDs, etc.)	
	Hardware cleaning and maintenance	
	Edge protection – edge rollers, edge pads, tubes	
	Mechanical rope clamps – as personal ascenders, limitations with rescue systems, types,	
	Equipment checklists – personal, team	
Set-up and use of Personal Protective Equipment	Understanding of appropriate Personal Protective Equipment (PPE)	Integrating seat & chest harnesses
	Personal Protective Equipment – helmets, gloves, safety glasses, rescuer harnesses, subject harnesses	
(Chapter 1.5 – Rescue Operations)		
Competency	Knowledge	Skills/Techniques
Understanding of the elements, phases and roles in a rope rescue scenario	Understanding of rope team communications	
	Rationale for clear, standard terminology and protocols	
	Steps in scenario development (RRTL) – equipment planning; IRT; site assessment & planning; briefing; system set-up; final check; edge transition; subject access; reporting; packaging; evacuation; de-rigging; debriefing/review	

ROPE RESCUE TECHNICIAN 1

Prerequisite: Rope Rescue Awareness

Minimum Duration of Course: 24 hours

Minimum Duration of Evaluation: 20 hours

Chapter 2.1 – Introduction to Rope Rescue		
Competency	Knowledge	Skills/Techniques
General knowledge of Awareness Section material	General understanding of Rope Rescue Awareness knowledge	
BC SAR Rope Rescue principles & guidelines	Know and describe the 5 BC SAR Rope Rescue Principles & guidelines	
Describe the elements of rope rescue	Describe rope rescue structure and command	
	Describe the role of planning, briefing and debriefing	
	Command structure	
	Steps in scenario development – equipment planning; IRT; site assessment & planning; briefing; system set-up; final check; subject access; reporting; packaging; evacuation; de-rigging; debriefing/review	
Chapter 2.2 – Knots, Bends & Hitches		
Competency	Knowledge	Skills/Techniques
Handling and storage of rope & webbing	Understanding of issues around rope use, care and storage	Rope inspection, stacking, coiling, bagging, birdnesting

Ability to tie "default" BC SAR knots, bends, and hitches, given ropes and webbing, so that the knots are dressed, recognizable, and backed up as required.	Ability to: ○ Explain terminology - Knot, bend, hitch, bight, standing part, running end, loop, tail, dressing knots or bends, ○ Explain dressing & loss of strength with ties in rope or webbing, ○ Recognize and explain purpose of various default ties listed below:	
	End-of-line knot	Fig 8
	End-of-line loop	Fig 8 on bight Bowline with double overhand backup
	Midline loop	Alpine butterfly
	Securing rope around desired objects	Fig 8 follow-through Long tailed bowline Clove hitch Round turn & 2 half-hitches
	Joining rope ends together	Flat overhand bend Double overhand bend (double fisherman's bend) Fig 8 bend
	Joining webbing ends together	Flat overhand bend Overhand follow-through bend (ring bend/water knot/tape knot)
	Finishing (backup) knots	Overhand Double overhand
	Hitches	Prusik hitch Prusik-on-itself / Purcell Prusik
	Blocking knot	SAR blocking knot & overhand backup Slippery half hitch & overhand backup
	Load release hitches	Italian hitch

		Double Italian hitch Radium Release hitch
	Block & tackle (jigger)	3:1
Able to identify and perform appropriate harness systems and attachments		Appropriate harness selection and tie-in
Chapter 2.3 - The Mechanics (Physics) of Rope Rescue		
Competency	Knowledge	Skills/Techniques
Calculate the potential forces within a rope rescue system	Define mass, force, energy, and how static force is calculated	
	Estimate the static force of rescue loads	
	Describe how force can increase (or decrease) with changes in angles	
	Estimate the highest potential force on a rescue system	
	Determine whether a rescue system will remain functional in light of the highest potential forces	
	Calculate fall factors	
Chapter 2.4 – Anchor Systems		
Competency	Knowledge	Skills/Techniques
Ability to select and use safe anchors and anchor systems, anchor extensions and pre-tensioned back-ties	Ability to explain the principles for anchor systems; basic forces and vectors applying to anchors and anchor legs	
	Ability to explain differences between redundant and shared anchor systems	Set up examples of redundant and shared anchor systems

	Ability to explain natural anchor selection and considerations for use	Select and employ appropriate natural anchors
	Ability to explain considerations and strengths for each, use of MAPs, carabiner positioning (direction of gates, spines against walls, gates down when suspended horizontally; no cross-loading); danger of triangle anchor systems. IDEAS acronym; forces at various angles.	simple slung basket simple wrapped sling cinching wrapped sling W2P1 W2P2 W3P2 Follow-through Fig. 8 with rope Bowline with overhand backup multi-point fixed o Simple o Tied-off o Joined Spanned anchors Forward tensioned anchors to align closely and elevate TTRS anchor MAPs
	Ability to describe rationale for using anchor extensions and number of strands	Multi-strand anchor extensions
	Ability to explain rationale for using pre-tensioned front-ties	Demonstrate setup of pre-tensioned front-ties
	Ability to explain rationale for pre-tensioned back-ties and force vectors involved	Set up pre-tensioned back-tie for a high redirect
Artificial anchors	considerations for use	
Chapter 2.5 – Communication		

Competency	Knowledge	Skills/Techniques
Demonstrate standard methods of communication	Describe clear, standard terminology and communication protocols for lowering and raising, including edge transitions	Use verbal & whistle rescue signals proficiently
	Describe clear, standard terminology and communication protocols for rappelling and ascending	Use verbal & whistle rescue signals proficiently
		Describe the use of radios in rope rescue
	Ability to describe the designated uniform verbal, sound & visual communications associated with a lower (roll call, whistle signals, rope tugs, visual signals	Demonstrate uniform communications
Chapter 2.6 - Dual Capability Two Tensioned Rope Systems		
Competency	Knowledge	Skills/Techniques
1. Overview		
Demonstrate understanding of Dual Capability Two Tensioned Rope Systems	Define the concept of capable and competent	
	Describe the benefits of dual capability	
2. Lowering		
Ability to explain overview considerations around lowers and to set up and operate fail-safe DCTTRS lowers with selected capable (strong) & competent (effective) techniques and equipment	Ability to explain overview considerations for lowers: ○ Differences between the dedicated load/dedicated belay (DMDB) rope system and dual capability two tensioned rope systems (DCTTRS) (In a 2-rope DMDB system, one rope always bears all the load while the other is a dedicated belay rope that is loaded only in event of failure of the load rope. In a DCTTRS, each of the two ropes is set up to perform both load and belay functions and the load	

	can be shared between them in any desired proportion.) o Alignment perpendicular to edge o Allow adequate working room o Two rope operating stations closely aligned	
	Ability to compare attributes of different Descent Control Devices; distinction between purpose-built, engineered devices (MPD, etc.) and improvised systems (Scarab & Prusik)	
	Ability to explain rationale for rope tailing, stance, expected grip (<1 kN), and monitoring role	Demonstrate effective rope tailing
	Familiarity with options for DCTTRS lowers:	Demonstrate DCTTRS lowering systems:
	Ability to explain use of Italian hitches with Prusiks as fail-safe lowering options for single or two-person loads	Italian hitch with Prusik – single Double Italian hitch with Prusik – 2-person
	Ability to explain recommended/preferred fail-safe "component" options for lowering 1 and 2-person loads	DCDs with self-braking Prusik with rope tailing
	Ability to explain recommended/preferred fail-safe purpose-designed device options for lowering 1 and 2-person loads	Self-braking mechanical devices with rope tailing
	Ability to explain DCTTRS knot pass methods on lowering with component and purpose-designed systems	Efficiently pass knots while lowering using Two Tensioned and Alternately Tensioned methods
	Ability to explain redirection options for edges and changing fall lines on lowers and raises	Fixed redirects Releasable redirects
3. Raising Systems		
Ability to: o Describe safety considerations in raising systems o Describe the principles and applications of mechanical advantage systems	Ability to explain overview considerations: o Allow adequate working room o Alignment perpendicular to edge o Two-rope operating stations closely aligned o Smooth movement (hand over hand or walking "caterpillar")	

○ Build selected simple, compound and complex pulley systems ○ Efficiently pass knots while raising	○ Lower MA with more haulers most efficient ○ Choice of in-line or attached system ○ Guideline of 18 ○ Implications of sideways redirection on force vectors ○ Awareness of danger zones where redirects are used ○ Mechanical advantage ○ Friction ○ Edge protection	
	Ability to explain the elements of a haul system: ○ Haul Prusik ○ Progress Capture Device – Prusik, mechanical device (MPD, etc.) Attached and in-line systems	Use of purpose-built mechanical device for change of direction/progress capture (MPD or equivalent)
	Ability to explain pulley systems ○ Definitions and characteristics of Simple, Compound & Complex systems ○ The "T-method" of calculating mechanical advantage and distribution of forces ○ Characteristics of simple versus complex systems;	Demonstrate: 1:1 – direct haul or counterweight 2:1 – dropped loop 3:1 simple 5:1 simple
	Distinguish between in-line and attached pulley systems	Demonstrate an attached 3:1 pulley system with progress capture in correct place.
	Ability to explain DCTTRS knot pass methods on raising with component and purpose-designed systems	Efficiently pass knots while raising using Two Tensioned and Alternately Tensioned methods
4. Conversions: Lower to Raise and Raise to Lower		
Convert a lower to a raise	Ability to pre-plan anchors and steps required for conversion from a lower to a raise	
	Ability to explain the recommended/preferred process for DCTTRS changeovers from lower to raise	Changeover, lower to raise ○ Two tensioned system ○ Alternately tensioned system Communications

	on tensioned rope(s), including communications	
	Ability to explain the recommended/preferred process for changeover from raise to lower on tensioned rope(s), including communications	Changeover raise to lower o Load/belay system o Twin-tensioned system Communications
Chapter 2.7 Edge Management		
Competency	Knowledge	Skills/Techniques
Proficiency in the role of an Edge Person	Ability to: o Describe roles of Edge Person (p.2-9, p.7-12, p.9-11): observation, communication, edge protection & other roles inside Control Zone, assisting with stretcher edge transitions o Explain considerations around length of edge line, how to set length and distinction between fall restraint and belay situations o Explain rationale for edge person setting up and taking down own line. (Pull in all lines before disconnecting them from their anchors.) o Describe acceptable types of edge protection	Demonstrate proficiently: o Appropriate anchor system (substantial anchor, secure attachment accommodating changes of loading direction, simple wrapped sling recommended) o Appropriate attachment of edge line and Prusik to harness o Appropriate length of edge line o Communications functions of Edge Person position o Placement and securement of edge protection Assistance with stretcher handling in Control Zone and in edge transition (use of taglines, etc.)
Use of a high or lateral directional	Ability to: Assess forces when using a natural anchor point to create a lateral or high directional	Demonstrate proficiently: o Lateral directional construction using a natural anchor point o High directional construction using a natural anchor point o Use of a spanned anchor as a high directional
Chapter 2.8 – Stretcher and Attendant Rigging		
Competency	Knowledge	Skills/Techniques

