



ACC OTTAWA TRIP LEADER GUIDELINES

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Abstract. These guidelines provide baseline "best practices" guidance to all those involved in running ACC Ottawa trips - the Executive, Trip Leaders, and participating Section members.

INTRODUCTION

Welcome from the Chair

Trip leaders are the heart and soul of the ACC. We want to encourage our members to lead trips, and this document is intended to make it easier for you to do so. We think you will find the Trip Leader Guidelines helpful whether you are a new leader or an experienced one. This document is easy to use: just select which kind of trip you want to lead, and have a look at the recommendations within. Even if you have led such trips many times, it is nice to have a checklist. You have a personal gear checklist, right? Well here is a trip leader checklist too! Nice to have... isn't it? We hope these guidelines will encourage you to lead trips, and if you are already leading trips, to lead even more trips! Have fun, and be careful out there!

Acknowledgements

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Trip Leader Manual and Guidelines

These activity-specific guidelines are one of two resource documents for ACC Ottawa Trip Leaders:

- 1) *Trip Leader Guidelines* (this document) providing "best practices" guidance for all those involved in running Section trips. This document presents specific guidelines tailored for each of nine trip categories. Each guideline is self-contained.
 - [Frontcountry Hiking](#)
 - [Backcountry Hiking and Backpacking](#)
 - [Frontcountry Nordic Skiing and Snowshoeing](#)
 - [Backcountry Nordic Skiing and Snowshoeing](#)
 - [Top Rope Climbing](#)
 - [Advanced Climbing \(Sport, Trad and Multi-pitch\)](#)
 - [Scrambling](#)
 - [Mountaineering](#)
 - [Alpine Backcountry Skiing and Snowboarding](#)

[First aid qualifications](#) and [soft leadership skills](#) are common to all activities.

- 2) *A Trip Leader Manual* (a companion document) which is a consolidated source of information for Trip Leaders regarding club organization, administration and policy.

These guidelines and the associated Trip Leader manual are living documents which will be updated periodically based on experience, evolving best practices and club policy changes. Suggestions for improvements are welcome and can be directed to the Editors at any time.

The Point-of-Contact on the ACC Ottawa Executive for these documents is Bill Barrett. He can be reached at billb@alpineclubottawa.ca

To contact the Editors, email guidelines@alpineclubottawa.ca

Scope and Intent of ACC Ottawa Trip Leader Guidelines

The intent of these guidelines is to:

- 1) capture the essentials of what is involved in running a safe trip for a specific activity
- 2) provide baseline "best practices" guidance to all involved - Trip Leaders, the responsible Executive and participating Section members
- 3) improve corporate memory and continuity over time within the Section as leaders, the Executive and regular members come and go
- 4) provide a basis for continuous improvement based on experience and adaptability to new technology, improved techniques and lessons-learned
- 5) to be a clear, succinct and objective basis for:
 - a. recruiting, training and mentoring new Trip Leaders
 - b. vetting trips and Trip Leaders
 - c. dealing with concerns or complaints about trips, trip participants or Trip Leaders

It is emphasized that this document provides guidelines, not rules. This is intended to be a consensus document whose development and modification is subject to broad consultation with subject matter experts (particularly experienced Section Trip Leaders) and ultimately the Section membership as a whole.

Additionally, activity-specific guidelines are not "how-to" manuals. Non-essential technical details and the many nuances of technique are not addressed here. Rather, technical details will be covered in depth by associated training programs run by qualified trainers. Documentation of technical details will be left to widely available standard references such as "Freedom of the Hills", ACMG technical manuals, Petzl technical manuals, etc.

In designating Trip Leaders, ACC Ottawa vets potential leaders and recognizes their skill, knowledge and experience. Climbing, hiking, skiing and other alpine sports are complex activities conducted under widely varying conditions. Leaders are expected to exercise their good judgment in adopting specific techniques and practices suited to these conditions and the capabilities of the participants involved in an outing. The Section does not wish to limit leaders' ability to exercise such judgment.

So, to repeat - these are guidelines, not rules. These guidelines are subject to the exercise of good judgement by experienced Trip Leaders in the manner they deem appropriate to actual circumstances encountered in the field.

Frontcountry vs. Backcountry

Several factors influence the level of risk involved in a trip. One is the degree of remoteness and ease of access to professional-level emergency medical treatment in the advent of an accident. In this context, ACC Ottawa trips fall into two categories - frontcountry or backcountry - with typical characteristics as follows. The Trip Leader should determine which category applies to a proposed trip in consultation with the responsible Activity Coordinator.

1) Frontcountry

- a) maintained, official trails close to urban areas or ambulance-accessible roads
- b) navigation and route finding are straight forward
- c) few objective hazards
- d) getting an injured person to advanced medical care would be reasonably straight forward
- e) cell phone connectivity may be available on portions of the trip
- f) may be subject to patrols by wardens or other trained personnel
- g) moderate-to-high probability of encountering other parties
- h) examples: official trails within Gatineau Park, regardless of length

2) Backcountry

- a) remote areas which are either trail-less, involve obscure unofficial trails or official trails far from ambulance-accessible roads
- b) navigation and route finding demand skill and experience
- c) numerous objective hazards
- d) getting an injured person to advanced medical care would be difficult and time-consuming, potentially requiring an unplanned bivouac
- e) cell phone communications are generally unavailable or unreliable
- f) unpatrolled or infrequently patrolled
- g) low probability of encountering other parties
- h) examples: unofficial hiking and ski trails in Gatineau Park

Backcountry activities require both leader and participants to be fit, self-reliant and able to deal with the worst case emergency scenario - an unscheduled bivouac taking care of an accident victim. This does not mean enough gear to go camping. Go lightweight but have the essentials to survive a night in the bush or on the mountain (not necessarily in comfort). A good reference on this topic can be found in the "The Ten Essentials" section of "Mountaineering: The Freedom of the Hills", The Mountaineers, Seattle, 8th Ed., 2010.

First Aid Qualification

For the purposes of these guidelines, first aid qualifications are broken down into two broad categories which are defined as follows:

- 1) "**AWFA-Qualified**" means the person has taken a 4-day Advanced Wilderness First Aid (AWFA) course at least once or has higher first aid qualifications such as physician, registered nurse, paramedic, Wilderness First Responder (WFR), firefighter or military first aid. Periodic AWFA recertification is desirable but not mandatory. However, individuals are strongly encouraged to participate in the annual 1-day AWFA Refresher clinic.
- 2) "**Basic-First-Aid-Qualified**" means the person has taken 16 hours of first aid training from a reputable training organization at least once. This includes the widely-taught Standard First

Aid (SFA) offered in urban settings by St. John's Ambulance, the Red Cross and other providers. It is common to receive such basic first aid training through one's employment.

Guidance on first aid qualification levels for trip leaders and participants is provided in each activity-specific guideline enclosed later in this document. While basic first aid training such as SFA is adequate for low-risk frontcountry outings, it has serious shortcomings for trips involving remote backcountry terrain, where AWFA-Qualified training is recommended.

The long term goal of the ACC Ottawa Section is to have all trip leaders plus a reasonable percentage of our most active members AWFA-Qualified. We are well on our way to achieving this objective. The Section devotes a substantial portion of its budget to subsidized AWFA training for this purpose. Generous AWFA training subsidies are offered to Trip Leaders, Assistant Trip Leaders and Section volunteers. Contact the Safety Coordinator for details.

As a result of this policy, we expect that in any reasonably-likely accident scenario, including situations where the Trip Leader is injured, the group will have sufficient AWFA-trained resources to respond in an appropriate manner.

Soft Leadership Skills

A range of soft leadership skills and attributes are common to all activities:

- a) apply Leave-No-Trace environmental principles; leave the environment cleaner than found
- b) have a strong safety ethic:
 - i) particularly with respect to supervising beginners and novices
 - ii) as well as an ability to tactfully encourage (or require, as necessary) similar safe practices by intermediate and advanced participants
- c) exhibit effective interpersonal communications skills
- d) make the outing fun and instructive for both participants and volunteers
- e) be patient, courteous and helpful with participants and assistant leaders
- f) be committed to assisting and developing the skill and confidence of less experienced members, particularly beginners and novices
- g) ensure participants do not engage in risky activity beyond their skill or experience level
- h) be a team player and be open-minded to constructive criticism
- i) seek feedback from participants and assistant leaders to improve future trips and, where appropriate, forward these recommendations to the appropriate Activity Coordinator
- j) be engaged in continual improvement of personal technical and leadership skills, technique and practices

An excellent reference on soft leadership skills is the Appalachian Mountain Club publication "AMC Guide to Outdoor Leadership", Alex Kosseff, 2nd Ed., Appalachian Mountain Club, 2010.

ACTIVITY-SPECIFIC TRIP LEADER GUIDELINES

Activity-specific Trip Leader guidelines for ACC Ottawa Section trips will be found in the following Annexes.

- A. [Frontcountry Hiking](#)
- B. [Backcountry Hiking and Backpacking](#)
- C. [Frontcountry Nordic Skiing and Snowshoeing](#)
- D. [Backcountry Nordic Skiing and Snowshoeing](#)
- E. [Top Rope Climbing](#)
- F. [Advanced Climbing \(Sport, Trad and Multi-pitch\)](#)
- G. [Scrambling](#)
- H. [Mountaineering](#)
 - [Mountaineering Camps, Guidance for Participants](#)
 - [Mountaineering Camp Safety and Emergency Response Plan \(Sample\)](#)
- I. [Alpine Backcountry Skiing and Snowboarding](#)
 - [Daily Avalanche Risk Assessment Worksheet](#)

ACC Ottawa Guidelines - Frontcountry Hiking Leader

Scope

This document provides advice on "best practices" for ACC Ottawa amateur leaders leading Section frontcountry hiking trips. It is intended to help leaders plan and manage club trips. It should be read in conjunction with the "[ACC Ottawa Guidelines - Introduction](#)" which clarifies the distinction between frontcountry and backcountry trips. [Backcountry hiking and backpacking](#) are described in a separate guideline.

Introduction

Frontcountry hiking is done on an official network of maintained trails. These are often close to urban areas or main roads. Trails in the network are typically numbered or named and well-signed. Most trail networks publish well-illustrated trail maps so that navigation presents few challenges. The terrain can run the spectrum from flat to gentle rolling hills to steep, difficult terrain. Trail networks are often, but not always, subject to regular patrols by trained personnel. It is common to encounter other parties. Day-use shelters may be provided.

While it is common to see poorly-equipped trail users, prudent hikers carry a small day pack with extra clothing, food, water, small first aid kit, headlamp, map and compass.

First Aid Qualification

Either the Trip Leader or an Assistant Trip Leader should be "[Basic-First-Aid-Qualified](#)".

Guidelines for Frontcountry Hiking Trip Leaders

- 1) prepare for a frontcountry hiking trip:
 - a) select an area, terrain and route for the desired level of hiking difficulty
 - b) estimate trip travel times, considering the number of daylight hours, group size, group experience level, terrain, trail conditions, distance, elevation gain/loss, etc.
 - c) prepare and publish a trip notice in conjunction with the Hiking Coordinator, clearly defining the level of trip difficulty, group size limit and participant fitness, skill, experience and equipment requirements
 - d) screen trip participants, offering constructive suggestions for alternatives to those who do not possess the necessary fitness, skill, experience or equipment
 - e) advise participants on gear, clothing and supplies appropriate for the trip:
 - i) traction aids required or optional?
 - ii) a headlamp, layered clothing and a personal micro-first aid kit
 - iii) ensure adequate water and high energy food and snacks for the trail
 - f) consider bringing a water filter, group first aid kit, tarp and micro repair kit
 - g) organize trip logistics such as transportation, hut bookings, meals, etc. as appropriate
 - h) note emergency contacts for the area, mid-trip bailout routes, communication options and conceptualize how an accident would be handled

- i) ensure all participants read and sign the trip waiver prior to the trip; pass the signed waiver to the Hiking Coordinator at the earliest opportunity
- 2) knowledge and skills:
- a) basic navigation skills with map and compass
 - b) knowledgeable about techniques to avoid wildlife conflicts
 - c) knowledgeable about clothing layering options for efficient frontcountry travel
 - d) preventing, recognizing and treating hypothermia
 - e) recognizing and dealing with frontcountry hazards: changing weather; uneven terrain; difficult ground conditions (wet and muddy or snowy and icy); water crossings; equipment failure; steep ascents and descents; potential wild life encounters
 - f) level-headed, calm and resourceful in an emergency
 - g) resourceful in making field repairs to equipment with minimal tools and supplies
 - h) confidence to mentor participants on the more difficult skills, such as negotiating difficult trail sections
- 3) supervise trip safety:
- a) delegate tasks to assistant trip leaders and engage other experienced participants
 - b) double-check items of participant gear and supplies considered critical to the trip
 - c) brief participants on trip-specific safety hazards and safety procedures
 - d) set a turnaround time
 - e) maintain situational awareness with respect to trail conditions, weather, location, speed of travel, time of day, participant energy level and frame of mind, etc. and be ready to change plans, if appropriate
 - f) good judgement to make tough, perhaps unpopular, safety-related decisions
 - g) understand the club Emergency Response Protocol and take charge in an emergency

ACC Ottawa Guidelines - Backcountry Hiking and Backpacking Leader

Scope

This document provides advice on "best practices" for ACC Ottawa amateur leaders leading Section backcountry hiking and backpacking trips. It is intended to help leaders plan and manage club trips. It should be read in conjunction with the "[ACC Ottawa Guidelines - Introduction](#)" which clarifies the distinction between frontcountry and backcountry trips. [Frontcountry hiking](#) is described in a separate guideline.

Introduction

Backcountry hiking and backpacking are done in remote areas which are either trail-less, involve obscure unofficial trails or official trails far from ambulance-accessible roads. Navigation can be challenging and require skill and experience. The activity can take place at any time of the year, such that weather and ground conditions can be quite variable. Trips may be exposed to several objective hazards, including deadfall, uneven terrain, wet and muddy or snowy and icy trails, steep ascents and descents, adverse weather, biting insects and potentially dangerous wild animals.

As a consequence of the remote and rough terrain, both leader and participants should be fit, self-reliant and able to deal with the worst case emergency scenario - an unscheduled bivouac taking care of an accident victim. This does not mean enough gear to go camping. Hikers should travel lightweight but have the essentials to survive a night in the bush (not necessarily in comfort).

Backcountry hiking may involve short sections of moderate scrambling - mainly class 2, maybe a bit of class 3. Terrain above that level of technical difficulty changes the character of the trip to scrambling or mountaineering. Refer to the [scrambling](#) and [mountaineering](#) guidelines.

First Aid Qualification

Either the Trip Leader or an Assistant Trip Leader should be "[AWFA-qualified](#)".

Guidelines for Backcountry Hiking and Backpacking Trip Leaders

- 1) prepare for a backcountry hiking or backpacking trip:
 - a) select an area, terrain and route for the desired level of hiking difficulty
 - b) research trail advisories and closures for the target area such as "mud season" restrictions and potential wildlife conflicts
 - c) estimate trip travel times, considering the number of daylight hours, group size, group experience level, terrain, ground conditions, distance, elevation gain/loss, etc.
 - d) for backpacking trips, investigate potential water sources and camping areas

- e) prepare and publish a trip notice in conjunction with the Hiking Coordinator, clearly defining the level of trip difficulty, group size limit and participant fitness, skill, experience and equipment requirements
 - f) screen trip participants, offering constructive suggestions for alternatives to those who do not possess the necessary fitness, skill, experience or equipment
 - g) advise participants on gear, clothing and supplies appropriate for the trip:
 - i) traction aids required or optional?
 - ii) a headlamp, layered clothing and a personal micro-first aid kit
 - iii) ensure adequate water and high energy food and snacks for the trail
 - iv) weight minimization techniques, particularly for multi-day backpacking trips
 - h) consider appropriate group safety gear: water filter, group first aid kit, tarp, insulated pad, small pot, fire starting kit, pruning saw, micro repair kit, bear spray
 - i) organize trip logistics such as transportation, hut bookings, food, etc. as appropriate
 - j) note emergency contacts for the area, mid-trip bailout routes, communication options and conceptualize how an accident would be handled
 - k) if ground conditions or weather are much worse than hoped for in the initial plan, consider alternative routes or objectives
 - l) ensure all participants read and sign the trip waiver prior to the trip; pass the signed waiver to the Hiking Coordinator at the earliest opportunity
- 2) knowledge and skills:
- a) skilled backcountry navigator with map and compass
 - b) bushcraft skills: improvise an emergency shelter, light a fire under adverse conditions
 - c) knowledgeable about weight minimization techniques for efficient backcountry hiking, backpacking and camping
 - d) knowledgeable about low impact camping
 - e) knowledgeable about techniques to avoid wildlife conflicts
 - f) knowledgeable about clothing layering options for efficient backcountry travel
 - g) preventing, recognizing and treating hypothermia
 - h) recognizing and dealing with backcountry hazards: changing weather; uneven terrain; difficult ground conditions (wet and muddy or snowy and icy); water crossings; equipment failure; steep ascents and descents; potential wildlife encounters
 - i) level-headed, calm and resourceful in an emergency
 - j) resourceful in making field repairs to equipment with minimal tools and supplies
 - k) confidence to mentor participants on the more difficult skills, such as negotiating difficult terrain, water crossings and short sections of moderate scrambling
- 3) supervise trip safety:
- a) delegate tasks to assistant trip leaders and engage other experienced participants
 - b) double-check items of participant gear and supplies considered critical to the trip
 - c) brief participants on trip-specific safety hazards and safety procedures
 - d) set a turnaround time

- e) maintain situational awareness with respect to terrain, ground conditions, weather, location, speed of travel, time of day, participant energy level and frame of mind, etc. and be ready to change plans, if appropriate
- f) good judgement to make tough, perhaps unpopular, safety-related decisions
- g) understand the club Emergency Response Protocol and take charge in an emergency

Useful References

1. "Mountaineering: The Freedom of the Hills", The Mountaineers, Seattle, 8th Ed., 2010.
2. "Professional Hiking and Backpacking Guides Handbook", Association of Canadian Mountain Guides (ACMG), 2004.

ACC Ottawa Guidelines - Nordic Frontcountry Skiing and Snowshoeing Leader

Scope

This document provides advice on "best practices" for ACC Ottawa amateur leaders leading Section Nordic frontcountry ski and snowshoe trips. It is intended to help leaders plan and manage club trips. It should be read in conjunction with the "[ACC Ottawa Guidelines - Introduction](#)" which clarifies the distinction between frontcountry and backcountry trips.

Nordic frontcountry skiing is often called "cross country" skiing. It should not be confused with backcountry skiing on ungroomed, unofficial trails or in trail-less areas. Backcountry skiing (both [Nordic](#) and [alpine](#)) is described in separate guidelines.

Introduction

Nordic frontcountry skiing and snowshoeing are done on an official network of maintained trails. These are often close to urban areas or main roads. Trails may be groomed or ungroomed. Trails in the network are typically numbered or named and well-signed. Most trail networks publish well-illustrated trail maps so that navigation presents few challenges.

The terrain can run the spectrum from flat or gentle rolling hills for novices and intermediates to steep, difficult terrain for experts only. Trails may be configured for classic Nordic skiing or for skate skiing or both. Trail networks may allow skiers and snowshoers to use the same trails or the two groups may be segregated to minimize usage conflicts. Trail networks are often, but not always, subject to regular patrols by trained personnel. It is common to encounter other parties. Warming huts or shelters may be provided.

While it is common to see poorly-equipped trail users, prudent skiers and snowshoers carry a small day pack with extra clothing, food, water, small first aid kit, headlamp, map and compass.

First Aid Qualification

Either the Trip Leader or an Assistant Trip Leader should be "[Basic-First-Aid-Qualified](#)".

Guidelines for Nordic Frontcountry Ski and Snowshoe Trip Leaders

- 1) prepare for a frontcountry skiing or snowshoe trip:
 - a) select an area, terrain and route for the desired level of skiing or snowshoeing difficulty
 - b) estimate trip travel times, considering the short winter daylight hours, group size, group experience level, terrain, snow conditions, distance, elevation gain/loss, etc.
 - c) prepare and publish a trip notice in conjunction with the Hiking Coordinator, clearly defining the level of trip difficulty, group size limit and participant fitness, skill, experience and equipment requirements

- d) screen trip participants, offering constructive suggestions for alternatives to those who do not possess the necessary fitness, skill, experience or equipment
 - e) advise participants on gear, clothing and supplies appropriate for the trip:
 - i) snowshoe trips: technical snowshoes with crampons required?
 - ii) a headlamp, layered clothing and a personal micro-first aid kit
 - iii) ensure adequate water and high energy food and snacks for the trail
 - f) consider bringing a group first aid kit, tarp and micro repair kit
 - g) organize trip logistics such as transportation, hut bookings, meals, etc. as appropriate
 - h) note emergency contacts for the area, mid-trip bailout routes, communication options and conceptualize how an accident would be handled
 - i) ensure all participants read and sign the trip waiver prior to the trip; pass the signed waiver to the Hiking Coordinator at the earliest opportunity
- 2) knowledge and skills:
- a) basic navigation skills with map and compass
 - b) knowledgeable about clothing layering options for efficient frontcountry travel
 - c) preventing, recognizing and treating hypothermia
 - d) recognizing and dealing with frontcountry hazards: changing weather; difficult snow conditions; equipment failure; steep ascents and descents
 - e) level-headed, calm and resourceful in an emergency
 - f) resourceful in making field repairs to equipment with minimal tools and supplies
 - g) confidence to mentor participants on the more difficult skills, such as ascending and descending moderately steep terrain
- 3) supervise trip safety:
- a) delegate tasks to assistant trip leaders and engage other experienced participants
 - b) double-check items of participant gear and supplies considered critical to the trip
 - c) brief participants on trip-specific safety hazards and safety procedures
 - d) set a turnaround time
 - e) maintain situational awareness with respect to snow conditions, weather, location, speed of travel, time of day, participant energy level and frame of mind, etc. and be ready to change plans, if appropriate
 - f) good judgement to make tough, perhaps unpopular, safety-related decisions
 - g) understand the club Emergency Response Protocol and take charge in an emergency

ACC Ottawa Guidelines - Nordic Backcountry Skiing and Snowshoeing Leader

Scope

This document provides advice on "best practices" for ACC Ottawa amateur leaders leading Section Nordic backcountry ski and snowshoe trips. It is intended to help leaders plan and manage club trips. It should be read in conjunction with the "[ACC Ottawa Guidelines - Introduction](#)" section which clarifies the distinction between frontcountry and backcountry trips. [Cross-country skiing](#) on groomed trails and [alpine backcountry skiing](#) in mountainous terrain are described in separate guidelines. Any travel in avalanche terrain categorizes a trip as alpine backcountry skiing or mountaineering and is excluded from this guideline.

Introduction

Nordic backcountry skiing and snowshoeing are done on unmaintained, ungroomed trails or in trail-less areas where the leader and participants generally must break trail. These trips are characterized by carrying a day pack, short winter daylight hours, cold temperatures, variable and possibly difficult snow conditions, and rough backcountry terrain remote from quick outside assistance. Consequently, both leader and participants should be fit, self-reliant and able to deal with the worst case emergency scenario - an unscheduled bivouac taking care of an accident victim. This does not mean enough gear to go winter camping. Go lightweight but have the essentials to survive a night in the bush (not necessarily in comfort).