Ability to describe litter models and accessories available for rope rescue	Ability to describe: o The characteristics of the range of stretchers in BC SAR rope rescue use: o Wire baskets (Stokes Litters) o Polyethylene baskets (Ferno 71) o Fiberglass & metal baskets (Cascade) o One-piece and two-piece models (Note that 2-piece models may not require full threading of the rail for head attachment situations – refer to manufacturer's specifications.) o Flexible plastic (SKED, Petzl NEST) o Types of spinal immobilization devices: o Hard collar o Vacuum mattress o Backboard o Clamshell o KED Face shields	Full rail wrap with 11mm rope on 2-piece stretchers only if required by manufacturer's specifications
Familiarity with horizontal stretcher rigging	o Considerations around stretcher bridles o Commercial and pre-tied rope bridles o improvised (tied rope or webbing) stretcher bridles o Use and setup of the MAP ring with long-tailed bowlines o Use and setup of long tailed bowlines as alternative to MAP ring o Use and setup of the tri-link with butterfly knots as a MAP o Considerations for the stretcher attendant	Set up bridle, attendant primary and secondary and subject secondary for horizontal stretcher position Set up bridle, attendant primary and secondary and subject vertical stretcher position Use of long-tailed bowlines as secondary lines for attendant and subject Attendant attachment options: o 11mm line and Prusik(s) o Purcell Prusik o Pick-off strap o Jigger
	Considerations around use of specialized techniques: o Pre-rig of taglines to help direct stretcher over edges, etc. o Rigging for use of a stretcher helper (separate line) Use of a second attendant – requirement for stronger components	Rig and use taglines and stronger components for use of a second attendant
Proficiency in attendant and subject attachments for		Demonstrate proficiently:

vertical, horizontal and slope stretcher rigging		○ Rigging requirements for special stretcher handling (high angle)
Chapter 2.9– Subject Packaging and Securement		
Competency	Knowledge	Skills/Techniques
Proficiency in subject packaging and securement	Explain considerations around subject packaging and securement ○ Medical ○ Communication with subject ○ Detailed aspects of packaging Considerations around subject securement	Demonstrate proficiently the preferred techniques for: ○ Improvised pelvic harness or subject attachment to backboard ○ Securement of head and shoulders to prevent shifting ○ Securement of feet to prevent shifting ○ Default use of diamond lashing in absence of other final securement system on stretcher
Chapter 2.10 – Slope Rescue		
Competency	Knowledge	Skills/Techniques
Proficiency in ○ Describing considerations around rigging a stretcher appropriately to the slope	Describe techniques to operate safely and proficiently on slopes ranging from low angle to steep angle	Demonstrate familiarity with options for number of attendants depending on steepness and footing on slopes
	Ability to describe: ○ Differences between rope assisted *low angle* stretcher evacuations (<20°), *moderate slope* operations (20°-45°) and *steep slope* operations (45°-70°) and considerations of each ○ Forces on slopes and their implications for rigging ○ Terrain assessment and fall line aspects ○ Considerations around – ○ Traversing slopes ○ Number of attendants ○ Attendant carrying techniques	Demonstrate proficiently: ○ Setting up a slope rig for a stretcher, with secondary line to stretcher rail and subject and primary and secondary attachments for 3 attendants

	○ Using a transverse stretcher arrangement ○ Attendant attachments (load and belay) Stretcher attachment –Bridle, no need for full rail wrap on newer 2-piece stretchers	
○ Operating a stretcher raise and lower appropriate to varying slopes	Describe forces encountered during a slope rescue	Demonstrate proficiently: ○ Rope Assisted Evacuation techniques ○ Moderate slope techniques ○ Steep slope techniques (transverse stretcher, etc.)
	Considerations around setup and operation of a rope assisted stretcher evacuation - kit equipment, lower and raise Counterbalance use and limitations Considerations around setup and operation of low to high angle stretcher evacuations Efficiently rigging for multi-pitch lowers	Demonstrate proficiently: ○ Operation of a low angle rope assisted stretcher evacuation (simple lower & 1:1 or counterbalance raise)
SAFETY	Safety procedures	Situational awareness "Fresh eyes"

ROPE RESCUE TECHNICIAN 2

Prerequisite: Rope Rescue Technician 1

Minimum Duration of Course (all 5 Chapters): 40 hours

Minimum Duration of Evaluation (all 5 Chapters): 32 hours

Competency	Knowledge	Skills/Techniques
Technician 1 Review	Review of Technician 1 knowledge and skills proficiency	

Chapter 3.1 - Rappelling & Ascending	Minimum Duration of Course: 4 hours	Minimum Duration of Evaluation: 1 hour
Competency	Knowledge	Skills/Techniques
Proficiency in descending techniques	Ability to: o Describe communications when descending (voice, signal, etc.) o Describe Descent Control Devices (DCDs) for rappelling and their appropriateness to BC SAR rope rescue o Explain rationale for BC SAR descending guidelines (in-line devices, smooth descents, no "Aussie" rappels, Italian hitch for emergency only) o Describe considerations around descending system setup: anchors, belays, rope length, throwing, bagging rope, safety checks (ABCDE), essential to have ascending gear o Explain considerations in safe descending technique: harness attachments, personal safety, edge	Demonstrate proficiently: o Rigging and deploying the rope – bag, butterfly coil, braided ring o Setup of efficient rappelling system o Use of a conditional self-belay (Prusik, helical hitch, etc.) o Appropriate descending technique for vertical and sloping terrain o Tying off the DCD o Change-over to ascent o Appropriate communication techniques

	transition, speed, risk of pendulums, conditional self-belay options, o Explain factors involved in harness-induced pathology – symptoms, causes, responses	
Proficiency in Prusik ascending techniques	Ability to: o Describe communications when ascending (voice, signal, etc.) [Note, replace "Rope" on p.11-9 with "Up on [colour]" o Describe the two default Prusik sling systems (2 or 3 sling Prusik & Texas Prusik). Explain how to tune systems (harnesses, cord lengths, etc.) for personal efficiency o Explain considerations in safe ascending technique: efficient system to minimize effort, safety "umbilical" to harness on foot sling; edge transition techniques	Demonstrate proficiently: o Setup of an efficient Prusik ascending system (Purcell system or Texas system) Appropriate ascending technique for vertical and sloping terrain. o Changeover to descent o Appropriate communication techniques
Enhanced ascending/descending	Knowledge of various systems. Describe prevalent mechanical ascending systems ("Frog", Texas and "Jumar" styles)	o Ascending with improvised cordalette systems o Setup of an efficient mechanical system ("Frog", "Jumar", Texas system, Ropewalker)
Chapter 3.2 – Artificial Anchors, High Directional Rigging & Winches This chapter is not included in Rope Rescue Tech 2 Fundamentals	Minimum Duration of Course: 8 hours This chapter is not included in Rope Rescue Tech 2 Fundamentals	Minimum Duration of Evaluation: 4 hours This chapter is not included in Rope Rescue Tech 2 Fundamentals
Competency	Knowledge	Skills/Techniques
Use of artificial anchors	Knowledge of how, when, and where to place bolts Knowledge of when and how to use deadman and picket anchors.	Demonstrate correct placing of bolts and construction of redundant anchor systems Demonstrate setup of picket anchor systems and demonstrate or describe use of deadman anchors in snow
Use advanced rigging techniques	Ability to:	Demonstrate proficiently:

	○ Assess forces when using a natural anchor point, A-frame or tripod to create a high directional	○ High directional construction using a tripod ○ High directional using a spanned anchor, ○ A-frame or tripod
A-Frames and Tripods	In-line (sideways)	Ability to demonstrate proficiently: ○ Setup and operation of improvised A-frames and tripods ○ Setup and operation of commercial A-frames and tripods
Winches	Ability to: List the issues and describe appropriate use of a winch ○ Use of winches in raising ○ Use only winches designed for rescue work – no vehicle winches ○ Characteristics of hand winches – operator fatigue disadvantage ○ Characteristics of power winches – weight disadvantages Necessity to use separate belay rope on load and to be able to default to manual pulley system	
Chapter 3.3 - Stretcher Handling Techniques Prerequisite: Tech 2 Module 1 (Chapter 3.1)	Minimum Duration of Course: 8 hours	Minimum Duration of Evaluation: 4 hours
Competency	Knowledge	Skills/Techniques
Proficiency in high angle stretcher handling	Ability to: ○ Describe techniques for edge transition ○ High redirects wherever possible ○ Adjusting length of outboard legs of bridle during transition ○ Rigging of tilt lift *(also known as horizontal to vertical transition)* ○ "Pike & pivot" system *(currently not included in Fundamentals)* ○ Attendant "through the bridle" ○ Discuss considerations of stretcher handling:	Demonstrate proficiently: ○ Adjusting length of outboard legs of bridle during edge transition ○ Setup and execution of a tilt-lift *(also known as horizontal to vertical transition)* ○ "Pike & pivot" system *(currently not included in Fundamentals)* ○ Use of the "through the bridle" edge transition ○ Set-up and use of a tag line ○ Negotiating overhangs on lower and raise

	○ Using a tag line ○ Negotiating overhangs ○ Use of a second attendant or helper	
Chapter 3.4 – Pick-Off Techniques Prerequisite: Tech 2 Module 1 (Chapter 3.1)	Minimum Duration of Course: 8 hours	Minimum Duration of Evaluation: 4 hours
Competency	Knowledge	Skills/Techniques
Proficiency in pick-off techniques	Ability to: ○ Describe situations appropriate to use of pick-off techniques ○ Describe sequence of steps for a lowering pick-off using a MAP ring (or doubled large locking carabiners) or inter-tied long-tailed bowlines ○ Describe options for transferring subject weight to rescue system (block & tackle, pick-off strap, counterweight device, raise of load rope by vectoring or pulley system) and considerations for each. ○ Note that MPD provides for very quick conversion from lower to raise ○ Describe recommended attendant and subject attachments ○ Describe options for subject harnesses (improvised sit harness, commercial diaper seats) ○ Describe options for subject positioning (to the side, over the shoulder, stretcher style, between rescuer's legs and considerations for each. ○ Describe considerations around using a Scarab rappel pick-off and the steps in the process. ○ Describe the load attachment points and subject positioning options in a rappel pick-off ○ Describe team based pick-offs ○ Describe the setup and operation of a Panorama Pick-off	Demonstrate proficiently: ○ Setup and operation of a block & tackle (jigger) or counterweight device and transfer of subject's weight to load line. ○ Fitting a subject with an improvised harness ○ Fitting a subject with a commercial diaper seat ○ The 4 subject positions recommended for movement after pick-off ○ A rappel pickoff ○ Setup and operation of a Panorama Pick-off, in coordination with a belayer ○ Managing a subject on a lower or raise pick-off ○ Rigging a stretcher for a tilt-lift Managing a stretcher tilt-lift loading and raise or lower

	○ Describe the setup and operation of a stretcher tilt-lift (loading a stretcher on a wall)	
Chapter 3.5 – Highlines and Guiding Lines (Aerial Ropeways) Prerequisite: Tech 2 Module 1 (Chapter 3.1) *This chapter is not included in Rope Rescue Tech 2 Fundamentals*	Minimum Duration of Course: 16 hours *This chapter is not included in Rope Rescue Tech 2 Fundamentals*	Minimum Duration of Evaluation: 8 hours *This chapter is not included in Rope Rescue Tech 2 Fundamentals*
Competency	Knowledge	Skills/Techniques
Highlines	Ability to: ○ Describe typical situations where highlines would be used. ○ Describe the differences between a horizontal and a steep angle highline system. ○ Describe the elements of a highline system ○ Describe the differences in rigging highlines with Prusiks or with MPDs. ○ Describe the hazards associated with highlines. ○ Describe the method of tensioning a highline and possible consequences of over tightening.	Ability to demonstrate and/or direct with proficiency the setup and operation of: ○ A basic Kootenay highline ○ The stretcher rigging methods for highlines ○ A Kootenay highline with an English or Norwegian reeve
Guiding Lines	Ability to: ○ Describe the use of guiding lines	Ability to demonstrate proficient setup and operation of guiding lines
Safety	Safety procedures	Situational awareness "Fresh eyes"

EMCR Recognized Wildland Rope Rescue Courses

The listed courses will follow EMCR curriculum and the EMCR Wildland Rope Rescue Manuals.