Snowshoers and skiers should create separate snowshoe and ski tracks, wherever feasible, particularly on steep sections. This will improve safety and enjoyment for both groups.

First Aid Qualification

Either the Trip Leader or an Assistant Trip Leader should be "[AWFA-qualified](#)".

Guidelines for Nordic Backcountry Ski and Snowshoe Trip Leaders

- 1) prepare for a backcountry skiing or snowshoe trip:
 - a) select an area, terrain and route for the most likely snowpack conditions and desired level of skiing or snowshoeing difficulty
 - b) estimate trip travel times, considering the short winter daylight hours, group size, group experience level, terrain, snow conditions, distance, elevation gain/loss, etc.
 - c) prepare and publish a trip notice in conjunction with the Hiking Coordinator, clearly defining the level of trip difficulty, group size limit and participant fitness, skill, experience and equipment requirements
 - d) screen trip participants, offering constructive suggestions for alternatives to those who do not possess the necessary fitness, skill, experience or equipment
 - e) advise participants on gear, clothing and supplies appropriate for the trip:
 - i) ski trips: skins required or optional?

- ii) snowshoe trips: technical snowshoes with crampons required?
 - iii) a headlamp, layered clothing and a personal micro-first aid kit
 - iv) ensure adequate water and high energy food and snacks for the trail
- f) consider appropriate group safety gear: group first aid kit, tarp, insulated pad, small pot, fire starting kit, pruning saw, micro repair kit (wire, tape, cord, electrical ties, pliers, knife, multi-bit screwdriver)
 - g) organize trip logistics such as transportation, hut bookings, meals, etc. as appropriate
 - h) note emergency contacts for the area, mid-trip bailout routes, communication options and conceptualize how an accident would be handled
 - i) if snow conditions or weather are much worse than hoped for in the initial plan, consider modifying the route or cancelling altogether
 - j) ensure all participants read and sign the trip waiver prior to the trip; pass the signed waiver to the Hiking Coordinator at the earliest opportunity
- 2) knowledge and skills:
- a) skilled backcountry navigator with map and compass
 - b) bushcraft skills: improvise an emergency shelter, light a fire under adverse conditions
 - c) knowledgeable about clothing layering options for efficient backcountry travel
 - d) preventing, recognizing and treating hypothermia
 - e) recognizing and dealing with backcountry hazards: changing weather; widely varying snow conditions; equipment failure; travel through forested terrain; avoiding tree wells; crossing lakes, ponds and streams; steep ascents and descents
 - f) recognizing and avoiding avalanche terrain
 - g) level-headed, calm and resourceful in an emergency
 - h) resourceful in making field repairs to equipment with minimal tools and supplies
 - i) confidence to mentor participants on the more difficult skills, such as ascending and descending moderately steep terrain
- 3) supervise trip safety:
- a) delegate tasks to assistant trip leaders and engage other experienced participants
 - b) double-check items of participant gear and supplies considered critical to the trip
 - c) brief participants on trip-specific safety hazards and safety procedures
 - d) set a turnaround time
 - e) maintain situational awareness with respect to terrain, snow conditions, weather, location, speed of travel, time of day, participant energy level and frame of mind, etc. and be ready to change plans, if appropriate
 - f) good judgement to make tough, perhaps unpopular, safety-related decisions
 - g) understand the club Emergency Response Protocol and take charge in an emergency

Useful References

1. "Mountaineering: The Freedom of the Hills", The Mountaineers, Seattle, 8th Ed., 2010.
2. "[Backcountry Skiing Safety in the East](#)", Bill Scott, ACC Ottawa, January 2007.

ACC Ottawa Guidelines - Top Rope Climbing Leader

Scope

This document covers top rope climbing on both rock and ice. It provides advice on "best practices" for ACC Ottawa amateur leaders leading Section top rope climbing trips. It is intended to help leaders plan and manage club trips. It should be read in conjunction with the "[ACC Ottawa Guidelines - Introduction](#)". [Advanced climbing](#) (including trad, sport and multi-pitch), [scrambling](#) and [mountaineering](#) are described in separate guidelines.

Introduction

Top rope climbing trips tend to attract less-experienced participants. This constrains choices of climbing sites and routes. It also means that extra supervisory precautions and a conservative approach on safety-related matters are particularly important. These are excellent occasions for a Trip Leader to mentor aspiring climbing trip leaders and gain their assistance and to help new climbers who can find all the practices involved in safe climbing a bit overwhelming.

Climber Experience Levels

Climbers are classified into the following groups according to experience level.

- 1) *Beginner* (Newbie) - little to no experience
- 2) *Novice* (Gym Climber) - mainly climbing gym experience; less than one year of outdoor climbing experience; knows how to tie in and belay properly, *but this should be verified*
- 3) *Intermediate* (Top Rope Climber and/or Sport Climber) - one year or more of outdoor top rope climbing experience; may or may not sport lead; can safely set and remove top anchors; can rappel safely; knows basic self-rescue
- 4) *Advanced* - (Trad Leader and Second) - can place and remove trad gear; can make gear anchors; knows basic partner rescue techniques; can trad climb single pitch or multi-pitch

The Trip Leader's assessment will determine the level participants can operate at. The Trip Leader may authorize, at his or her discretion, experienced climbers to undertake more advanced climbing on a non-interfering and self-reliant basis i.e. undertaking single pitch trad climbing on a top rope climbing trip advertised as "beginner-friendly". At the same time, the leader may request climbers to refrain from activities that the leader is not comfortable with or that would interfere with the intended scope of the trip.

Leader/Participant Ratio

A "supervising climber" means the Trip Leader or a designated experienced climber. Trip Leaders may, of course, apply a higher level of supervision at their discretion.

- 1) Beginners - one supervising climber per two active ropes
- 2) Novices - one supervising climber per four active ropes

- 3) Intermediate and Advanced - verification of correct procedures at the start of the session, followed by periodic oversight

Top Rope Anchors

Unlike trad anchors, top rope anchors are normally "unsupervised" for long periods once set up. Beginner and novice climbers may not be sufficiently knowledgeable to inspect anchors when topping out. Therefore, Trip Leaders should take particular care in setting up and periodically re-inspecting top anchors to ensure nothing has shifted or come loose. Safe techniques should be used for approaching the cliff edge - for example, by using a long dynamic tether with a sliding Prusik. The following anchor guidelines apply to Section top rope climbing trips.

Only strong natural anchors or fixed bolts should be used for top roping. When slinging trees, leaders should be careful to respect local rules to prevent tree damage. Gear-only anchors should not be used. Rock or ice pro may be used to back-up the main anchor or as directionals, if necessary. Two or more solid anchor points of the following types are recommended:

- 1) large (diameter \geq 25 cm) live, healthy, stable, well-rooted tree (where permitted)
- 2) massive, stable boulder (carefully check stability; requires very long webbing)
- 3) modern rock bolt and hanger in good condition; avoid old 1/4", loose or rusty bolts

One very large (diameter \geq 50 cm) live, healthy, stable, well-rooted tree (where permitted) is also suitable, using redundant slings and carabiners.

Each anchor point should be attached by a locking carabiner to webbing or a cordelette in good condition (not aged, frayed or worn) which is tied off in a master point with two locking carabiners. The climbing rope should pass through the two locking carabiners at the master point which should be locked and opposed with gates oriented downward and away from the rock. The master point should extend over the cliff edge to minimize wear on the climbing rope. If the cliff edge is sharp, the anchor extension should be padded. All anchor components must be certified by an internationally-recognized standards body e.g. UIAA or CE. Overall, the aim is for anchors to be solid, redundant, equalized and minimally-extending.

Belaying

- 1) It is advisable that beginner and novice belayers have a back-up belayer at all times i.e. another person holding the rope behind the primary belayer. The back-up belayer can be another beginner or novice, with suitable guidance.
- 2) The standard belay device is a Grigri or ATC or similar plate/tube style device in good condition. The Munter hitch, figure-8's or obsolete devices should not be used for top rope belaying on trips involving beginners or novices.

- 3) Ground anchors are strongly advised for beginner and novice belayers, in areas with objective hazards (such as drop offs), or when there is a risk of the belayer being jerked forward and losing control of the belay, such as when there is significant weight differential between climber and belayer, or when the belay has to be established a distance away from the climb to avoid rock or ice fall.

Rappelling

- 1) Top rope climbers should normally be lowered off by their belayer.
- 2) Only leaders or experienced climbers (intermediate and above) should rappel on their own; for example, after setting an anchor or when cleaning a route.
- 3) A back-up Prusik should be used. It is recommended that the rappel device be extended from the harness a readily-accessible distance such that the back-up Prusik (connected to the harness and tied below the rappel device) cannot compromise the rappel device.

Supervision of the Climbing Site

- 1) Leaders are responsible for the entire group. Activity supervision and participant welfare come first. The Trip Leader's personal climbing agenda comes last, if at all.
- 2) Anchors will be constructed by the Trip Leader or designated experienced climber(s) and, preferably, double-checked by a second experienced climber.
- 3) Club policy is that helmets will always be worn in the vicinity of the climbing site and other areas deemed hazardous by the Trip Leader (e.g. a difficult approach trail). Areas where helmets may be safely removed, if any, should be designated by the Trip Leader in advance so that all participants are clear on helmet use (e.g. a safe lunch area).
- 4) Beginner and novice belayers should be supervised at all times. While belaying, they should be in the line of sight of and readily accessible by an experienced supervising climber.
- 5) Because newer climbers often learn by copying the practices they see more experienced climbers use, the Trip Leader and any assistants should be careful to model only conservative "best practices" in front of beginners and novices. Consistent use of standard techniques and practices by Club leaders will reduce confusion for beginners and novices and help them 'learn the ropes' more effectively.

Ice Climbing

- 1) For ice climbing trips with beginners or novices, temperatures below -15C are inadvisable. For trips for more experienced climbers, it is at the Trip Leader's discretion.
- 2) Following periods of thaw, ice climbing trips are inadvisable until there is a solid refreeze.
- 3) Grigri belay devices are inadvisable in winter as they may ice up and malfunction.
- 4) It is recommended that climbers and belayers wear eye protection.
- 5) Leaders are advised to establish belay stations away from potential ice fall zones, if possible.

First Aid Qualification

Either the Trip Leader or an Assistant Trip Leader should be "[AWFA-qualified](#)".