Instructional ratios for all EMCR Wildland Rope Rescue RRT1 and RRT2 training courses and evaluation courses will not exceed a 6:1 student to instructor ratio.

Training providers are responsible for their own insurance, instructor certification process, and course quality.

BC Qualification Level	Recognized Training Providers
BC SAR Rope Rescue Awareness	Justice Institute of BC – eLearning or correspondence (This is the minimum recommended requirement for all GSAR volunteers; it is recommended supplementing with presentation by a Rope Rescue Technician)
BC SAR Rope Rescue Technician 1	Justice Institute of BC Basecamp Innovations Ltd. Dynamic Rescue Systems Raven Rescue Island Alpine Guides Ronin Safety and Rescue
BC SAR Rope Rescue Technician 2 Fundamentals	Justice Institute of BC Basecamp Innovations Ltd Dynamic Rescue Systems Raven Rescue Island Alpine Guides Ronin Safety and Rescue
BC SAR Rope Rescue Team Leader	Justice Institute of BC

Contact information for recognized course providers

Justice Institute of BC
Website: http://www.jibc.ca/sar
Phone: 604-528-5786 (local)
Phone: 1-888-898-5422 (toll free)
Email: sar@jibc.ca

Basecamp Innovations Ltd
Website: http://www.basecampinnovations.com
Phone: 250-342-6042
Email: kirk.mauthner@gmail.com

Dynamic Rescue Systems
Website: www.dynamicrescue.com
Phone: 604-522-0228 (local)
Phone: 1-888-965-5228 (toll free)
Email: training@dynamicrescue.com

Raven Rescue
Website: www.ravenrsm.com
Phone: 800-880-0287 (toll free)
Phone: 250-847-2427 (local)
Email: info@ravenrsm.com

Island Alpine Guides
Website: www.islandalpineguides.com
Phone: 250-400-2870
Email: info@islandalpineguides.com

Ronin Safety and Rescue
Website: www.roninrescue.com
Phone: 1-800-594-1355
Email: info@roninrescue.com

PURPOSE: To provide for GSAR Volunteer safety when participating in training, practice, or response involving search, rescue or recovery operations in the swiftwater environment (beside, on, or in moving water where there is a risk of being swept downstream) or within the floodwater environment.

GUIDELINE: Swiftwater: any water moving at a speed in excess of 2 km/h (0.5 m/sec).

GSAR Volunteers may encounter streams during ground search and rescue operations that may be flowing in excess of 2 km/h which can be easily crossed, or banks searched, without additional training beyond swiftwater awareness if the stream is less than knee deep and the risk is low (see Swiftwater Operation Risk in the Response Assessment and Decision Making Support {RADeMs} Reference Guide for low risk definition).

Floodwater: water that overflows and inundates an area.

For "Swiftwater Team Capabilities" and "Individual Qualification Levels" outlined in this document the term "Swiftwater" includes "Floodwater".

PROCEDURE: BC GSAR Group and Swiftwater Team Response Capability Levels

- Swiftwater Awareness
- Swiftwater Operations
- Swiftwater Technician
- Swiftwater Technician Advanced

These group/team levels of response capability are based on the National Fire Protection Association standards (NFPA 1670) with refinements made for use in the Province of B.C. A Swiftwater Team maybe part of one GSAR Group or may be a regional Swiftwater Team made up of members from a number of GSAR Groups

GSAR Leaders will ensure that GSAR Groups (for awareness level) and Swiftwater Teams (for higher levels) will meet all the requirements for the capability level of their Group or Team as outlined below and in the "Procedures" section of this document.

Definitions:

Hot Zone – in swiftwater

Warm Zone – the area beside swiftwater where there is a chance that if a person were to accidently/unintentionally slip or fall they could enter the water. Defined a number of ways as it is dependent on the terrain (e.g., 5 m back from water's edge, 3 m from high water mark). Can extend a considerable distance back from the water's edge if it is slippery or steep terrain.

Cold Zone – the area back from the swiftwater's edge where there is no chance of a person entering swiftwater if they were to accidentally/unintentionally slip or fall.

Response Capability Levels

Swiftwater Awareness GSAR Group Capability

This is the minimum capability level for all GSAR Groups in BC to ensure that search and rescue operations are conducted safely as swiftwater occurs in all areas of BC.

GSAR Groups at this level are not considered a swiftwater rescue team and are generally only qualified in the cold zone. They may be able to operate in the warm zone if accompanied by higher trained swiftwater personnel and the risk is assessed as low (see Swiftwater Operation Risk in the RADeMs Reference Guide for low-risk definition).

Requirements to Maintain Awareness Level Capability

- Training for Individual Members
    - GSAR
    - BC Swiftwater Awareness Course -online repeated every 3 years, if substantial swiftwater exists in response area it is recommended supplementing the on-line course with a presentation by a Swiftwater Rescue Technician or completion of an in-person Swiftwater Awareness course
    - Hazard Identification/Risk Assessment/Safety Procedures

- As per training and Standard Operating Guidelines (SOGs – see Procedures Section), volunteers should be able to recognize the general hazards associated with water incidents and mitigate the hazards by avoidance

- Equipment
  - Searching in the cold zone requires GSAR equipment.
- Fitness of members
  - Appropriate for searching in the cold zone.

Swiftwater Operations Team Capability

Swiftwater Operations Teams are capable of:

- conducting shore-based, non-water entry searches and rescues within the warm zone under direction of a Swiftwater Rescue Team Leader (SRTL) or if a SRTL is not available a GSTL with technical support from a Swiftwater Rescue Technician,
- searching from a watercraft in swiftwater that does not require the searcher to purposely enter the water providing that all conditions in the Watercraft POG are met (this is as a crew member, watercraft operators require additional specific training – see Watercraft POG),
- providing support to Technician level rescuers during search and rescues,
- providing SAR Managers with situational awareness concerning searching near swiftwater,
- providing a member to fill the safety officer role for shore-based non-water entry searches and rescues.

Requirements to Maintain Operations Level Capability

- Training for Individual Members

- GSAR
- BC Swiftwater Rescue Operations course (must be current)

- Practice
  - At least 6 hours per year in the swiftwater environment utilizing the skills outlined in the BC Swiftwater Course Competency Matrix (includes task hours, as well 50% of the practice hours can be with approval of the GSAR Group, training/practicing done for raft/kayak/fishing guiding within the swiftwater environment).
- Hazard Identification/Risk Assessment/Safety Procedures
  - As per training and SOGs (see Procedures Section)
  - Volunteers should be able to recognize the general hazards associated with non-water entry search and/or rescue and the procedures necessary to mitigate those hazards.
- Equipment
  - Volunteers will be equipped with, trained in the use of and wear when operating in the warm zone a non-inflating PFD designed for swiftwater rescue, swiftwater helmet, pea-less whistle, swiftwater rescue knife and secondary cutting tool, throw bag, and other appropriate personal protective clothing and equipment.
- Fitness
  - Appropriate for conducting shore-based searching and or rescues.
  - Sufficient to survival swim in anticipated swiftwater environment.

Swiftwater Technician Team Capability

Swiftwater Technician Teams are capable of:

- performing water entry searches, rescues and recoveries commensurate with experience under direction of an SRTL. Until an SRTL course is developed and available the responding Swiftwater

Rescue Team will appoint the team leader based on training, skill and experience. The Team Leader will, at minimum, be a Swiftwater Technician, ideally a Swiftwater Technician Advanced and preferably with leadership training such as GSTL or RRTL) or completion of a course at the Swiftwater Technician Advanced Level which includes a Leadership Component.

- supervising and performing watercraft-based search and rescue operations providing that all conditions in the Watercraft POG are met (this is as a crew member - watercraft operators require additional specific training – see Watercraft POG),
- Supervising and performing basic swiftwater rope rescue techniques such as tensioned diagonals for transport (ziplines),
- conducting incident risk assessments,
- assisting GSAR Manager as technical specialist to develop rescue plan or revise Incident Action Plan,
- provide a member to fill the role of safety officer for water entry searches, rescues and recoveries,
- assisting Swiftwater Technician Advanced Level.

Requirements to Maintain Technician Level Capability

- Training for Individual Members
  - GSAR
  - BC Swiftwater Rescue Technician Course (must be current)
- Practice
  - At least 20 hours per year in the swiftwater environment utilizing the skills outlined in the BC Swiftwater Course Competency Matrix (includes task hours, as well 50% of the practice hours can be with approval of the GSAR Group, training/practicing done for raft/kayak/fishing guiding within the swiftwater environment).

- Hazard Identification/Risk Assessment/Safety Procedures
  - As per training and SOGs (see Procedures Section)
  - Volunteers should be able to recognize the general hazards associated with in water search and/or rescues and the procedures necessary to mitigate those hazards
- Equipment
  - Operations level equipment plus swiftwater specific equipment for conducting water entry searches and/or rescues (e.g. drysuit or wetsuit) based on the swiftwater team and their response area.
- Fitness
  - Appropriate for conducting water entry searches and/or rescues.
  - Sufficient to rescue swim in anticipated swiftwater environment.

Swiftwater Technician Advanced Team Capability

Swiftwater Technician Advanced Teams are capable of:

- Supervising and performing water entry searches and rescues under more technical conditions and/or utilizing specialized techniques relevant to the swiftwater team's response area. For example
  - High risk searches and rescues (see Swiftwater Operation Risk in the RADeMs Reference Guide for definition of high risk),
  - low head dams,
  - water bound vehicles,
  - overturned boats,
  - difficult access or egress,
  - water bound aircraft,
  - water bound kiteboards, paragliders,

- ice over swiftwater,
- technical rope rescue techniques specific to the swiftwater environment such as highline with boat on a tether or Kootenay highline.

Swiftwater Rescue Technician Advanced level teams will have knowledge of all these more technical rescues and specific skills in some of them depending on what is required in their response area. Swiftwater Rescue Technician Advanced level teams will be able to assess their limitations for more technical conditions and only utilize those skills for which they have trained and practiced.

Requirements to Maintain Technician Advanced Level Capability

- Training for Individual Members
  - GSAR
  - For Technician Advanced Teams conducting technical Rope Rescue in the swiftwater environment at least one member of the Technician Advanced team is a Rope Rescue Team Leader.
  - BC Swiftwater Rescue Technician Advanced course (must be current)
- Practice
  - At least 20 hours per year in the swiftwater environment utilizing the skills outlined in the BC Swiftwater Course Competency Matrix (includes task hours, as well 50% of the practice hours can be, with approval of the GSAR Group, training/practicing done for raft/kayak/fishing guiding within the swiftwater environment)
- Hazard Identification/Risk Assessment/Safety procedures
  - As per training and SOGs (see Procedures Section)

- Volunteers should be able to recognize the hazards associated with more technical in water search and/or rescues and the procedures necessary to mitigate those hazards.

- Equipment
  - Technician Level equipment plus rescue equipment for specific technical rescues appropriate to the swiftwater teams' response area and training.
- Fitness
  - Appropriate for conducting water entry searches and/or rescues.
  - Sufficient to rescue swim in anticipated swiftwater environment.

BC Qualifications for Individual SAR Volunteers

Competencies (specific skill sets) for these individual qualifications are outlined in BC Swiftwater Course Competency Matrix and recognized courses are listed in the BC Swiftwater Recognized Course Table.

- **BC Swiftwater Awareness**
- **BC Swiftwater Rescue Operations**
- **BC Swiftwater Rescue Technician**
- **BC Swiftwater Rescue Technician Advanced**
- **BC Swiftwater Rescue Team Leader**

GSAR volunteers are not to engage in any activities, enter higher risk environments, or use any equipment that they are not trained and competent in, except under supervision of an instructor during training.

Rope Rescue and Swiftwater Rescue

Specific rope techniques for each swiftwater qualification level are outlined in the individual qualification competency matrix (e.g. throw bags, tensioned diagonals, high lines with a boat on a tether).

If access or egress to the swiftwater site, either for searching or rescue, requires vertical lowering and raising systems beyond a hand line (hand lines are only for terrain where a fall will not cause serious injury) then specific rope rescue training beyond the training levels outlined in this document (e.g. Rope Rescue Team Member and Rope Rescue Team Leader) is required to establish and operate the rope system.

Watercraft Usage in Swiftwater

The operation of watercraft on swiftwater or floodwaters introduces an increased risk to personnel and requires specialized skills and experience not covered within the swiftwater rescue training levels outlined in this document. See Watercraft POG. BC GSAR Swiftwater Teams that employ watercraft[3] as part of their swiftwater search and rescue program shall implement procedures for the following:

- Identifying the types of watercraft available to the team.
- Identifying the capabilities and the limitations of those watercraft.
- Identifying conditions and circumstances that can require the Swiftwater Team to operate these watercraft and any hazards or challenges specific to those conditions.
- Providing swiftwater watercraft crew member and operator training to those team members who are BC Swiftwater Rescue - Operations (or higher) using widely accepted or recognized curricula that includes hands-on, boat-based training in swiftwater. It is recommended that these team members have experience as a recreational or professional river user. If a motorized watercraft operator is not trained at B.C. Swiftwater Rescue – Operations (or higher) level, they will be briefed and under direction of a B.C. Swftwater Rescue – Technician (or higher).
- Identifying members of the Swiftwater Team who are qualified to operate watercraft at swiftwater search and rescue incidents.

[3] Watercraft includes ships, boats, canoes, kayaks, rafts, barges, hovercraft, amphibious vehicles, catamarans, paddleboards, Personal Watercraft (e.g., Jet skis), and any other vehicle or vessel used on water.

- Conducting risk assessments, at every deployment, by the qualified Watercraft Operator which includes evaluating the potential crew members for appropriate training and experience before inclusion as crew.

Floodwater Response

Responding in floodwaters brings additional hazards to the GSAR volunteer which may include contamination hazards in the water and physical hazards concealed by the floodwaters. The BC Swiftwater Awareness course covers floodwater hazard identification, personal protective equipment and the potential need for decontamination procedures.

Where appropriate, GSAR Swiftwater Teams that respond to floodwater search and rescue incidents shall implement procedures for the following:

- Recognizing the unique hazards associated with floodwater operations.
- Identifying potential sources of floodwater contamination.
- Identifying and operating watercraft appropriate for use in the floodwater environment (see Watercraft POG).
- Providing appropriate personal protective equipment to all searchers and rescuers expected to operate in a floodwater environment.
- Implementing decontamination procedures for personnel.
- Planning for regional floodwater response requires additional training beyond the training outlined in this OG.

PROCEDURE:

This section outlines some general procedures for SAR Groups or Swiftwater Teams to operate at their capability level in addition to the specific requirements outlined above.

The Standard Operating Guidelines (SOGs) that should be used to guide the response of teams and individuals:

- GSAR Provincial Operating Guidelines

- GSAR Group Pre-plan
- GSAR Manual
- Swiftwater Training Materials for the qualification level
- RADeMs Reference Guide

The response documentation that should be created during response by the GSAR Manager and/or Swiftwater Rescue Team Leader:

- Incident Action Plan including Team Assignments
- Size of Team
- Sufficient numbers to safely conduct the search and/or rescue task.

Swiftwater Rescue training courses must be approved by EMCR in order to be eligible for WorkSafe B.C. and other coverages. GSAR Groups considering Swiftwater Rescue Training courses should review the BC Swiftwater Approved Course Table.

Rescuer and GSAR group swiftwater rescue equipment will be designed for use in swiftwater and maintained according to the manufacturer's recommendations, and approved training course material. Swiftwater teams are to only use techniques and equipment in a swiftwater environment that they have trained in the use of by an approved training provider.

REFERENCES:

NFPA 1670

NFPA 1006

BC Swiftwater Course Competency Matrix

BC Swiftwater Approved Course Table

GSAR

SAR Management

Watercraft Operational Guidelines

Civil Emergency Operating Guideline

Hazmat Awareness Operating Guidelines

Personal Protective Clothing and Equipment Operational Guidelines

Response Assessment and Decision Making Support (RADeMs)

Reference Guide

BC Swiftwater Qualifications Competency Matrix February 2015

Each successively higher qualification includes all the competencies from the lower qualifications.

Competency	BC Swiftwater Awareness		BC Swiftwater Rescue Operations (all awareness competencies apply)		BC Swiftwater Rescue Technician (all Operations Level competencies apply)		BC Swiftwater Rescue Advanced Technician (all Technician Level competencies apply)		BC Rescue Team Leader (at minimum needs to be Swiftwater Rescue Technician)	
Minimum Duration of Course	Online		2 days		3 days		Additional 3 days		TBD	
Knowledge or Skill	K	S	K	S	K	S	K	S	K	S
BC Swiftwater – Awareness										
Define swiftwater and floodwater	✓									
Describe swiftwater rescue philosophy	✓									
Define the absolutes of swiftwater rescue	✓									
Outline rescuer safety (priority matrix and rescue verses recovery)	✓									

SAR Safety Program Swiftwater Rescue	O.G.# 3.03	
	Issued: Sep 2012	Rev: Oct 2023

Competency	BC Swiftwater Awareness		BC Swiftwater Rescue Operations (all awareness competencies apply)		BC Swiftwater Rescue Technician (all Operations Level competencies apply)		BC Swiftwater Rescue Advanced Technician (all Technician Level competencies apply)		BC Rescue Team Leader (at minimum needs to be Swiftwater Rescue Technician)	
Minimum Duration of Course	Online		2 days		3 days		Additional 3 days		TBD	
Knowledge or Skill	K	S	K	S	K	S	K	S	K	S
Describe personal evaluation (evaluating your own personal readiness to respond including skill level, fitness and mindset)	✓									
Swiftwater Hydrology – Identify moving water conditions, characteristics, and features	✓									
Identify swiftwater hazards	✓									
Describe swiftwater hazard avoidance	✓									
Outline flood fundamentals (hazards, personal protective gear, hazard avoidance and the need for decontamination procedures)	✓									
Describe swiftwater medical considerations	✓									
Describe swiftwater personal protective equipment	✓									
Outline site safety considerations	✓									
Describe response guidelines (ICS and Incident Management)	✓									

SAR Safety Program Swiftwater Rescue	O.G.# 3.03	
	Issued: Sep 2012	Rev: Oct 2023

Competency	BC Swiftwater Awareness		BC Swiftwater Rescue Operations (all awareness competencies apply)		BC Swiftwater Rescue Technician (all Operations Level competencies apply)		BC Swiftwater Rescue Advanced Technician (all Technician Level competencies apply)		BC Rescue Team Leader (at minimum needs to be Swiftwater Rescue Technician)	
Minimum Duration of Course	Online		2 days		3 days		Additional 3 days		TBD	
Knowledge or Skill	K	S	K	S	K	S	K	S	K	S
Outline river search operations	✓									
Describe communication strategies around swiftwater	✓									
Note: An Overview of the Response Assessment and Decision Making Support Guide will be a separate online awareness course										
BC Swiftwater Rescue – Operations										
Swiftwater Hydrology – at swiftwater sites assess moving water conditions, characteristics, features and hazards				✓						
Develop a pre-event site survey for an existing water hazard utilizing all available data, projections and site inspection			✓							

Competency	BC Swiftwater Awareness		BC Swiftwater Rescue Operations (all awareness competencies apply)		BC Swiftwater Rescue Technician (all Operations Level competencies apply)		BC Swiftwater Rescue Advanced Technician (all Technician Level competencies apply)		BC Rescue Team Leader (at minimum needs to be Swiftwater Rescue Technician)	
Minimum Duration of Course	Online		2 days		3 days		Additional 3 days		TBD	
Knowledge or Skill	K	S	K	S	K	S	K	S	K	S
Be able to self-rescue from swiftwater				✓						
Select water rescue personal protective equipment, given a water rescue assignment				✓						
Inspect and maintain swiftwater personal protective equipment.				✓						
Utilize swiftwater personal protective equipment				✓						
Demonstrate survival swimming in anticipated swiftwater environment.				✓						
Escape from a simulated life-threatening entrapment situation, given water rescue personal protective equipment				✓						

Competency	BC Swiftwater Awareness		BC Swiftwater Rescue Operations (all awareness competencies apply)		BC Swiftwater Rescue Technician (all Operations Level competencies apply)		BC Swiftwater Rescue Advanced Technician (all Technician Level competencies apply)		BC Rescue Team Leader (at minimum needs to be Swiftwater Rescue Technician)	
Minimum Duration of Course	Online		2 days		3 days		Additional 3 days		TBD	
Knowledge or Skill	K	S	K	S	K	S	K	S	K	S
Conduct a shoreline search beside swiftwater (in the warm zone),				✓						
Perform a non-entry (shore-based) rescue in the swiftwater environment				✓						
Implement action plan for a shore-based rescue of a single or multiple waterbound subjects.				✓						
Deploy and receive a water rescue reach device				✓						
Deploy and receive a throwbag in swiftwater				✓						
Outline considerations in organizing and managing a swiftwater search or rescue incident			✓							
Size up the swiftwater incident.			✓							
Implement site control			✓							

Competency	BC Swiftwater Awareness		BC Swiftwater Rescue Operations (all awareness competencies apply)		BC Swiftwater Rescue Technician (all Operations Level competencies apply)		BC Swiftwater Rescue Advanced Technician (all Technician Level competencies apply)		BC Rescue Team Leader (at minimum needs to be Swiftwater Rescue Technician)	
Minimum Duration of Course	Online		2 days		3 days		Additional 3 days		TBD	
Knowledge or Skill	K	S	K	S	K	S	K	S	K	S
Utilize ICS			✓							
Identify the needed support resources			✓							
Describe incident action plan/rescue plan			✓							
Manage incident hazards			✓							
Describe resource management			✓							
Describe considerations and steps to terminate a swiftwater operation			✓							
Demonstrate the ability to conduct shallow water crossings				✓						
Assist a BC Swiftwater Rescue Technician				✓						

Competency	BC Swiftwater Awareness		BC Swiftwater Rescue Operations (all awareness competencies apply)		BC Swiftwater Rescue Technician (all Operations Level competencies apply)		BC Swiftwater Rescue Advanced Technician (all Technician Level competencies apply)		BC Rescue Team Leader (at minimum needs to be Swiftwater Rescue Technician)	
Minimum Duration of Course	Online		2 days		3 days		Additional 3 days		TBD	
Knowledge or Skill	K	S	K	S	K	S	K	S	K	S
Tie knots, bends, and hitches, given ropes and webbing, so that the knots are dressed, recognizable, and backed up as required. (1) End-of-line loop (2) Midline loop (3) Securing rope around desired objects (4) Joining rope or webbing ends together (5) Gripping rope				✓						
Construct a single-point anchor system				✓						
Inspect and maintain swiftwater rescue equipment				✓						
Assess personal ability to respond to a swiftwater search or rescue at the operations level (skill level, fitness, mindset, etc.)				✓						
BC Swiftwater Rescue – Technician										