Guidelines for Top Rope Climbing Trip Leaders

- 1) prepare for a top rope climbing trip:
 - a) select a climbing site and routes suitable for the target group of climbers
 - b) prepare and publish a trip notice in conjunction with the Climbing Coordinator
 - c) apply ACC Ottawa guidelines for leader/participant ratio (see above)
 - d) advise participants on gear, clothing and supplies appropriate for the trip:
 - i) basic climbing equipment : helmet, harness, belay device and locking carabiner, climbing shoes, chalk bag
 - ii) a headlamp, appropriate clothing and personal micro-first aid kit
 - iii) adequate water and high energy food and snacks for the day
 - e) screen trip participants, offering constructive suggestions for alternatives to those who do not possess the necessary skills or experience
 - f) assemble appropriate club gear (ropes, anchor kits, helmets, harnesses, first aid kit) and arrange for its transportation to the climbing site and return after the trip
 - g) determine what group safety gear is appropriate (group first aid kit, tarp, insulated pad)
 - h) organize event logistics such as meeting time and place, transportation, accommodation, meals, etc.
 - i) make a note of emergency contacts for the climbing site, communication options and conceptualize how an accident would be handled
 - j) monitor weather forecasts and prepare a "Plan B", in case of unsuitable conditions
 - k) ensure all participants read and sign the trip waiver prior to the trip; pass the signed waiver to the Climbing Coordinator at the earliest opportunity
- 2) as required, instruct and supervise beginner and novice climbers in:
 - a) rules for wearing helmets at a climbing site
 - b) the importance of minimizing rock or ice fall, and warning those nearby if it does occur
 - c) proper use and adjustment of a climbing harness
 - d) tying into the climbing rope
 - e) protocol for climber-belayer safety cross-check before climbing
 - f) proper belaying technique (ATC and Grigri style devices)
 - g) use of a backup belay
 - h) lowering a climbing partner
 - i) proper climber-belayer communication
- 3) supervise a top rope climbing site, with emphasis on safety:
 - a) safely set up and take down strong, safe and secure top anchors and ground anchors (as described above)
 - b) delegate tasks to assistant trip leaders and engage other experienced climbers

- c) check the climbing gear of beginners and novices (including helmet, harness, belay device and locking biner) for suitability and condition
 - d) brief participants on site-specific safety hazards and safety procedures
 - e) oversee and mentor participants on safe climbing and belay practices
 - f) maintain situational awareness with respect to route availability, time of day, weather, participant energy level and attitude, etc. and be ready to change plans if appropriate
 - g) good judgement to make tough, perhaps unpopular, safety-related decisions
 - h) understand the club Emergency Response Protocol and take charge in an emergency
- 4) be knowledgeable and skilled in basic top rope climbing rescues:
- a) can handle a jammed belay device, damaged rope, jammed rope, compromised top anchor, trapped or injured climber
 - b) can take over a belay
 - c) can escape a belay and tie-off a climber; also do the same for another belayer

ACC Ottawa Guidelines - Advanced Climbing Leader

Scope

This document covers advanced climbing on both rock and ice. It provides advice on "best practices" for ACC Ottawa amateur leaders leading Section trips for sport, trad or multi-pitch climbing. It is intended to help leaders plan and manage club trips. It should be read in conjunction with the "[ACC Ottawa Guidelines - Introduction](#)". [Top rope climbing](#) is described in a separate guideline.

Introduction

Climbing trips in this category are restricted to "Intermediate and Advanced" climbers. Climber experience levels are defined in the [top rope climbing guidelines](#). The Trip Leader's assessment will determine the level participants can operate at. The Trip Leader should verify that participants are following correct procedures at the start of the climbing and follow this up with periodic oversight during the day. As always, the leader may request climbers to refrain from activities that the leader is not comfortable with or that would interfere with the intended scope of the trip.

Leader/Participant Ratio

Given that trips in this category are restricted to experienced climbers, the supervisory burden on the Trip Leader should be substantially lower than for a similar top rope climbing trip. In consultation with the Climbing Coordinator, as appropriate, the Trip Leader will exercise his or her judgement to determine a suitable leader/participant ratio for the proposed trip. Some factors to consider include:

- 1) participant experience levels
- 2) technical climbing difficulty of the targeted area and routes
- 3) proximity of the routes
- 4) whether the focus of the trip is cragging (single pitch) or multi-pitch; in the latter case, rope teams must be capable of operating with minimal supervision
- 5) the degree of remoteness of the climbing area

A "supervising climber" means the Trip Leader or a designated experienced climber. One supervising climber per four active ropes may be an appropriate ratio in a cragging situation. Multi-pitch climbing is normally done with ropes of two climbers, occasionally three, requiring at least one experienced supervising climber per rope team. Trip Leaders may, of course, apply a higher level of supervision at their discretion.

Participant Screening

Participant screening is particularly important for multi-pitch climbs. Once climbing begins, the Trip Leader's direct control over events is substantially diminished as individuals will be

climbing in small, separate rope teams. Consequently, the prudent climbing leader should put as much care into trip planning and participant screening as "supervising" the actual multi-pitch climbing itself, to the extent that the later is possible.

It is essential to match the climb to the skill and experience level of the participants. This is relatively easy to do if both the climb(s) and all participants are known to the Trip Leader. It is inadvisable to conduct difficult climbs as a club outing that the Trip Leader has not already done personally or with climbers who are not well known to the Trip Leader.

Careful participant screening is essential for safety. Do not accept any participant you don't know personally without researching their training, experience, skill level, fitness and composure. It is also advisable to keep group size small and to engage the support of one or more other experienced and trusted assistant climbing leaders.

Anchors

The Trip Leader should maintain oversight over the anchoring practices of climbing teams to ensure that anchors are solid, redundant, equalized and minimally-extending. When slinging trees, leaders should be careful to respect local rules to prevent tree damage.

Belaying

Ground anchors are strongly advised in areas with objective hazards (such as drop offs), or when there is a risk of the belayer being jerked forward and losing control of the belay, such as when there is significant weight differential between climber and belayer, or when the belay has to be established a distance away from the climb to avoid rock or ice fall.

Rappelling

A back-up Prusik should be used. It is recommended that the rappel device be extended from the harness a readily-accessible distance such that the back-up Prusik (connected to the harness and tied below the rappel device) cannot compromise the rappel device.

Supervision of the Climbing Site

- 1) The Trip Leader is responsible for the entire group. Activity supervision and participant welfare come first. The Trip Leader's personal climbing agenda comes last, if at all.
- 2) Anchors will be constructed by the Trip Leader or designated experienced climber(s).
- 3) Club policy is that helmets will always be worn in the vicinity of the climbing site and other areas deemed hazardous by the Trip Leader.

Ice Climbing

- 1) For ice climbing trips, it is at the Trip Leader's discretion whether the trip will run if temperatures fall below -15C. Appropriate precautions should be taken to guard against hypothermia and frostbite.
- 2) Following periods of thaw, ice climbing trips are inadvisable until there is a solid refreeze.
- 3) Grigri belay devices are inadvisable in winter as they may ice up and malfunction.
- 4) It is recommended that climbers and belayers wear eye protection.
- 5) Leaders are advised to establish belay stations away from potential ice fall zones, if possible.

Emergencies and Self-Reliance

Both leader and participants should be fit, self-reliant and able to deal with the worst case emergency scenario - an unscheduled bivouac taking care of an accident victim. This does not mean enough gear to go camping i.e. go lightweight but have the essentials to survive a night on the mountain (not necessarily in comfort).

Communications

Depending on the layout of the climbing area, FRS/GMRS radios can be very useful for short range (~2-3 km) contact between climbing teams and may be the only means for the Trip Leader to exercise overall coordination. It may be possible to run several multi-pitch climbs within auditory or visual contact range for oversight and mutual backup in case of difficulties.

First Aid Qualification

Either the Trip Leader or an Assistant Trip Leader should be "[AWFA-qualified](#)".

Guidelines for Advanced Climbing (Sport, Trad and Multi-Pitch) Trip Leaders

- 1) prepare for a sport, trad or multi-pitch climbing trip:
 - a) select a climbing site and routes suitable for the target group of climbers
 - b) prepare and publish a trip notice in conjunction with the Climbing Coordinator
 - c) determine an appropriate leader/participant ratio for the planned trip(see above); recruit Assistant Leaders and screen participants accordingly
 - d) advise participants on gear, clothing and supplies appropriate for the trip:
 - i) climbing equipment
 - ii) a headlamp, appropriate clothing and personal micro-first aid kit
 - iii) adequate water and high energy food and snacks for the day
 - e) screen trip participants, offering constructive suggestions for alternatives to those who do not possess the necessary skills or experience
 - f) assemble appropriate club gear (ropes, anchor kits, helmets, harnesses, first aid kit) and arrange for its transportation to the climbing site and return after the trip
 - g) determine what group safety gear is appropriate (group first aid kit, tarp, insulated pad)

- h) organize event logistics such as meeting time and place, transportation, accommodation, meals, etc.
 - i) make a note of emergency contacts for the climbing site, communication options and conceptualize how an accident would be handled
 - j) monitor weather forecasts and prepare a "Plan B", in case of unsuitable conditions
 - k) ensure all participants read and sign the trip waiver prior to the trip; pass the signed waiver to the Climbing Coordinator at the earliest opportunity
- 2) supervise a sport, trad or multi-pitch climbing site, with emphasis on safety:
- a) safely set and remove anchors and communicate these skills to others
 - b) delegate tasks to assistant trip leaders and engage other experienced climbers
 - c) monitor the climbing gear of participants for suitability and condition
 - d) brief participants on site-specific safety hazards and safety procedures
 - e) oversee and mentor participants on safe climbing practices
 - f) maintain situational awareness with respect to route availability, time of day, weather, participant energy level and attitude, etc. and be ready to change plans if appropriate
 - g) good judgement to make tough, perhaps unpopular, safety-related decisions
 - h) understand the club Emergency Response Protocol and take charge in an emergency
- 3) be knowledgeable and skilled in self rescue and partner rescue

Useful References

1. "Alpine Skills: Summer", Petzl Foundation and Alpine Club of Canada, 2013.
2. "Mountaineering: The Freedom of the Hills", The Mountaineers, Seattle, 8th Ed., 2010.
3. "Technical Handbook for Professional Mountain Guides", Association of Canadian Mountain Guides (ACMG) and American Mountain Guides Association (AMGA), 1999.
4. "Playing It Safe", Ed. Murray Toft, Alpine Club of Canada, 1998.

ACC Ottawa Guidelines - Scrambling Leader

Scope

This document provides advice on "best practices" for ACC Ottawa amateur leaders leading Section trips where scrambling is the core activity. It is intended to help leaders plan and manage club trips. It should be read in conjunction with the "[ACC Ottawa Guidelines - Introduction](#)". Minor sections of class 2 or 3 scrambling inherently part of a backcountry hike are covered by the [backcountry hiking and backpacking guideline](#). Scrambling inherent to mountaineering trips, whether on rock or on prolonged segments of technical snow- or ice-covered terrain, is covered by the [mountaineering guidelines](#). Technical rock or ice climbing such as [top roping](#) and [advanced climbing](#) (including trad, sport and multi-pitch) are addressed in separate guidelines.

Introduction

For the purposes of this document, scrambling is defined as:

- movement on 2nd, 3rd or 4th class terrain (which may include short, low-fifth class, near vertical steps up to 3 m in height) – see scrambling level definitions below
- mainly on rock but may involve short sections of low-angle snow or ice requiring a mountaineering axe and perhaps crampons
- movement may be roped or unroped
- if roped:
 - generally uses natural protection while simul-climbing or short-roping
 - may use simple belays and occasional gear protection for short exposed bits
 - generally does not resort to fixed anchors, technical belays, running technical protection and pitched climbing (i.e. fifth class climbing)
- often involves ascent or descent of scree and talus slopes
- may use low angle snow slopes deemed to be safe for faster ascent and descent
- does not include steep ice or steep snow slopes
- does not include glacier travel

Note that simul-climbing and short-roping are advanced mountaineering techniques. They cannot be learned from a book and are best developed with professional instruction.

The overall seriousness of a scramble will vary depending on the locality. In the East, scrambling may constitute just a small portion of a larger hike, while in the West it may be the dominant aspect of an outing, involving many hours in more difficult and exposed terrain. In either case, potential risks from rock fall and exposure can be similar, and similar precautions are needed. Eastern scrambling may differ in one respect – if the scrambling component of the outing is short, it is less committing and concerns over participant fatigue are lessened.

Scrambling Level Definitions

The definition of scrambling levels is based on the Yosemite Decimal System (YDS).

Unfortunately, there is no widely accepted definition within the climbing community of what each class encompasses. It is not unusual for similar scrambles to differ by a full class level in different regions. Recently developed climbing areas tend to have soft grades, while those from the early days of climbing typically have stiffer grades for climbs or scrambles of the same level of technical difficulty. What old-school climbers dismissed as merely fourth class is often seen as low-to-mid fifth class in modern climbing areas, yet local climbing guides often retain the original rating for historical reasons. Hiker-climber-scrambler-mountaineer beware!