SAR Safety Program Swiftwater Rescue	O.G.# 3.03	
	Issued: Sep 2012	Rev: Oct 2023

Competency	BC Swiftwater Awareness		BC Swiftwater Rescue Operations (all awareness competencies apply)		BC Swiftwater Rescue Technician (all Operations Level competencies apply)		BC Swiftwater Rescue Advanced Technician (all Technician Level competencies apply)		BC Rescue Team Leader (at minimum needs to be Swiftwater Rescue Technician)	
Minimum Duration of Course	Online		2 days		3 days		Additional 3 days		TBD	
Knowledge or Skill	K	S	K	S	K	S	K	S	K	S
Demonstrate survival swimming in anticipated swiftwater environment						✓				
Perform an entry rescue in the anticipated swiftwater environment						✓				
Perform a swimming surface water rescue both tethered and untethered in swiftwater appropriate to training and experience						✓				
Demonstrate defensive tactics in the water rescue environment, given a waterbound subject in a stressed or panicked Situation.						✓				
Demonstrate escaping more complex entrapments such as foot entrapment, equipment entrapment and wood entrapment.						✓				

Competency	BC Swiftwater Awareness		BC Swiftwater Rescue Operations (all awareness competencies apply)		BC Swiftwater Rescue Technician (all Operations Level competencies apply)		BC Swiftwater Rescue Advanced Technician (all Technician Level competencies apply)		BC Rescue Team Leader (at minimum needs to be Swiftwater Rescue Technician)	
Minimum Duration of Course	Online		2 days		3 days		Additional 3 days		TBD	
Knowledge or Skill	K	S	K	S	K	S	K	S	K	S
Construct, operation, and supervise of tensioned diagonals for transport (ziplines)						✓				
Describe the medical consideration required when rescuing a waterbound subject such as spinal immobilization and hypothermia						✓				
Assess personal ability to respond to a swiftwater rescue at the technician level (skill level, fitness, mindset, etc.)						✓				
BC Swiftwater Rescue – Technician Advanced										
Demonstrate survival swimming in anticipated swiftwater environment								✓		

Competency	BC Swiftwater Awareness		BC Swiftwater Rescue Operations (all awareness competencies apply)		BC Swiftwater Rescue Technician (all Operations Level competencies apply)		BC Swiftwater Rescue Advanced Technician (all Technician Level competencies apply)		BC Rescue Team Leader (at minimum needs to be Swiftwater Rescue Technician)	
Minimum Duration of Course	Online		2 days		3 days		Additional 3 days		TBD	
Knowledge or Skill	K	S	K	S	K	S	K	S	K	S
Perform specialized technical swiftwater rescues appropriate to student's response area. General knowledge of all scenarios and skill performance, in swiftwater environment, for at least two different scenarios is required. Technical conditions or specialized techniques include:								✓		
High Risk Searches and Rescues							✓			
Low Head Dams							✓			
Water Bound Vehicles							✓			
Overturned Boats							✓			

Competency	BC Swiftwater Awareness		BC Swiftwater Rescue Operations (all awareness competencies apply)		BC Swiftwater Rescue Technician (all Operations Level competencies apply)		BC Swiftwater Rescue Advanced Technician (all Technician Level competencies apply)		BC Rescue Team Leader (at minimum needs to be Swiftwater Rescue Technician)	
Minimum Duration of Course	Online		2 days		3 days		Additional 3 days		TBD	
Knowledge or Skill	K	S	K	S	K	S	K	S	K	S
Difficult Access or Egress							✓			
Water Bound Aircraft							✓			
Water Bound Kiteboards, Paragliders							✓			
Ice over Swiftwater							✓			
Highline with Boat on a tether							✓			
Kootenay Highline							✓			

Competency	BC Swiftwater Awareness		BC Swiftwater Rescue Operations (all awareness competencies apply)		BC Swiftwater Rescue Technician (all Operations Level competencies apply)		BC Swiftwater Rescue Advanced Technician (all Technician Level competencies apply)		BC Rescue Team Leader (at minimum needs to be Swiftwater Rescue Technician)	
Minimum Duration of Course	Online		2 days		3 days		Additional 3 days		TBD	
Knowledge or Skill	K	S	K	S	K	S	K	S	K	S
Assess personal ability to respond to a swiftwater rescue at the Technician Advanced level (skill level, fitness, mindset, etc.)								✓		
BC Rescue - Team Leader (To be Further Developed)										
Describe the roles and responsibilities of a Swiftwater Rescuer Team Leader									✓	
Identify and demonstrate effective leadership and supervision skills required by a rescue team leader including:										✓
Communication										✓
Team/Organizational Dynamics										✓

Competency	BC Swiftwater Awareness		BC Swiftwater Rescue Operations (all awareness competencies apply)		BC Swiftwater Rescue Technician (all Operations Level competencies apply)		BC Swiftwater Rescue Advanced Technician (all Technician Level competencies apply)		BC Rescue Team Leader (at minimum needs to be Swiftwater Rescue Technician)	
Minimum Duration of Course	Online		2 days		3 days		Additional 3 days		TBD	
Knowledge or Skill	K	S	K	S	K	S	K	S	K	S
Describe and demonstrate ability to plan, prepare, execute and complete post-mission procedures for a swiftwater search and/or rescue assignment. Including:										✓
Assessment										✓
Planning										✓
Briefing - SMEAC										✓
Critical Thinking										✓
Decision Making										✓

Competency	BC Swiftwater Awareness		BC Swiftwater Rescue Operations (all awareness competencies apply)		BC Swiftwater Rescue Technician (all Operations Level competencies apply)		BC Swiftwater Rescue Advanced Technician (all Technician Level competencies apply)		BC Rescue Team Leader (at minimum needs to be Swiftwater Rescue Technician)	
Minimum Duration of Course	Online		2 days		3 days		Additional 3 days		TBD	
Knowledge or Skill	K	S	K	S	K	S	K	S	K	S
Resource Management										✓
Debriefing										✓
Describe and demonstrate safe work practices during a swiftwater team search and/or rescue assignment including conducting capability assessments.										✓
Identify, assess and manage risk in a swiftwater team search and/or rescue assignment.										✓
Describe critical incident stress management and demonstrate ability to manage stress effectively during a swiftwater search and/or rescue assignment.										✓
Demonstrate the ability to maintain appropriate documentation during a swiftwater search and/or rescue assignment										✓

Recognized Swiftwater Courses in British Columbia
Swiftwater Courses that Meet the BC Qualification Levels for Search and Rescue Volunteers

The following courses are recognized as including the competencies listed within the BC Swiftwater Qualifications Competency Matrix as of January 2015. SAR volunteers receiving certification in a listed course will be deemed to be qualified at the applicable level as described in the Swiftwater Provincial Operating Guideline.

The listed courses may include additional competencies and pre-requisites, and/or differences in delivery methodology; the choice of course and provider remains with the Search and Rescue Group, Swiftwater Team, and/or SAR volunteers. Some course providers may offer to tailor courses specific to SAR and local conditions; this is acceptable if the Competencies listed in the Matrix are covered as a minimum.

Course providers are responsible for their own insurance, instructor certification process, and course quality.

BC Qualification Level	Recognized Courses (Courses that Meet the Qualification Levels Competencies)
B.C. Swiftwater Awareness	Swiftwater/Flood Rescue Awareness – eLearning (This is the minimum requirement for all SAR volunteers; it is recommended supplementing with presentation by a Swiftwater Rescue Technician or completion of an in-person Swiftwater Awareness course if substantial swiftwater exists in response area)
B.C. Swiftwater Rescue - Operations	Rescue Canada – Swiftwater Safety Rescue Technician Level 2 Raven Rescue - Swiftwater Operations Dive Rescue International

BC Qualification Level	Recognized Courses (Courses that Meet the Qualification Levels Competencies)
	- DRI Level 1 Dynamic Rescue Systems - Technical Water Rescue-Water Operations Level 1
B.C. Swiftwater Rescue - Technician	Rescue Canada – Swiftwater Safety Rescue Technician Level 3 – Swiftwater Specialist Level 2 Raven Rescue – Swiftwater Rescue Technician (SRT 1) Dive Rescue International - DRI Level 1 Dynamic Rescue Systems - Technical Water Rescue – Water Operations Level 1
B.C. Swiftwater Rescue -Technician Advanced	Rescue Canada – Swiftwater Safety Rescue Technician Level 4 Raven Rescue – Swiftwater Rescue Technician Advanced Dive Rescue International - DRI Level II Dynamic Rescue Systems - Technical Water Rescue – Water Operations, Technician Level 2
B.C. Swiftwater Rescue –Team Leader	The Team Leader will, at minimum, be a Swiftwater Technician, ideally a Swiftwater Technician Advanced and preferably with leadership training

BC Qualification Level	Recognized Courses (Courses that Meet the Qualification Levels Competencies)
	such as GSTL or RRTL, or completion of a course at the Swiftwater Technician Advanced Level which includes a Leadership Component.

Contact information for recognized course providers

Dive Rescue International
Website: www.diverescueintl.com
Phone: Dave Jephson 250-615-7451
Email: djephson@diverescueintl.com

Dynamic Rescue Systems
Website: www.dynamicrescue.com
Phone: 604-522-0228 (local)
Phone: 1-888-965-5228 (toll free)
Email: training@dynamicrescue.com

Raven Rescue
Website: http://www.ravenrsm.com
Phone: 800-880-0287 (toll free)
Phone: 250-847-2427 (local)
Email: info@ravenrescue.com

Rescue Canada
Website: www.rescuecanada.ca
Phone: 1-800-663-8931
Registration/Booking: Sylvia@rescuecanada.ca
Course Content/Inquiries/Questions: Sylvia@rescuecanada.ca

PURPOSE: To ensure GSAR volunteer safety while participating in a response, training, or practice requiring specialized techniques and associated apparatus to respond safely to flat ice related emergencies.

GUIDELINE: GSAR groups and GSAR leaders will ensure that GSAR volunteers are trained in the use of, and provided with, appropriate equipment before participating in any activity that involves access onto flat ice.

For the purposes of this Operational Guideline, Flat Ice includes:

- Ice that has formed on large still bodies of water (lakes, ponds reservoirs, etc.).
- Ice that has formed on bodies of large slow-moving water (.5 M/sec).

PROCEDURE: Training will be provided to all GSAR volunteers that are required to approach or to gain access to the surface of flat ice to gain access to a subject who is unable to provide self-rescue from the flat ice emergency. Training will be provided by a commercially recognized available training course for basic flat ice rescue operation.

All GSAR volunteers that access the flat ice surface will be equipped with:

- An approved PFD c/w an attached pea-less whistle
- Thermal protection (a combination of insulation and dry suits/wetsuits)
- Approved head bump protection
- Footwear suitable of providing stable footing
- A lifeline c/w chest harness and rope that is tended by GSAR volunteers.

A standby Flat Ice Rescuer that is equipped and capable to initiate rescue without undo delay

All GSAR volunteers that enter the "warm Zone" (within 3 metres of the edge of the flat ice edge), will be equipped with:

- An approved PFD c/w an attached pea-less whistle
- Approved head bump protection

A successful flat ice rescue is based on a recognized and logical process inherent in any rescue operation. This process includes five basic steps:

- Evaluate scene conditions
- Evaluate subject's condition
- Assess manpower and equipment
- Develop operational plan
- Ongoing evaluation of rescue process

REFERENCE:

WorkSafe B.C List of approved helmet standards

NFPA 1952 Standard on Surface Water Operations Protective Clothing and Equipment

Transport Canada approved personal flotation devices

Provincial Operating Guideline 1.03 Personal Protective Clothing and Equipment

SAR Safety Program **Underwater Recovery Rescue**	O.G.# 3.05	
	Issued: Sep 2012	Rev: Oct 2023

PURPOSE: To ensure GSAR volunteers understand current policy on Underwater Recovery/Rescue

GUIDELINE: GSAR volunteers are not to engage in Underwater Recovery/Rescue response, other than providing surface support functions if requested by Police Dive Team members. GSAR volunteers providing surface support will operate according to operational guidelines for Watercraft Operations and Swiftwater Rescue.