With these caveats, here is how ACC Ottawa defines climbing and scrambling levels.

- Class 1: Hiking, which may be in rough and trail-less terrain.
- Class 2: Simple scrambling with some exposure. Hands occasionally used for balance. The route is fairly obvious. A slip would normally result in no more than minor injuries. A rope may be carried but is normally not required on the ascent. Down climbing is routine for experienced scramblers, but may be slow with novices and some may desire a rope.
- Class 3: Intermediate scrambling with increased exposure. Comfort climbing with exposure is required. Hands are frequently used for balance and for climbing holds. Basic route finding skills are required. A rope is often carried but frequently not used by experienced climbers on the ascent. However, a rope should be available for novices. Injuries from un-roped falls could be severe, but usually not fatal. Down climbing may be intimidating for novices, while merely exacting for experienced scramblers.
- Class 4: Difficult, steep scrambling with considerable exposure and much use of hand holds. Sections may be steep, loose and exposed or the rock may be smooth and down-sloping. Skill in moving on steep rock is required. A rope and simple belays are normally used by all but the most experienced and bold climbers. Natural protection can be easily found by experienced climbers. Considerable skill is required in route finding. Getting off route could require technical climbing skills and gear. Un-roped falls may well be fatal. Some very experienced and confident scramblers may down climb, while others will opt to rappel.
- Class 5: Technical free climbing involving a rope, belaying, and other protection hardware for safety. Un-roped falls can result in severe injury or death.

An anonymous climber with a sense of humour boiled down the distinctions between scrambling classes to the consequences of an un-roped fall:

- Class 1: you fall, you are a klutz.
- Class 2: you fall, you break your arm.
- Class 3: you fall, you break your leg.
- Class 4: you fall, you are almost dead.
- Class 5: you fall, you are dead.

In practice, the class 1 designation is never used. Class 5 climbing is covered by the [Top Rope](#), [Advanced Climbing](#) and [Mountaineering](#) guidelines. This guideline deals with class 2, 3 and 4 scrambling.

Participant Screening

To quote Alan Kane: "Unroped scrambling is one of the most potentially dangerous mountain activities, especially where exposure (fall distance) is significant." Once the scramble begins, the Trip Leader's direct control over events is diminished as participants will be solo climbing if unroped or in small, separate rope teams. Consequently, the prudent scrambling leader should put as much care into events prior to the trip (namely trip planning and participant screening) as "supervising" the actual scrambling itself, to the extent that the later is possible.

It is essential to match the scramble to the skill and experience level of the participants. This is relatively easy to do if both the scramble and all participants are known to the Trip Leader. Most experienced hikers should be comfortable with 2nd class scrambling. Some prior scrambling and/or technical climbing experience will be of benefit on 3rd class terrain. Fourth class terrain is the domain of the experienced scrambler/mountaineer/climber. It is inadvisable to conduct a 4th class scramble as a club outing that the Trip Leader has not already done personally or with scramblers who are not well known to the Trip Leader.

Careful participant screening is essential for safety. Do not accept any participant you don't know personally without researching their training, experience, skill level, fitness and composure. It is also advisable to keep group size small and to engage the support of one or more other experienced and trusted assistant scrambling leaders.

Route Finding

Route finding, a core skill of the experienced scrambler, involves finding the safest and most efficient line whilst avoiding technical (5th class) terrain. This contrasts with rock climbing where the most difficult route is often sought for the challenge. Route finding involves thinking ahead at the macro level (the overall climb or the next major segment of the climb), the medium level (the next "pitch" or 50 meters or so) and the micro (the next few moves).

Rate of Progress

A scrambling outing, particularly if it involves a larger group or one with less experienced participants, can be far more time consuming than expected. In situations where a rope is needed to ensure safety or to provide reassurance to participants, progress can be very slow indeed, increasing the likelihood that the trip will take longer to complete than planned. Except where the group is small and well experienced, leaders should use conservative assumptions about the group's probable speed of travel. A scrambling route that looks quite straightforward from afar can prove much more difficult from close up.

Route Conditions

The good scrambling leader should also be thinking about other factors. If the route is not in condition, be prepared to make an early change of plans - a different route or a different mountain or alternative dates. Route descriptions are usually given for dry conditions, free of snow and ice. The difficulty of the route increases substantially or may be infeasible when wet, snowy or icy. Sudden rain on a lichen-covered slab can turn an easy, fun scramble into a heart-stopping epic. Afternoon thunderstorms can be deadly. It is therefore essential to monitor weather and altitude-related changes and, if necessary, revise plans earlier rather than later.

Descent is usually much harder than ascent. Before committing to the ascent of any section of the climb, it is important to determine a descent option that is feasible for the skill level of the party. The leader should determine, in advance, the likelihood of participants requiring the equipment and skill to make short rappels on the descent.

Exposure

Being comfortable with and safely handling climbing exposure (fall potential) is an art that demands technical training, good judgement and years of experience. It is best learned through professional instruction and by cautiously and incrementally expanding one's experience base. The scrambling leader should be able to match the scrambling technique to suit the terrain - knowing when to use the rope and when not to, using natural protection, being efficient in transitions between modes of travel. These are skills not quickly learned.

Scrambling leaders should be alert for signs of distress in team members and be proactive in asking if participants are comfortable with the situation or would prefer a rope and belay. Participants should understand it is never unseemly to express concern or to ask for the rope.

Rockfall

Rockfall is a leading cause of scrambling accidents. At altitude, the hazard typically increases during the day as solar heating frees rocks previously secured by surface ice. It is advisable to:

- always wear helmets in areas of objective rockfall hazard
- listen and observe for signs of rockfall
- use "quiet feet" i.e. careful, deliberate foot steps
- check the stability of handholds before a committing move
- shout out "ROCK" if a rock is inadvertently dislodged
- have the group move either in close proximity or well spread out
- avoid 'stacking' participants on the fall line or in narrow features such as couloirs
- avoid climbing directly above or directly below another party or climber
- on scree faces, use a traversing line on ascent and separate fall line paths on descent
- if possible, avoid gullies which tend to accumulate and channel rock fall

Avalanche Safety

The primary strategy should be avalanche avoidance. This requires proficiency in terrain assessment and route planning. Steep south and west facing snow-covered bowls and faces demand careful consideration. Ridgelines may be a safer option. Cornices should be given a wide berth. Leaders should seek advice from park safety wardens and guides regarding avalanche hazards in the areas of concern and adjust travel plans accordingly.

Emergencies and Self-Reliance

Both leader and participants should be fit, self-reliant and able to deal with the worst case emergency scenario - an unscheduled bivouac taking care of an accident victim. This does not mean enough gear to go camping i.e. go lightweight but have the essentials to survive a night on the mountain (not necessarily in comfort).

Communications

Depending on the remoteness of the climb, some form of external and local emergency communications may be advisable. With few exceptions, cell phones do not work in the backcountry. Alternatives include Sat Phone, VHF transceiver or SPOT message device. Each has pros and cons. FRS/GMRS radios can be very useful for short range (~2-3 km) contact between scrambling teams and may be the only means for the Trip Leader to exercise overall coordination once scrambling begins.

First Aid Qualification

Either the Trip Leader or an Assistant Trip Leader should be "[AWFA-qualified](#)".

Guidelines for Scrambling Trip Leaders

- 1) prepare for a scrambling trip:
 - a) select an area, terrain and route for the desired level of scrambling difficulty (2nd, 3rd or 4th class); this should include a Plan A (good conditions) and Plan B (poor conditions)
 - b) monitor weather and trip reports from the targeted area
 - c) prepare and publish a trip notice in conjunction with the Mountaineering Coordinator, clearly defining the level of trip difficulty, group size limit and participant fitness, skill, experience and equipment requirements
 - d) carefully screen trip participants, offering constructive suggestions for alternatives to those who do not possess the necessary fitness, skill, experience or equipment
 - e) advise participants on gear, clothing and supplies appropriate for the trip:
 - i) essential personal and climbing equipment (boots with good soles and possibly climbing shoes, helmet, harness or sufficient webbing to improvise a harness, belay device, cordelette, a few slings and biners)
 - ii) mountaineering axe, crampons or traction aids and ski pole (as appropriate)

- iii) a headlamp, layered clothing and a personal micro-first aid kit
 - iv) ensure adequate water and high energy food and snacks for the trail
 - f) consider appropriate group climbing gear: scrambling rope, cordelettes, minimal rock pro, extra slings, webbing, biners, leave-behind rap gear
 - g) consider appropriate group safety gear: group first aid kit, tarp, insulated pad
 - h) organize trip logistics such as transportation, hut bookings, meals, etc. as appropriate
 - i) research emergency contacts for the area, communication options and conceptualize how an accident would be handled
 - j) ensure all participants read and sign the trip waiver prior to the trip; pass the signed waiver to the Mountaineering Coordinator at the earliest opportunity
- 2) knowledgeable and skilled in:
- a) skilled backcountry navigator with map and compass
 - b) bushcraft skills: improvise an emergency shelter, light a fire under adverse conditions
 - c) knowledgeable about clothing layering options for efficient backcountry travel
 - d) preventing, recognizing and treating hypothermia
 - e) monitoring and interpreting alpine weather signs
 - f) good route finding skills to remain on the scrambling route and avoid technical climbing
 - g) efficient rope handling skills
 - h) proficiency in scrambling up and down moderately steep rock, ice and snow and in modeling effective scrambling technique to lesser-experienced trip participants
 - i) skilled in minimizing and avoiding rock fall
 - j) recognizing and avoiding avalanche terrain
 - k) recognizing and dealing with scrambling hazards: changing weather, rock fall, exposure
 - l) level-headed, calm and resourceful in an emergency
- 3) supervise trip safety:
- a) delegate tasks to assistant trip leaders and engage other experienced participants
 - b) double-check items of participant gear and supplies considered critical to the trip
 - c) brief participants on trip-specific safety hazards and safety procedures
 - d) set a turnaround time
 - e) maintain situational awareness with respect to terrain, weather, location, speed of travel, time of day, participant energy level and frame of mind, etc. and be ready to change plans, if appropriate
 - f) good judgment to make tough, perhaps unpopular, safety-related decisions
 - g) understand the club Emergency Response Protocol and take charge in an emergency

Useful References

1. "Alpine Skills: Summer", Petzl Foundation and Alpine Club of Canada, 2013.
2. "Mountaineering: The Freedom of the Hills", The Mountaineers, Seattle, 8th Ed., 2010.
3. "Technical Handbook for Professional Mountain Guides", Association of Canadian Mountain Guides (ACMG) and American Mountain Guides Association (AMGA), 1999.

4. "Scrambles in the Canadian Rockies", Alan Kane, Rocky Mountain Books, 1999.
5. "A Hiker's Guide to Scrambling Safely", Tom Morin, Rocky Mountain Books, 2005.
6. "[Shortroping 100 – Shortening the Rope](#)", Cyril Shokoples, 2005.
7. "[Shortroping 201: Advanced Rope Techniques for the Aspiring Excellent Leader](#)", Cyril Shokoples, 2005.
8. "The Complete Guide to Rope Techniques", Nigel Shepherd, 2007, A Falcon Guide, Chapter 8, Short roping and moving together.
9. "Backcountry Avalanche Awareness", Bruce Jamieson, 8th Ed., Canadian Avalanche Assoc.

ACC Ottawa Guidelines - Mountaineering Leader

Scope

This document provides advice on "best practices" for ACC Ottawa amateur leaders leading Section mountaineering trips. It is intended to help leaders plan and manage club trips. These guidelines should be read in conjunction with the "[ACC Ottawa Guidelines - Introduction](#)" and "[ACC Ottawa Mountaineering Camps - Guidance for Participants](#)". For mountaineering camps, the latter document includes guidance for the role of the Camp Manager and the designated camp Climbing Leader, with duties to be split between them as mutually agreed. For shorter mountaineering trips, it provides guidance to the organizing Trip Leader.

Trips with scrambling as the core activity are covered by the [scrambling guidelines](#). Technical rock or ice climbing such as [top roping](#) and [advanced climbing](#) (including trad, sport and multi-pitch) are addressed in separate guidelines.

Introduction

Mountaineering requires a broad range of skills - hiking over rough terrain; movement on rock, snow and ice; 2nd, 3rd and 4th class scrambling; short roping; simul-climbing; technical (5th class) roped climbing; use of a mountaineering ice axe and crampons; efficient transitions between modes of travel; judgement to know which technique to apply to a given situation and when to back off; very good route finding skills.

Participant Screening

Careful screening of participants' experience, skill level and fitness is essential for a safe and harmonious camp. Rope team members should be a good fit in skill, experience, risk propensity, personality and mountaineering goals. Outings oriented towards novices should involve terrain and objectives suitable for their skill and experience level. More challenging terrain and objectives should be reserved for groups with a higher skill and experience level.

Rockfall

Rockfall is a leading cause of mountaineering accidents. At altitude, the hazard typically increases during the day as solar heating frees rocks previously secured by surface ice. Good route planning at a macro-through-micro level is important to avoid the rockfall hazard, particularly in the afternoon.

Glacier Travel

When glacier travel is involved, all members should be equipped and trained for crevasse rescue. Standard practice should be to rope up on snow covered glaciers with 4-5 climbers per rope being ideal and 3 the minimum.

Seracs are particularly dangerous to mountaineers as they may topple with little warning. The only mitigation is to avoid heavily seraced routes or to traverse the danger as quickly as possible with some spacing between group members.

Avalanche Safety

While avalanches are mainly a concern in winter, they are also a threat in other seasons. Traditionally, summer mountaineering parties seldom carried avalanche rescue gear. In this case, the primary strategy must be avalanche avoidance. This requires proficiency in terrain assessment and route planning. Leaders should seek advice from park safety wardens and guides regarding avalanche hazards in the areas of concern and adjust travel plans accordingly.

The Association of Canadian Mountain Guides now advocates for a significant change in [best practices for travel in avalanche terrain](#). The ACMG now promotes use of avalanche safety gear for waterfall ice climbing as well as for summer mountaineering, when avalanche hazard may be present. It is wise to consider carrying avalanche rescue gear and only leave it behind as part of a conscious decision making process, not simply because you aren't skiing in January. Destinations where this should be a consideration for ACC Ottawa mountaineering Trip Leaders include the Rockies and the Presidential mountains of NH, amongst others.

Mountaineering Judgment

Leaders and participants should display good judgement and teamwork. If conditions are unfavourable to summit, do not hesitate to retreat. The mountain will be there another day. Remember - *There are old climbers and bold climbers but no old, bold climbers.*

In general, mountain weather deteriorates in the afternoon. An alpine start is therefore advisable with the aim of summiting by noon and returning to camp by mid-afternoon.

Emergencies and Self-Reliance

Several factors characterize these trips: objective climbing hazards (exposure, rock or ice fall), sudden and severe alpine weather changes, lightning, high elevation, high altitude gain/loss per day and rough alpine terrain remote from quick outside assistance. Consequently, both leader and participants should be fit and self-reliant to the point of being able to bivouac over night in the alpine with minimal gear due to weather, accident or slow progress. Mountaineers should have training and equipment to perform basic climbing self-rescue in high angle terrain.

Communications

Some form of external emergency communications is highly advisable. With few exceptions, cell phones do not work in the alpine backcountry. The Trip Leader should consider alternatives such as a Sat Phone, VHF transceiver or SPOT message device. Each has pros and cons. FRS/GMRS radios can be useful for short range (~2-3 km) contact between climbing teams.

First Aid Qualification

Either the Trip Leader or an Assistant Trip Leader should be "[AWFA-qualified](#)". For mountaineering camps, it would be prudent to ensure that some trip participants are also AWFA-qualified.

Guidelines for Mountaineering Trip Leaders

- 1) prepare for a mountaineering trip:
 - a) after in-depth research, select an area, terrain, potential routes and hut or camp site; this should include a Plan A (good conditions) and Plans B or C (poor conditions)
 - b) monitor weather and trip reports from the targeted area, starting well in advance of the trip and maintaining awareness up to the departure date
 - c) prepare and publish a trip notice in conjunction with the Mountaineering Coordinator, clearly defining the level of trip difficulty, group size limit and participant fitness, skill, experience and equipment requirements
 - d) carefully screen trip participants, offering constructive suggestions for alternatives to those who do not possess the necessary fitness, skill, experience or equipment
 - e) advise participants on gear, clothing and supplies appropriate for the trip:
 - i) essential personal and climbing equipment (specify)
 - ii) a headlamp, layered clothing and a personal micro-first aid kit
 - iii) ensure adequate water and high energy food and snacks for the trail
 - f) consider appropriate group safety gear: combination snow/wood saw, group first aid kit, tarp, insulated pad, small pot, small stove, fire starter kit, spare batteries, spare sun glasses
 - g) advise participants regarding pre-trip training and acclimatization
 - h) organize trip logistics such as transportation, hut bookings, meals, etc. as appropriate
 - i) research emergency contacts for the area, communication options and conceptualize how an accident would be handled
 - j) ensure all participants read and sign the trip waiver prior to the trip; pass the signed waiver to the Mountaineering Coordinator at the earliest opportunity
- 2) knowledgeable and skilled in:
 - a) skilled alpine navigator with map and compass in all types of weather and terrain, including whiteout conditions above treeline
 - b) bushcraft skills: improvise an emergency shelter both above and below treeline; light a fire under adverse conditions
 - c) knowledgeable about clothing layering options for efficient backcountry travel
 - d) minimizing sun exposure
 - e) preventing, recognizing and treating hypothermia
 - f) understanding the acclimatization process
 - g) recognizing and treating altitude sickness

- h) monitoring and interpreting alpine weather signs
 - i) mountaineering route finding skills
 - j) efficient rope handling skills
 - k) proficiency in climbing and descending steep rock, ice and snow
 - l) glacier travel skills, including crevasse rescue (if applicable to the trip)
 - m) avalanche safety training, minimum of AST 1 (if applicable to the trip)
 - n) recognizing and dealing with alpine hazards: changing weather (sun, rain, snow, wind, lightning); avalanche risk; rock and ice fall; objective fall exposure; altitude sickness
 - o) level-headed, calm and resourceful in an emergency
- 3) supervise trip safety:
- a) delegate tasks to assistant trip leaders and engage other experienced participants
 - b) double-check items of participant gear and supplies considered critical to the trip
 - c) brief participants on trip-specific safety hazards and safety procedures
 - d) the default practice for travel on non-dry glaciers is to rope up
 - e) be cautious with potential avalanche slopes
 - f) set a turnaround time
 - g) maintain situational awareness with respect to terrain, weather, location, speed of travel, time of day, participant energy level and frame of mind, etc. and be ready to change plans, if appropriate
 - h) good judgment to make tough, perhaps unpopular, safety-related decisions
 - i) understand the club Emergency Response Protocol and take charge in an emergency

Useful References

1. "Alpine Skills: Summer", Petzl Foundation and Alpine Club of Canada, 2013.
2. "Mountaineering: The Freedom of the Hills", The Mountaineers, Seattle, 8th Ed., 2010.
3. "Technical Handbook for Professional Mountain Guides", Association of Canadian Mountain Guides (ACMG) and American Mountain Guides Association (AMGA), 1999.
4. "Playing It Safe", Ed. Murray Toft, Alpine Club of Canada, 1998.
5. [ACMG Mountain Condition Reports \(MCRs\)](#)
6. "Backcountry Avalanche Awareness", Bruce Jamieson, 8th Ed., Canadian Avalanche Assoc.

ACC OTTAWA MOUNTAINEERING CAMPS

GUIDANCE FOR PARTICIPANTS

This document provides generic guidance for the organization and running of ACC Ottawa mountaineering camps. Camp Managers may adapt the guidance as appropriate for the circumstances of specific camps.

CAMP CONCEPT

The camp concept will be defined in a camp prospectus, which will be subject to review, revision as necessary and approval by the Executive prior to the camp announcement.

ACC Ottawa mountaineering camps are planned, organized and run by unpaid section volunteers. These camps require a considerable amount of work – both in advance of and during the camp - to plan, organize and run. Therefore, participant understanding, co-operation and involvement will be much appreciated by the camp leaders and other camp participants.

Our camps have a culture of:

- everyone striving to be team players
- all participants going the “extra mile” to ensure an enjoyable experience for all
- more experienced members assisting less experienced participants to safely and incrementally expand their skills and experience
- following leave-no-trace environmental practices, leaving the mountains and the hut or campsite cleaner than we found them

ORGANIZATION

The typical organization for a mountaineering camp comprises:

- Camp Manager
- Assistant Camp Manager
- Climbing Leader
- Camp Participants

Camp Manager: The Executive will appoint an experienced Camp Manager for each camp. Where possible, an Assistant Camp Manager will also be named. He/She will assist the Camp Manager and fill in for them in their absence. The Camp Manager has overall responsibility and authority to plan, organize and manage camp operations. Much of camp organization involves implementing the camp plan, coordinating logistics, developing and implementing contingency plans (when needed) and handling camp finances. Participants may be asked to assist with various logistics tasks.

During camp operation, the Camp Manager’s goals are to:

- assist camp participants in achieving their climbing objectives - to the extent that route difficulty, mountain and weather conditions, and individual abilities permit

- foster a safe climbing environment for all participants
- organize camp logistics tasks with a fair labour distribution amongst participants

Climbing Leader: The Camp Manager will appoint a Climbing Leader, usually the most experienced and capable mountaineer attending the camp. The Climbing Leader will be responsible for:

- organizing climbing equipment
- suggesting climbing objectives appropriate for the conditions and individual and team capabilities
- overseeing climbing safety
- evaluating climbing plans and, where appropriate, suggesting alternative objectives and teams.

Camp Participants: Camp participants should:

- provide a realistic appraisal of their mountaineering experience to camp leaders
- arrive at camp physically fit and with the appropriate equipment
- moderate their climbing objectives and dampen their risk-taking enthusiasm to fit the environment of a club (group) trip versus a private trip
- volunteer generously for the numerous small jobs necessary to run the camp
- be understanding and supportive of camp participants with less experience
- be considerate of their fellow participants and camp volunteers

FINANCES

Our camps are break-even events. Each participant pays his/her share of the total camp costs. The Camp Manager will prepare a budget in advance of the camp with estimated costs, including a reasonable contingency allowance. Actual costs will be reconciled after the camp with participants making up any shortfall or receiving a refund, as appropriate. Some costs, such as transportation to/from the trailhead and local accommodation and meals before and after the camp, are usually outside the camp budget and are an individual responsibility.

Participants will be required to pay the full amount of the estimated camp cost in advance of the camp. The payment and refund policy and schedule will be determined for each camp as follows:

- 1) A commitment deposit to secure a position on the camp roster. A participant's position on the camp roster is not secured until they pay this deposit. This amount, normally 25% of the estimated camp cost/person, is NOT refundable under ANY circumstances, unless the camp is cancelled.
- 2) A final payment for the balance of the camp fee – due approximately one month before the camp. The Camp Manager will let the camp participants know the amount of this payment. In the event the participant withdraws from the camp, this payment will be refunded only if a suitable replacement is found.
- 3) When the camp costs have been reconciled after the camp, camp participants will be notified if they are due a refund or if they owe funds for any shortfall.