PROCEDURE: GSAR groups and GSAR leaders will ensure GSAR volunteers do not engage in Underwater Recovery/Rescue responses other than surface support when requested by Police Dive Team members. GSAR leaders will ensure GSAR volunteers providing surface support functions are trained and equipped as required under Watercraft Operations and Swiftwater Rescue guidelines.

REFERENCE: EMCR 2.06 Public Safety Lifeline Volunteer Safety

EMCR 2.12 Search and Rescue

Provincial Operating Guidelines 2.05 Watercraft Operations

Provincial Operating Guidelines 3.03 Swiftwater Rescue

PURPOSE:

To ensure GSAR volunteer safety while participating in a mountain rescue response, training, or practice defined as being in 4th class or steeper terrain, or glaciated/snowfields, or at high altitude. Lead climbing and ice climbing is also considered Mountain Rescue.

Top down rope rescue where the anchor station is in 3rd class terrain while the subject is in 4th class or higher terrain is not considered mountain rescue.

Class 4 terrain is defined as having steep sections requiring the use of both hands and feet to climb up or down, where a rope may be utilized, and un-roped falls could be fatal.

Class 3 terrain is defined as requiring some scrambling with the occasional use of hands to assist and where falls could cause severe injury but are usually not fatal. A rope is generally not used in 3rd class terrain.

High Altitude is defined for the purposes of mountain rescue in BC as above 10,000 feet.

GUIDELINE:

GSAR groups and GSAR leaders will ensure that GSAR volunteers are trained and equipped according to current standards outlined in the EMCR Mountain Rescue Training Program Manuals before permitting their involvement in mountain rescue.

Mountain Rescuers with the appropriate experience and training are to operate within the parameters stated within the EMCR Mountain Rescue Training Program Manuals according to the level (MR1, MR2, MR3).

PROCEDURE:

GSAR groups and GSAR leaders will ensure proper records are kept of GSAR volunteer's:

- Training
- operational experience
- annual practice in Mountain Rescue, and

- maintenance of apparatus.

GSAR volunteers and apparatus not meeting the standards within the noted training materials will not be utilized, or participate, in Mountain Rescue functions.

REFERENCE: JIBC Emergency Management Division SAR Training

EMCR Mountain Rescue Training Program Manual

EMCR 2.06 Public Safety Lifeline Volunteer Safety

SAR Safety Program **Cave Rescue**	O.G.# 3.07	
	Issued: Oct 2016	Rev: Oct 2023

PURPOSE: This operational guideline is necessary to ensure that all SAR activities involving caves (defined as naturally formed underground voids extending beyond daylight) are carried out by personnel who are familiar with and prepared for cave environments and hazards and are competent in the specialized techniques of caving and cave rescue.

GUIDELINE: Consistent with a 1992 MOU among the RCMP, PEP, BCAS and BC Cave Rescue (BCCR), BCCR is to be the lead agency in cave SAR operations and will provide personnel trained in first aid and cave SAR, as well as rescue equipment unique to cave rescue.

EMCR Ground Search and Rescue groups will not conduct cave rescue operations. They can however support BCCR operations with surface support but will not enter the cave environment as defined above.

PROCEDURE: Activation of BC Cave Rescue is by BCEHS, RCMP, or police authority having jurisdiction contacting EMCR ECC at 1-800-663-3456. In the event of a local GSAR group being initially activated, SAR Manager will request BCCR activation through EMCR. EMCR staff will contact BCCR using established callout procedures.

EMCR Ground Search and Rescue members who are also BC Cave Rescue members must sign out of the assigned EMCR Search and Rescue Task Registration and sign in under the EMCR assigned BC Cave Rescue Task Registration before taking part in or initiating any cave rescue procedures.

In the event the rescue turns in to a body recovery, the Coroner's Office will have jurisdiction.

REFERENCE: 1992 BCCR/PEP/RCMP/BCAS MOU

EMCR Volunteer Policy 2.06

EMCR Body Recovery Policy 2.09

EMCR Search and Rescue Policy 2.12

Provincial Operating Guideline 3.14 Recovery of Human Remains

PURPOSE: To provide for GSAR volunteer safety when participating in training, practice or response to an incident within, or travelling through, avalanche terrain.

GUIDELINE: Avalanche terrain includes all terrain that can be impacted by an avalanche; the start zone, track and run-out zones. This may include areas that are not "typical" for avalanches such as cut banks, in trees, and even on flat terrain. There are many examples of such terrain e.g., when a large avalanche comes down one side of a valley and continues *uphill* on the other side.

While response to an incident where GSAR volunteers may be travelling through potential avalanche terrain or where people are involved in an avalanche, the safety of all responders is paramount. In many cases there are several risks within avalanche terrain and further large avalanches on or close by the same path may occur. An assessment by an Avalanche Safety Officer is required before anyone enters the area.

GSAR groups and GSAR leaders will ensure that GSAR volunteers are trained and equipped with appropriate equipment to operate safely when responding to an avalanche incident or travelling through avalanche terrain.

PROCEDURE: At a minimum, GSAR volunteers responding within areas of potential avalanche terrain will be trained at either the JIBC Organized Avalanche Response (OAR) Course, Avalanche Skills Training level 1 (AST 1), or Avalanche Skills for SAR (JIBC).

As a minimum, each team member is required to carry the following equipment:

- Avalanche Shovel
- Avalanche Transceiver (457 kHz standard, modern multi-antennae digital transceivers recommended)
- Avalanche Probe
- Appropriate clothing that provides protection from sun, wind, rain, and snow.

- Protective eyewear (sunglasses or goggles) appropriate to the conditions.
- Sufficient food and water for trip and a short-term emergency situation.

In addition to the above, the Safety Officer will carry a means of alerting all personnel of the need to immediately evacuate the avalanche area.

For requirements on avalanche assessment and response, refer to the EMCR PSLV Avalanche Safety Plan and the EMCR Winter Response Policy.

GSAR groups that have avalanche terrain in their area of response are to establish an Avalanche Pre-plan to ensure GSAR volunteers and agencies involved are aware of the correct safety protocols prior to responding to an incident. The pre-plan should be reviewed at the start of each avalanche season.

REFERENCE:

EMCR PSLV Avalanche Safety Plan 2019

Organized Avalanche Response Training Manual

EMCR Policy 2.08 GSAR Winter Response

Provincial Operating Guideline 1.03 Personal Protective Clothing and Equipment

Provincial Operating Guideline 1.05 Team Evacuation

Provincial Operating Guideline 1.06 Risk Assessment

Provincial Operating Guideline 1.10 Training Standards

PURPOSE: To increase GSAR volunteer safety when participating in training, response or practice involving the operation of the Class 'D" Fixed Line Human External Cargo (CDFL).

GUIDELINE: GSAR Leaders will ensure that GSAR volunteers are trained in accordance with the air carrier that they are working with.

For the purposes of this Operational Guideline CDFL (Class 'D" Fixed Line Human External Cargo), will be the term used throughout.

PROCEDURE: CDFL (on hook) training will be provided in accordance with the air operators CDFL training program. Off hook training will be provided by a qualified ground training instructor in accordance with EMCR policies and SAR operating guidelines.

The CDFL assembly inspection must comply with the air carriers' requirements and the requirements of the equipment supplemental type certificate (STC). The CDFL assembly must be inspected in accordance with TC Regulations and the manufactures specifications.

The air carrier that is selected to supply the helicopter service must be approved by Transport Canada, have helicopters and pilots in place to perform the required service. The air carrier must also have a Memorandum of Understanding with the group that provides personnel for the CDFL deployment.

All CDFL operations will be operated in accordance with applicable Transport Canada rules and regulations and considering GSAR volunteer safety first.

Any equipment used in a CDFL operation that is attached to the aircraft must comply with TC regulations. This includes the personal carrying device.

All rescuers will wear clothing and footwear that is practical to the task. In cold environments, thermal protection must be part of the overall rescue plan. In addition, each member of the CDFL crew will wear:

- A UIAA/CE climbing helmet or approved flight helmet.

- Appropriate eye protection. This maybe integral to a flight helmet, protective eyewear or separate goggles.
- Hearing protection, headsets or earmuffs or plugs.
- Rescuers must have radio communication with aircraft with hand signals recognised by the air carrier as a backup.

REFERENCE:

Canada Aviation Regulation

Commercial Air Service Standards

Transport Canada Commercial and Business Aviation Guidelines

EMCR 2.06 Public Safety Lifeline Volunteer Safety

EMCR 2.10 Class 'D' Helicopter Rescue

EMCR 2.11 Search and Rescue Helicopter Usage

EMCR 2.12 Search and Rescue

Helicopter Industry General Operating Guidelines

PURPOSE: To increase GSAR volunteer safety when participating in training, response or practice involving the application of helicopter hover exit/entry operations.

GUIDELINE: GSAR leaders will ensure that GSAR volunteers are trained in the proper techniques to safely implement the procedures required to safely exit/enter a helicopter while it is in the hover mode above the ground.

PROCEDURE: Formalized training will be done for GSAR volunteers prior to the practical application of hover exit/entry from a helicopter during training, response or practice. Only those GSAR volunteers trained will be allowed to perform the hover exit/entry operation.

The GSAR leaders and or the pilot will provide a briefing outlining the sequence of events prior to take off and then immediately prior to actual deplaning by on board GSAR volunteers.

All volunteers will wear hearing protection while the helicopter is in operation (this may be the headsets from the helicopter, if provided, or secondary hearing protection, earmuffs or plugs), it is also recommended that all personnel involved wear proper eye protection.

All volunteers in the helicopter will remain in their seat with proper restraint on at all times until instructed to deplane by the GSAR leader and or manager in charge of the operation. When instructed they will remove the restraining device, reconnect it behind them and move into position to the open or removed door.

When deplaning, all personnel will gently transfer their weight from the helicopter to the ground, avoid sudden movements, and not jump off the helicopter.

Once deplaned, do not go uphill; move slowly to the front of the helicopter and wait for all remaining personnel to deplane.

The helicopter pilot will be the final say in all operations involving the helicopter operation.

In a hover entry operation, radio communication must be made with the helicopter pilot prior to the entry procedures commencing. All volunteers will

assemble at the designated hover entry location, (the group should be as close as possible to the pick-up area to avoid extended hover time by the helicopter). The GSAR leader and or manager will provide a briefing for all members (and if a subject will be part of the pickup, a "buddy" will be assigned to them.

All loose clothing and gear must be secured before arrival of the helicopter.

Once the helicopter is in place, and eye contact is made with the pilot and a positive signal from the pilot, the entry procedure may commence. Volunteers will load one at a time, again transferring their weight gently from the ground to the helicopter; do not use sudden movements and do not jump to the helicopter.

Once in the helicopter, GSAR volunteers will move to their designated seat and have their restraint put on until the completion of the flight. All personal gear is to be securely stored.

Reference:

Canadian Aviation Regulations

EMCR 2.11 Helicopter Usage

EMCR 2.12 Search and Rescue

Helicopter Operations Training Program (HOTP)

Helicopter Industry General Operational Guidelines

B.C. Ministry of Forests Hover Exit Training Plan

PURPOSE: To ensure GSAR volunteer safety when participating in training, response or practice in non-traditional GSAR roles in support of local government response to events such as interface fires, floods and earthquakes.