The standard policy is that all camp participants must be paid-up ACC Ottawa Section members when they sign-up for and participate in the camp. Should the Camp Manager determine that it would be in the best interests of the camp to open attendance to other ACC members, he/she may request the Executive to approve an exception to the policy for that specific camp.

SAFETY

Prior to the camp, the Camp Manager will prepare and distribute a [Safety and Emergency Response Plan](#). The core of the plan will follow good general mountaineering practices and remain consistent from year to year. Additional provisions will be included for the expected conditions and group experience level at each specific camp.

Each evening, team leaders will discuss their proposed climbing plans for the following day with the Camp Manager and Climbing Leader. The preferred approach is to have no more than two ropes of two climbers per objective for fast and efficient climbing, minimal climber-generated rock fall hazard, a combined rope of four on glacier segments and mutual backup in case of difficulties. However, other rope team compositions may be appropriate for some situations.

The Camp Manager and Climbing Leader each have a veto over proposed climbing plans. In the event of a veto being exercised, alternative climbs will be suggested more appropriate for the abilities of the climbing team and the current mountain conditions.

Each participant is responsible for his/her own safety. Individuals will form their own climbing teams, keeping in mind the camp ethic of assisting in the development of less experienced participants. While climbing, each rope team will make their own decisions on the spot regarding appropriate actions to take depending on their expertise, experience and the actual conditions found on the climb. These actions are expected to be generally consistent with the Camp Safety and Emergency Response Plan.

Safety incidents will result in a discussion with the Camp Manager and Climbing Leader on ways to improve climbing safety. Persistent unsafe practices may result in the associated individual(s) not being invited back to subsequent camps. In extreme cases, the Camp Manager may ask the offending person(s) to depart the camp early. The Camp Manager will report any serious accident in accordance with ACC National policies.

Sample Safety and Emergency Plan - ACC Ottawa XYZ Camp (Date)

(Revise as appropriate for each specific camp)

Camp Concept - This is a self-guided camp based out of the XYZ Hut (elevation). Individuals will form climbing teams and select objectives within their skill, experience and fitness levels. The group will discuss the next day's objectives each evening, consult with the camp leaders and complete the sign-out sheet prior to departure. As guide book travel times are often optimistic, teams will specify a realistic ETA and discuss contingency plans. Teams will travel light but are expected to carry the minimum essentials for self rescue, to care for a casualty and handle an unplanned bivy. Everyone will pack a light weight LED headlamp.

Medical - Camp participants will carry a micro personal first aid kit for minor cuts, bruises, blisters, etc. and any personal medications. Three small club group first aid kits are available to be regularly carried in the field. A larger club group first aid kit will normally remain at the XYZ Hut and can be deployed to the field for emergencies. If you have a medical condition the rest of us should know about (i.e. diabetes, severe allergy, asthma, etc.), let us know. Ditto for personal emergency meds.

Communications - We have sufficient FRS radios for each rope team to carry one. These are short range (~2-3 km), line-of-sight radios. Expect poor coverage in valleys but improved coverage with altitude. Communications will be spotty but, with several radios in the field, it should be possible to make periodic contact and relay information between teams. We will use FRS channel ____, sub-channel ____. Teams will check in hourly on the hour. Radios can be turned off at other times, except as required for intra-team communication whilst climbing. Cell phone coverage is not available.

An Iridium satellite phone has been rented. It will work in almost any area with a clear view of the sky. The usage tariff is \$2/min. It is TBD whether our sat phone will be carried in the field or left in the hut for emergency use.

National Park Emergency Contact Numbers - When calling for help, state you are in the backcountry of Jasper National Park, have an emergency and require the Warden Service.

National Park	Emergency #	Backcountry Emergency #
Jasper Wardens (24 hrs)	780-852-3100	1-877-852-3100
Banff	911	403-762-4506
Jasper RCMP		780-852-4848
Jasper Warden's Office (Day #)		780-852-6155

Safety Plan

Risk	Mitigation
Weather	Check weather forecast Alpine start, aiming to be back at the hut by mid-afternoon Be prepared to retreat in the face of dangerous weather Extra clothing and gloves
Excessive travel time	Conservative objective within the team's ability Reconnaissance of the route prior to the climb Alpine start Travel light Efficient, steady but sustainable pace Small teams with compatible fitness and ability Adequate hydration and frequent snacking on the move Realistic ETA
Rock fall	Helmets to be worn in areas of objective hazard Maximum of two rope teams on the same objective Avoid climbing under another team Use "quiet feet" i.e. pay attention to foot placement Stay closely bunched (if possible), or else widely separated Shout a warning if a rock is dislodged Avoid areas with rock scars, debris and other signs of recent rockfall activity
Unstable scree and talus	Avoid moraines and talus slopes, whenever possible
Glacier travel	Roped-up is the default glacier travel mode A minimum of 3 climbers per rope is recommended for glacier travel Attentive rope management Good route finding Carry crampons, ice axes and self-rescue gear
Avalanche	Careful terrain and snow pack stability assessment before committing Good route finding

Emergency Plan - In the event of an accident, other team members will provide the first response to the incident following the *Standard Emergency Response Protocol*. If self-rescue is possible and appropriate, this is the preferred option. Communications will be established with the XYZ Hut, if possible, where an Ottawa Section member will organize emergency support. If rescue is time-critical or technically complex, this will be organized by contacting the Park Warden Service.

If a party is over-due, members at the XYZ Hut will attempt to establish communications. If communications cannot be established, the default assumption will be that the party will arrive late by headlamp or do an unplanned bivy. A rescue or support operation will not normally be immediately organized, unless there are grounds to believe an accident has occurred. A night-time rescue will be organized only in extreme circumstances and only after careful planning and preparation. Normal practice will be to organize an investigation/support/rescue party to leave early the next day. In any rescue, care will be taken to not endanger rescuers or to otherwise make the situation worse.

ACC Ottawa Guidelines - Alpine Backcountry Skiing Leader

Scope

This document provides advice on "best practices" for ACC Ottawa amateur leaders leading Section alpine backcountry ski touring trips with Telemark and alpine touring (AT) gear as well as backcountry snowboards with a touring set-up. It is intended to help leaders plan and manage club trips. It should be read in conjunction with the "[ACC Ottawa Guidelines - Introduction](#)". These guidelines also apply to snowboarding unless otherwise indicated. [Nordic backcountry skiing](#) is described in a separate guideline.

Introduction

Touring is self-propelled on ungroomed and unpatrolled terrain with participants breaking trail. This requires a very high level of fitness. Skins are normally used on the ascent. Grip waxing may occasionally be used on long, flat sections. Touring can be below treeline, at treeline or in the alpine. Strong skiing technique is essential as every imaginable type of snow can be encountered, sometimes in the same day (deep powder, crud, dust-on-crust, corn snow, sheer ice, boiler plate wind crust, breakable crust, etc). Travel is frequently in avalanche terrain. Consequently, alpine backcountry skiing is potentially the most hazardous Section activity.

Terrain Assessment

Terrain is the single most important determinant of avalanche risk. The Avalanche Terrain Exposure Scale (ATES) rating system is widely applied to common backcountry ski touring areas in the Canadian Rockies and increasingly elsewhere. The ATES system is defined by a "Public Communication Model" shown below and a more detailed "Technical Model" for professionals. The Trip Leader should understand the ATES system and know where to find terrain ratings, if available, for the planned destination and tour.

Avalanche Terrain Exposure Scale (ATES)

Public Communication Model (v.1- 04)

Description	Class	Terrain Criteria
Simple	1	Exposure to low angle or primarily forested terrain. Some forest openings may involve the runout zones of infrequent avalanches. Many options to reduce or eliminate exposure. No glacier travel.
Challenging	2	Exposure to well defined avalanche paths, starting zones or terrain traps; options exist to reduce or eliminate exposure with careful route finding. Glacier travel is straightforward but crevasse hazards may exist.
Complex	3	Exposure to multiple overlapping avalanche paths or large expanses of steep, open terrain; multiple avalanche starting zones and terrain traps below; minimal options to reduce exposure. Complicated glacier travel with extensive crevasse bands or icefalls.

Avalanche Risk

The most desirable slope angle from a skier's perspective (~ 30-40°) is also the highest probability range for avalanches. Skiers should be proficient in terrain assessment, snow pack analysis and stability assessment, avalanche risk assessment, route selection and planning, and efficient track setting in a wide variety of terrain. The primary strategy should be avalanche avoidance. Should the party nevertheless be caught in an avalanche, all members should be skilled at self-rescue, which is the group's only realistic hope for live recovery.

Leaders and participants should display good judgement and teamwork. If the avalanche risk is too great for the planned activity, do not hesitate to go to Plan B or Plan C. The mountain will be there another day. Remember - *There are old skiers and bold skiers but no old, bold skiers.*

Avalanche Safety Equipment

All trip members must be equipped and skilled in using modern avalanche rescue gear (beacon, probe and shovel) on trips involving travel in avalanche terrain. This will be verified by the Trip Leader. Avalanche beacons should be of a modern design. Three-or-four antenna digital beacons are preferred; two antenna digital beacons are acceptable. Old analog or single antenna digital beacons are inadvisable, except for experts i.e. professional rescuers.

Avalanche Skills Training (AST)

The recommended level of Avalanche Skills Training (AST) for both Trip Leaders and trip participants on ACC Ottawa alpine backcountry ski trips is defined by ATES terrain rating and can be found later in this [document](#).

Avalanche Self Rescue

It is essential that ALL members of the party are skilled at self-rescue and have a common understanding of the process to be followed in the event of an avalanche, such as the [self-rescue protocol](#) issued by the Canadian Avalanche Centre. Trip members should be encouraged to print a copy of the protocol, laminate it and carry it with them at all times while skiing. Pre-printed copies of the card are available on most AST courses and at some ski shops. The level of self-rescue proficiency required is high, such that all members of the party follow the process quickly, automatically and function well as a team. Time is of the essence for live recovery.

Electronic Interference with Avalanche Beacons

Like the rest of the planet, skiers seem to be carrying more and more electronic gizmos into the backcountry without regard to the potential interference with their life-saving avalanche beacon, whether in transmit or receive mode. Recent studies have shown that any electronic device within 50 cm of the beacon could compromise the search function. This includes cell phones, handheld radios, chest-mounted video cameras, any device with an active wireless or Bluetooth controller, iPods, heated gloves, heart rate monitors and magnets or metallic objects

on the front of jackets. Trip Leaders should discuss this subject with trip participants prior to the trip, including ways to minimize electronic interference. It is best to keep all electronic devices except avalanche beacons turned off while in avalanche terrain. During an active search, use of emergency communication devices (satphone, VHF radio, SPOT beacon, PLB, etc) should be restricted to short-lasting emergency calls or messages at a minimum distance of 25 m from the closest searching rescuer. Avalanche beacons should be worn close to the body securely under a jacket, such that they cannot be wrenched away during the turbulent motion of an avalanche. It is inadvisable to wear ear buds and listen to music in avalanche terrain whether on the uptrack or while skiing, as it is essential that skiers have all of their senses tuned to the environment.

Daily Avalanche Risk Assessment

Having researched the terrain, route, recent trip reports, weather reports, [public avalanche bulletins](#) and other information sources, the trip should begin with a good sense of snowpack conditions and the general avalanche risk for the tour area. In some cases, the group will continue to have access to outside communications for external sources of professional avalanche-related reports and forecasts, as some huts now have low speed satellite internet connections. More often than not, however, self-guided groups will be on their own for on-going weather forecasting and avalanche risk assessment upon departing the trailhead.