GUIDELINE: It is recognized that GSAR volunteers may be requested by local governments to assist in roles including but not limited to evacuations, support roles in Emergency Operation Centres (EOCs) or Incident Command Posts (ICPs), providing communications etc.

GSAR groups and GSAR leaders will ensure GSAR volunteers are appropriately trained and equipped in the specific task and role before practicing or participating in functions related to civil emergency.

During a civil emergency the local government maintains overall responsibility for the response and for the safety of all personnel including GSAR volunteers.

An incident related to an emergency response, such as swiftwater rescue, is considered a GSAR response and the roles and responsibilities outlined in the SAR Safety Guide and appropriate Operational Guidelines will be followed.

GSAR volunteer's assistance to local governments is supported by EMCR under a Task Number in the same manner as in a SAR response.

PROCEDURE: GSAR leaders are to ensure that when reporting to a local government EOC/ICP that confirmation of overall responsibility for safety is confirmed before GSAR volunteers engage in response activities.

GSAR volunteers are not to participate in any function that they are not adequately trained or equipped to perform. If requested to perform such a function the request will be declined and referred to the GSAR leaders and/or to the EMCR Regional Office.

GSAR volunteers assisting in evacuations are to be briefed on roles and responsibilities outlined in the RCMP Evacuation Protocols.

Should emergency evacuation of a GSAR team be required, the guidelines established for team evacuation will be followed.

GSAR volunteers providing traffic control functions are to follow the Traffic Control Operational Guidelines.

When sandbagging along moving water, the guidelines established for swiftwater rescue, including wearing PFDs, will be followed.

A Safety Officer must be present at all civil emergency responses; if one is not present then the EOC/ICP is to be contacted. A Safety Officer may be a GSAR volunteer with the appropriate training, however this must be agreed to by the Local Government.

GSAR volunteers are not to respond to incidents where Hazardous Materials are known or suspected to be present. If there are any concerns about HazMat being present all GSAR personnel are to be removed from the area until experts verify the area is safe.

GSAR volunteers are not to respond to incidents where it is suspected that criminal activities are involved, unless confirmation is received from the police authority that the area is safe.

Firefighting or other activities within an active fire zone are not to be undertaken.

GSAR volunteers are not to engage in crane or structural high angle rescue activities.

REFERENCE:

RCMP 'E' Division Evacuation Protocols

NFPA 1670

Provincial Operating Guideline 1.03 Personal Protective Clothing and Equipment

Provincial Operating Guideline 1.04 Safety Officer

Provincial Operating Guideline 1.05 Team Evacuation

Provincial Operating Guideline 1.07 Traffic Control

Provincial Operating Guideline 1.13 Hazmat Awareness

EMCR Policy 2.06 Public Safety Lifeline Volunteer Safety

SAR Safety Program **Canine Search and Rescue**	O.G.# 3.12	
	Issued: Oct 2016	Rev: Oct 2023

PURPOSE: To provide for the safety of GSAR volunteers when participating in training, response or practice involving the use of dogs in the search for lost persons.

GUIDELINE: GSAR groups and SAR leaders will ensure that GSAR dog handlers and their dogs are trained and appropriately equipped according to the Ground Search and Rescue OG and this OG before permitting the use of dogs in any aspect of a search. Dog and handler are required to revalidate annually

PROCEDURE: GSAR dog handlers and their dogs, engaged in avalanche dog search activities will be validated within the Canadian Avalanche Rescue Dog Association (CARDA) recognized by the RCMP and Emergency Management and Climate Readiness.

GSAR dog handlers and their dogs, engaged in ground search activities, will be an active member of a recognized BC Search and Rescue group and be validated as a Civilian Search Dog team by the RCMP and recognized by Emergency Management and Climate Readiness.

Only currently validated search dogs and handlers are to be utilized, or to be within the operational area, during a SAR operation.

Dog handlers are to advise GSAR volunteers and other personnel in the area not to approach their dogs unless given specific approval. Dog handlers will maintain control of their dogs at all times.

Reference: EMCR Ground Search and Rescue Training Manual

CARDA Validation Regulations

RCMP Civilian Search Dog Training Program

EMCR Policy 2.08 Ground Search and Rescue (GSAR) Winter Response

EMCR 2.12 Search and Rescue

SAR Safety Program **Mounted Search and Rescue**	O.G.# 3.13	
	Issued: Sep 2012	Rev: Oct 2023

PURPOSE: To provide for the safety of GSAR volunteers when participating in training, response or practice involving the use of horses as a method of transportation in a GSAR response.

GUIDELINE: GSAR groups and GSAR leaders will ensure that GSAR volunteers are trained, and appropriately equipped according to the Ground Search and Rescue OG and this OG before permitting the use of horses in any aspect of a search.

PROCEDURE: GSAR volunteers utilizing horses during a GSAR response will be a member of a GSAR group. Prior approval from EMCR must be obtained before utilizing convergent volunteers engaged in equine activities.

In addition to completing Ground SAR Training, GSAR volunteers involved in MSAR must adequately demonstrate competency within a validation process which includes at least:

- Ability to navigate in all terrain, and awareness of unsafe areas,
- Physical fitness suitable for riding over long periods of time,
- Confidence in their horses to safely negotiate obstacles,
- Experience in riding at all times of day, and all types of weather,
- Ability to setup camp for self and horse.

Horses used in MSAR must demonstrate within a certification process:

- Ability to stand quietly while being held or tied and load safely,
- Physical condition suitable for extended riding in the terrain likely to be encountered,
- Ability to work with other riders and horses, without showing aggression and able to work independently of other horses,
- Ability to remain in control in a busy environment, such as a search camp and around equipment such as ATVs.

GSAR volunteers and their horses involved in MSAR will practice safe riding and searching on an ongoing basis, their skills and abilities will be recertified at least every 2 years,

GSAR volunteers engaged in MSAR, in addition to Personal Protective Clothing and Equipment listed in the Ground SAR OG, will wear a helmet which is approved by the manufacturer for horse riding. Eye protection will be worn if riding in bush or treed areas.

. Horse handlers will advise GSAR volunteers and other personnel to stay away from their horses unless specifically given approval.

Reference: EMCR Ground Search and Rescue Training Manual

Provincial Operating Guideline 1.03 Personal Protective Clothing and Equipment

PURPOSE: To ensure the health and safety of GSAR volunteers when they are requested to assist in the recovery of human remains. .

GUIDELINE: GSAR volunteers may receive requests to assist in the recovery of human remains. This is and eligible activity within policy if:

- Specialized training and equipment is required to access and/or transport the remains
- The request is from the coroner, or the Police acting on behalf of the Coroner

Although the recovery of human remains is an eligible activity, there is no requirement for GSAR organizations or individual GSAR volunteers to engage in the recovery. It is recognized that involvement may cause higher levels of stress and health concerns for some people. GSAR volunteers should not feel obligated to participate. Agencies are to provide as much information as possible on the incident and scene to assist in the determination of involvement.

GSAR volunteers may also be requested to protect human remains until the site can be accessed by other agencies for investigative purposes, such as following an aircraft crash. While this may be appropriate initially, the requesting agency should be informed that this is not a Ground SAR responsibility and to make other arrangements as soon as possible.

PROCEDURE: The risk of disease transmission during the recovery of human remains is similar to when administering first aid to a live subject. Contact with blood and any body fluids should be avoided by wearing proper protective clothing and equipment including:

- Eye protection; safety glasses with side guards, goggles, or face shield
- Mask; surgical grade or higher
- Gloves; medical grade gloves, heavy weight gloves such as Ansell 92-600 disposable nitrile gloves are recommended, or other heavy weight gloves can be worn over medical gloves.

In most recoveries, except in cases of advanced decomposition, wearing of protective suits is not necessary; however, GSAR volunteers may choose to wear one for any recovery. Suits, such as Tyvek coveralls, prevent transfer of blood and bodily fluids onto personal clothing and skin. Protective suits should only be worn during the actual recovery. They are waterproof and virtually airtight: prolonged use and physical exertion when wearing one can cause hyperthermia. Exposure can be further limited by having only 2 responders place the remains into a body bag with vinyl liner, which once sealed protects other responders.

Care must be taken when handling contaminated clothing and equipment, whether to be cleaned with appropriate disinfectant or to be disposed of. Contaminated materials should be placed into a heavy plastic bag/container; local hospitals can be contacted to arrange for disposal as a bio-hazard if the clothing or equipment might leak fluid.

Personnel involved in the recovery must wash, with a non-abrasive soap or sanitizer, any areas of their body that may have been contacted with blood or bodily fluid. Eyes, nose, and mouth should be flushed for 15 minutes with water if contacted by blood or bodily fluid.

Any incident where a GSAR volunteer may have had contact with blood or body fluid on an area of their body with broken skin or around their eyes, nose, or mouth is to be reported.

A Critical Incident Stress Management (CISM) session is to be offered to GSAR volunteers who participated in the recovery; attendance is to be encouraged.

GSAR volunteers are encouraged to get vaccinated for Hepatitis B: costs are covered within EMCR policy.

REFERENCE:

EMCR Policy 1.04 Hepatitis B Prevention/Post Exposure Follow-up

EMCR Policy 2.09 Body Recovery

EMCR Policy 2.12 Search and Rescue

Provincial Operating Guideline 1.02 Critical Incident Stress Management

OSHA Fact Sheet, Health and Safety Recommendations for Workers Who Handle Human Remains

SAR Safety Program **Floodwater Response**	O.G.# 3.15	
	Issued: May 2019	Rev:

PURPOSE: To provide GSAR personnel with the required knowledge to safely respond to a floodwater incident.

GUIDELINE: Local Authorities have overall responsibility for civil emergency (includes flooding) response and for the safety of all personnel. GSAR groups and GSAR leaders will ensure that GSAR volunteers are aware of the possible hazards and contaminants as well as familiarized in the use of, and provided with, appropriate equipment before participating in any activities involving floodwater response.

Floodwaters should be assumed to contain sewage, and may include household chemicals and cleaning solutions, petroleum products, industrial chemicals, pesticides, and flammable liquids. Responders need to be always evaluating the potential contamination present in the water. Workers must also be aware of dangers from physical hazards such as obstacles covered by flood waters (storm debris, depressions, drainage openings, and ground erosion), floating objects such as logs and other debris, and from displaced animals in flood affected areas.

PROCEDURE: As attached Flood Water Response Guide

REFERENCE: Provincial Operating Guideline 1.01 Exposure to Disease

Provincial Operating Guideline 1.03 PPE

Provincial Operating Guideline 1.13 HazMat Awareness

Provincial Operating Guideline 3.11 Civil Emergency

Provincial Operating Guideline 3.03 Swiftwater Rescue

PPE and First Responder Protection

Local Authorities have overall responsibility for civil emergency (includes flooding) response and for the safety of all personnel. The following information is provided for responders to recognize the hazards and means to mitigate the risks.

No SAR volunteer shall enter a swiftwater warm or hot zone without required training, as detailed in POG 3.03.