It is advisable to follow a methodical avalanche risk assessment process during the tour. Involving all or at least the most experienced participants achieves two goals: (1) getting many eyeballs and brains on the task and (2) getting buy-in from the entire group regarding the conclusions drawn and the ski touring plans and safety measures derived from the process. This can be achieved by collecting weather, snowpack and terrain information throughout the day and holding avalanche risk assessment meetings each morning and evening. See the attached "[Daily Avalanche Risk Assessment Worksheet](#)". Download the form [here](#).

Avalanche Safety Drills

Comprehensive avalanche self-rescue practice is advisable before a multiday trip. This should review avalanche rescue protocols; beacon search, probing and shoveling technique; and finish with a multi-burial rescue scenario involving all trip members. The group should demonstrate a high level of self-rescue proficiency and team work before entering avalanche terrain.

A gear check will be performed each day before starting to ski:

- 1) The leader (or a designate) will perform a receive beacon check on each member of the group. One member of the group will then perform the same for the leader.
- 2) The leader (or a designate) will check that all participants have their skins. Do not accept a verbal confirmation; insist on visually sighting each participant's skins. Getting to the bottom of a run to learn someone has left their skins in the hut can lead to an epic.

Tree Wells

A tree well/snow immersion suffocation accident can happen when a skier or snowboarder falls – usually headfirst – into a tree well or deep loose snow and becomes immobilized and trapped under the snow and suffocates. In an inverted position, they can become trapped under the snow and be unable to release their bindings. Without immediate help from their partner, they may suffocate. Prevention is the key. When tree skiing, it is a good idea to caution the group about tree wells, to pair skiers of similar ability and have pairs leap frog downhill whilst keeping in voice and visual contact.

Glacier Travel

When travelling on glaciers, team members should be equipped and trained for crevasse rescue. A number of questions need to be considered. How good is the visibility? How well do you know the terrain and could it be conducive to crevasse? How deep is the snowpack? If there is any uncertainty to any of these questions, a rope should be used to travel safely.

Releasable Bindings

Risk of serious trauma and deep burial in an avalanche increases dramatically if skis or snowboards remain attached. Whereas most AT bindings are releasable, only a few Telemark or snowboard bindings are releasable. Freeride AT skiers with high DIN binding settings are also at risk. When applicable, the Trip Leader should ensure participants consider the risks of proceeding with non-releasable bindings. And, of course, hand straps should never be used on ski poles in the backcountry – many experienced skiers permanently remove ski pole straps.

Emergencies and Self-Reliance

These trips are characterized by carrying a day pack, short winter daylight hours, cold temperatures, potentially severe alpine weather, variable and possibly difficult snow conditions, high altitude gain/loss per day and rough backcountry terrain remote from quick outside assistance. Consequently, both leader and participants should be fit, self-reliant and able to deal with the worst case medical emergency - an unscheduled bivouac taking care of an accident victim. This does not mean enough gear to go winter camping i.e. go lightweight but have the essentials to survive an unplanned night on the mountain (not necessarily in comfort).

Communications

Some form of external emergency communications is highly advisable. With few exceptions, cell phones do not work in the alpine backcountry. The Trip Leader should consider alternatives such as a Sat Phone, VHF transceiver, SPOT message device or PLB. Each has pros and cons. FRS/GMRS radios can be useful for short range (~2-3 km) intra-team communications.

Participant Screening

Careful participant screening is essential for safety. Do not ski tour with anyone you don't know personally without researching their training, experience, skill level, equipment and fitness.

Group Size

A group size in the range 4-8 is probably best for a single leader. Less than four may be problematic in avalanche terrain, as there is a risk of the entire group being caught in an avalanche event. A group of more than about eight can become unwieldy due to the need to space out for avalanche safety and may be best handled as two parties with separate leaders.

Winter Backcountry Travel with Custodial Groups

Parks Canada has stringent rules regarding winter backcountry travel with "[custodial groups](#)" in national parks. Also see ACC National policy on participation of [minors](#) in club events.

First Aid Qualification

Either the Trip Leader or an Assistant Trip Leader should be "[AWFA-qualified](#)". It would be prudent to ensure that some trip participants are also AWFA-qualified.

Guidelines for Alpine Backcountry Ski Trip Leaders

- 1) prepare for an alpine backcountry ski trip:
 - a) after in-depth research, select an area, terrain and potential routes; this should include a Plan A (good conditions) and Plans B or C (poor conditions)
 - b) monitor weather reports, avalanche bulletins, snowpack profiles and trip reports from the targeted area, starting well in advance of the trip and maintaining awareness up to the departure date
 - c) estimate trip travel times, considering the short winter daylight hours, group size and experience level, terrain, snow conditions, distance, elevation gain/loss, etc.
 - d) consider whether the planned terrain is suitable for both ski and snowboard touring; if so, decide how to manage the somewhat incompatible modes of travel
 - e) prepare and publish a trip notice in conjunction with the Mountaineering Coordinator, clearly defining the level of trip difficulty, group size limit and participant fitness, skill, experience and equipment requirements
 - f) carefully screen trip participants, offering constructive suggestions for alternatives to those who do not possess the necessary fitness, skill, experience or equipment
 - g) advise participants on gear, clothing and supplies appropriate for the trip:
 - i) a modern avalanche beacon, probe and shovel are mandatory for each participant for any trip involving or potentially involving travel in avalanche terrain
 - ii) skins should be in good condition, (notably the glue and attachment hardware)
 - iii) participants should carry replacement parts and tools unique to their binding system

- iv) a headlamp, layered clothing and a personal micro-first aid kit
 - v) ensure adequate water and high energy food and snacks for the trail
 - h) consider appropriate group safety gear: snowpack analysis and recording kit, combination snow/wood saw, group first aid kit, tarp, insulated pad, small pot, small stove, fire starting kit, spare batteries, spare pole basket, spare sun glasses, micro repair kit (wire, tape, cord, electrical ties, pliers, knife, multi-bit screwdriver)
 - i) consider organizing pre-trip avalanche safety training
 - j) advise participants regarding pre-trip training and acclimatization
 - k) organize trip logistics such as transportation, hut bookings, meals, etc. as appropriate
 - l) research emergency contacts for the area, mid-trip bailout routes, communication options and conceptualize how an accident would be handled
 - m) ensure all participants read and sign the trip waiver prior to the trip; pass the signed waiver to the Mountaineering Coordinator at the earliest opportunity
- 2) essential knowledge and skills related to travel in avalanche terrain
- a) [avalanche skills training](#) requirements by ATES terrain rating
 - i) Trip Leader:
 - (1) Non-avalanche terrain: AST1
 - (2) Simple terrain: AST 2 recommended; AST 1 minimum
 - (3) Challenging terrain: AST 2
 - (4) Complex terrain: AST 2
 - ii) Participants:
 - (1) Non-avalanche terrain: no firm requirement but basic avalanche safety awareness is recommended (e.g. ~2 hours of classroom instruction)
 - (2) Simple terrain : AST 1 recommended; otherwise one day of private avalanche safety training prior to the trip
 - (3) Challenging terrain: at least one with AST 2; remainder AST 2 recommended, AST 1 minimum
 - (4) Complex terrain: at least 50% of participants with AST 2, remainder AST 1
 - b) proficient in terrain assessment, snow pack analysis and stability assessment, avalanche risk assessment, route selection and planning
 - c) safe and efficient track setting in a wide variety of terrain
 - d) highly skilled in leading avalanche self-rescue
- 3) other core knowledge and skills:
- a) skilled backcountry navigator with map and compass in all types of weather and terrain, including whiteout conditions above treeline; skilled in GPS navigation
 - b) bushcraft skills: improvise an emergency shelter both above and below treeline, light a fire under adverse conditions
 - c) knowledgeable about clothing layering options for efficient backcountry travel
 - d) minimizing sun exposure
 - e) preventing, recognizing and treating hypothermia

- f) monitoring and interpreting alpine weather signs
 - g) mountaineering route finding skills
 - h) recognizing and dealing with alpine backcountry hazards: changing weather, widely variable snow conditions, avalanche risk, equipment failure, tree skiing, tree wells, creeks, terrain traps, steep ascents and descents
 - i) glacier travel skills, including crevasse rescue (if applicable to the trip)
 - j) resourceful in making field repairs to equipment with minimal tools and supplies
 - k) level-headed, calm and resourceful in an emergency
- 4) supervise trip safety:
- a) delegate tasks to assistant trip leaders and engage other experienced participants
 - b) double-check items of participant gear and supplies considered critical to the trip, to include avalanche safety gear and group safety gear
 - c) if applicable, ask participants to check the DIN release settings on rental bindings as the rental agency may have reset them to the lowest setting by default
 - d) brief participants on trip-specific safety hazards and safety procedures, with particular emphasis on avalanche safety
 - e) set a turnaround time
 - f) the default option for glacier skiing is to rope up; unroped glacier skiing requires benign glacier conditions, good visibility, good judgment and experience
 - g) when tree skiing, caution skiers about the tree well hazard, have them buddy up, stay in voice contact and leap frog down slope to a pre-defined regrouping point
 - h) maintain situational awareness with respect to terrain, snow conditions, weather, location, speed of travel, time of day, participant energy level and frame of mind, etc. and be ready to change plans, if appropriate
 - i) good judgment to make tough, perhaps unpopular, safety-related decisions
 - j) understand the club Emergency Response Protocol and take charge in an emergency

Useful References

1. [Avalanche Terrain Exposure Scale \(ATES\) Technical Model](#)
2. [Companion Rescue Card \(ACMG\)](#)
3. [Daily Avalanche Risk Assessment Worksheet](#)
4. [Tree Wells and Snow Immersion Suffocation Accident Hazard](#)
5. [Avalanche Terrain Ratings in National Parks](#)
6. [Avalanche Terrain Maps in National Parks](#)
7. [ACMG Mountain Condition Reports \(MCRs\)](#)
8. [Canadian Avalanche Centre \(CAC\) Avalanche Bulletins](#)
9. "Backcountry Avalanche Awareness", Bruce Jamieson, 8th Ed., Canadian Avalanche Assoc.
10. "Technical Handbook for Professional Mountain Guides", Association of Canadian Mountain Guides (ACMG) and American Mountain Guides Association (AMGA), 1999.

ACC Ottawa - Morning Avalanche Risk Assessment Meeting

v1.1, 4 Sep 2013

Date	Time	Trip	Trip Leader
Participants			

Weather Forecast (if available)

Morning Weather Observations

Time	Location	Elevation
Temperature	Precip (type/rate)	Wind (speed/direction)
Ridge Top Wind	Sky/Ceiling	Barometer
Height Snow	Height New Snow	Height Storm Snow

Previous Stability Analysis

Alpine	Treeline	Below Treeline
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Significant Factors

Avalanche Activity/Slope Tests

Snowpack Tests

Snowpack Structure/Significant Weak Layers

Weather Factors (Temperature, Precipitation, Wind, Radiation)

Results of Morning Stability Analysis

Alpine	Treeline	Below Treeline
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Proposed Tour

Route	Alternatives
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Hazard Evaluation and Proposed Safety Program

ACC Ottawa - Evening Avalanche Risk Assessment Meeting

Date	Time	Location	Elevation
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Today's Field Terrain and Snowpack Observations

Avalanche Activity/Slope Tests

Snowpack Tests

Snowpack Structure/Significant Weak Layers

Route Conditions

Today's Field Weather Observations

Time	Loc	Elev	Temp	Wind	Precip
Time	Loc	Elev	Temp	Wind	Precip
Time	Loc	Elev	Temp	Wind	Precip

Evening Weather Observations

Time	Location	Elevation
Temperature (high/low)	Precip (type/rate)	Wind (speed/direction)
Ridge Top Wind	Sky/Ceiling	Barometer
Height Snow	Height New Snow	Height Storm Snow

Hazards, Notes, Significant Factors

Results of Evening Stability Analysis

Alpine	Treeline	Below Treeline
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