Responders involved in flood response should try to prevent direct skin contact with flood waters either through avoidance or through the use of appropriate Personal Protective Equipment (PPE) and clothing. The selection of PPE will be dependent on-site specific conditions, hazards, and tasks:

- Electrically insulated, watertight boots with safety shank, toe, and insole. Hip waders may be appropriate to help prevent contact with flood waters. However, hip waders shall not be used in swiftwater situations. For swiftwater flood rescue, other footwear would be appropriate taking into consideration the hazards that may be present in the water.
- In some instances, the protective gear (garment, boots and gloves) may need to be impervious to contaminated flood or other site-specific chemical, physical, or biological hazards.
- Heavy, waterproof, cut-resistant work gloves. For contaminated water containing certain chemicals, butyl rubber gloves are recommended (although dishwashing gloves can be used if nothing else is available). Other types of protective gloves may be required if handling identified hazardous material.
- Goggles, safety glasses with side shields or full-face shields. Sun/glare-protective lenses may be needed in some work settings.
- Protective head cover. Wear a Canadian Standards Association (CSA) rated hardhat (or an American National Standards Institute (ANSI) rated hardhat) if there is any danger of falling debris or electrical hazards. When working in swiftwater warm or hot zone, an approved swiftwater helmet must be worn.
- Hearing protection (if you cannot hold a conversation in a normal speaking voice with a person who is standing at arm's length [approximately 1 m] hearing protection should be used).
- Approved PFD must be worn when working in swiftwater warm or hot zones, as per POG 3.03 (see POG 3.03 for definitions of swiftwater cool/warm/hot zones).

Note: Additional PPE, respiratory protection, or clothing may be required when specific exposure hazards are identified or expected.

PPE and First Responder Decontamination

- Select a method of decontamination that is effective for the likely contaminant, the PPE material(s), and the type or level of PPE being worn. For most substances that may be in flood waters in BC, washing with soap and rinsing with water will be effective. For additional cleaning a bleach and water solution can be used. For some materials (e.g., dusts and particulates), consider vacuuming first and then washing and rinsing PPE.
- Start by having first responders clean their footwear in foot baths (plastic tubs that are easy to step into can be used as shuffle pits), so as to limit cross contamination from soil movement from flooded to non-flooded areas. If any of the mud is heavily contaminated it will need to be neutralized and contained. Shuffle pits with 2-3 inches of a bleach (sodium hypochlorite) solution (1 part 6% bleach and 9 parts water) will be beneficial. Shuffle pits may be available through your local fire department or from BCAS.
- Decontaminate and remove all PPE. Start with the PPE that is most contaminated and work towards the equipment that is the least contaminated. Do not remove respiratory protection, if worn, until all outer garments are decontaminated and removed.
- Decontamination may be completed in stages, which may require a large decontamination area. If this is the case, the area should be covered with plastic sheeting or another waterproof barrier to reduce the amount of cross-contamination from foot traffic, wash/rinse splash and other decontamination steps.
- Once PPE is decontaminated and removed, wash areas covered by PPE. For example, if only hand protection was used, then washing and rinsing the hands would be sufficient. If the individual was fully covered in dermal and respiratory protection, then the individual would need to shower.
- Whenever possible, clean and decontaminate reusable PPE. Heavily contaminated garments or PPE may not be able to be cleaned properly and will need to be disposed of properly.
- Many local Fire Departments have specific HazMat capabilities and may be able to provide decontamination services to SAR responders. This should be organized through the responsible Local Authority.

Basic Safety and Sanitation

The following work practices provide for basic health safety and sanitation. These practices minimize exposure to health hazards and contaminants during most activities.

- Wash hands with soap and potable water (preferably warm water) before eating, drinking, smoking, or using the restroom. When washing, scrub hands, arms and under fingernails for at least 20 seconds (sing happy birthday), rinse with water and dry with a single use paper towel. If potable water is not available, use hand sanitizer or commercial sanitizing wipes.
- Drink plenty of water and take frequent rest breaks to avoid overexertion. Drink water only from sources proven to be safe for drinking.
- The use of insect repellant, sun block and lip balm may also be required for some work environments.
- Provide prompt first aid for cuts and scrapes. Antibiotic resistant bacteria can result in severe injury and illness. Wash and sanitize cuts and scrapes without delay and report the injury to your supervisor. Ensure proper paperwork (WorkSafe BC forms 7 & 7a) is completed as even minor wounds can become infected in these environs. Bandage/cover cuts and scrapes and keep them from coming in contact with polluted or contaminated floodwaters. Seek medical help at the first sign of infection. If you have a pre-existing wound, it is advised that you not expose it to contaminated water.
- Wearing protective gloves and washing hands is also very important after handling any animals (pets/livestock).
- Establish and maintain evacuation routes and an alerting system to notify individuals in case an evacuation becomes necessary. Ensure adequate radio communications are in place.
- Ensure that first aid supplies and services, and medical care are readily available.
- Do not consume food or beverages that were exposed to floodwaters, or perishables that may have spoiled. Additionally, do not eat, drink, or smoke in areas containing debris, floodwaters, or sludge.
- Minimize the creation or disturbance of dust and work upwind of dusty activities when possible.

Handling and Transporting of Flood Water Contaminated Subjects

- The first responders who are handling a floodwater contaminated subject should have the appropriate PPE for the suspected contaminant.
- If the subject is suspected of being in contaminated floodwaters, then ideally the subject would be decontaminated before being transported to avoid contamination of first responder and transport vehicle. In most cases the decontamination would be accomplished by removing the subject's contaminated clothing and washing the subject with soap and water. The subject could then be put in a Tyvek suit for transport.
- If decontaminating the subject is not possible, then putting the subject in a Tyvek suit before transport can prevent contamination of the transport vehicle.

SAR Safety Program **Tidal Water Shoreline Operations**	O.G.# 3.16	
	Issued: Jan 2021	Rev: Oct 2023

PURPOSE: To provide GSAR Volunteer safety while participating in training, exercise or response involving search, rescue or recovery operations near tidal water.

GUIDELINE: GSAR Groups and GSAR Leaders shall ensure GSAR Volunteers are aware of risks and hazards of the area they will be operating in. GSAR Volunteers will also have appropriate PPE for the terrain of the task or operation. GSAR Volunteers will have completed Swiftwater Awareness and be considered current. It is recommended that GSAR Volunteers complete the Parks Canada CoastSmart awareness online training.

GSAR Volunteers operating under this OG shall have reviewed within the last 12 months what to do if they end up in a rip current.

For the purpose of this OG, operations near tidal waters will include:

- Operations below the high tide line
- Operations above the high tide line if a fall could result in an individual falling below the high tide line
- Operations where a wave (within expected size for operations) could reach members

This OG is superseded in case of operations near swiftwater where the Swiftwater OG# 3.03 shall take precedence.

This OG is to be used in concert with the SAR Safety Program and other related OGs.

PROCEDURE: GSAR Leaders shall ensure RADeMS assessments are completed as conditions change.

GSAR Leaders shall consider as part of hazard assessment:

- Terrain such as rocks, uneven, slippery surfaces, firmness of surfaces
- Moving logs
- Floating debris
- Beach flooding and terrain traps at high tide
- Rip currents in case of a fall into water
- Submerged sandbars
- Rocks, islands or headlands
- Awareness of surge channels in task area

- Weather, both current and previous 24 hours
- Expected wave height and swell
- Tides
- Risk of hypo or hyperthermia
- Wildlife
- Possibility of encountering small caves, arches, marine geyser (blowhole), etc. and the risks associated on them and water's interaction with them.

GSAR Leaders will have a safety plan, including evacuation routes in case of earthquake or tsunami warning, in place for each operational area.

PFDs

- GSAR Volunteers shall wear a PFD appropriate to the risk identified for specific operations, after consideration of all hazards.
- PFDs shall have an emergency whistle (pea-less) and a cutting device attached. If operations are expected to continue in or near darkness, GSAR Volunteers shall have a waterproof strobe or other light signalling device which is attached to the PFD. Strong consideration should be given to carrying a secondary light source attached to the PFD, especially in rough terrain or active water areas if the task may continue into darkness.
- Use of inflatable PFDs is not recommended and may only be considered for operations on flat sandy or pebble beaches.

Thermal protection

The choice of type of thermal protection (Wet suit, Dry suit or other) will need to be determined for each task, giving due consideration of the possibility of thermal injury.

- Selection of appropriate PPE for use by GSAR Volunteers is dependent on several factors including:

- Terrain of task – pebble beach vs rocky vs debris strewn with large rocks
- Temperature
- Wind
- Risk associated with waves expected during operation period

Helmet

Use of a helmet or other bump protection is dependent on:

- Terrain
- Risk of slips, trips, and falls
- Overhead risks such as falling rock, branches, etc.

Footwear

GSAR Volunteers shall wear footwear appropriate for the terrain. At minimum, footwear will have an enclosed foot and appropriate tread (sandals, beach shoes, etc. are not acceptable PPE).

Addition PPE may also include the use of traction aides in some terrain. Care must be taken when these are used that they are appropriate for the terrain as some types can increase traction in some terrain while decreasing it in others.

Other PPE will be used as required, including but not limited to, eye protection as a control for wind, blowing sand or debris.

Radio communication must always be maintained.

During operations or training, the GSAR Leader will have someone monitoring in case of a tsunami warning through monitoring of local radio or web-based notifications from EMCR.

Consideration shall be taken around requirement to post a watch in each task area for unexpected large waves (also known as Surge or Sneaker waves).

Every GSAR Volunteer deployed in tidal water operations covered by this OG shall carry a throwbag and cutting tool and be trained in their use.

Consideration should be given to having boat support in the water offshore of the area of operations or training in case a rescue is required.

REFERENCE:

Provincial Operating Guideline #1.03 Personal Protective Equipment

Provincial Operating Guideline #1.05 Team Evacuation

Provincial Operating Guideline #1.06 Risk Assessment

Provincial Operating Guideline #1.08 Emergency Communications

Provincial Operating Guideline #1.15 Fit for Service

Provincial Operating Guideline #3.02 Swiftwater Rescue

Pacific Rim National Park Reserve website

West Coast Trail 2018 Hiker Preparation guide

CoastSmart.ca web site

EmergencyInfoBC.gov.bc.ca Tsunami web site

SAR Safety Program **Arboreal Rescue**	O.G.# 3.17	
	Issued: Feb 2022	Rev: Oct 2023

PURPOSE: To provide for GSAR Volunteer safety when participating in a response to an incident involving a subject stranded in a tree.

GUIDELINE: Under EMCR Policy 2.12 Search and Rescue (Policy 2.12), Arboreal Rescue is expressly excluded as a Task eligible response activity for GSAR Groups unless written permission has been provided by EMCR at the time of and for a specific incident.

PROCEDURE: Should a SAR incident involve an arboreal rescue, where practicable, the Requesting Agency will engage a qualified arborist for the purposes of conducting arboreal (tree) rescue. If necessary, and with RDM approval, the GSAR Group can engage a qualified arborist should the requesting agency be unable.

Where a qualified arborist is not able to perform those services as a contractor but is a GSAR Volunteer, with RDM approval, that professional may respond accordingly as a GSAR Volunteer and provide the required arboreal rescue services.

Where a qualified arborist is available to provide arboreal rescue services but is not able to do so under a contract, and if that professional is not a GSAR Volunteer, with RDM approval that professional may be engaged as a Convergent Volunteer to provide arboreal rescue services. As a Convergent Volunteer, they will be eligible for WorkSafe BC and liability coverages as provided to PSLV volunteers.

GSAR Groups must engage the EMCR Regional Duty Manager (RDM) for permission prior to contracting or undertaking arboreal rescue activities, as per Policy 2.12. Initial permission may be verbal, but follow-up written documentation shall be provided following approval by the RDM.

Qualified arborists are expected to supply any specialized equipment required to complete an arboreal rescue.

Preapproval to conduct arboreal rescue is not possible. Anytime this service would be required it would have to be approved by an RDM at the time of and for a specific incident.

REFERENCE: EMCR Policy 2.12 Search and Rescue

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