



Rocky Mountain Ramblers

Outdoor Activity Guide

April, 2019

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CHAPTER 1: MEMBER'S AGREEMENT TERMS

Introduction

In consideration of being permitted to join the RMRA and to participate in the outdoor activities organized and sponsored by the RMRA (the "Activities"), members acknowledge and agree to these terms herein.

Some terms are specific while others are more general in nature. Specific terms may be viewed as regulations, such as adherence to the Risk Management Policies. Other terms that are more general reflect basic philosophies and attitudes that help define us as an Association.

These terms constitute some of the conditions of the contractual relationship between members and the Association. The RMRA, through the Executive, may view members who disregard or abuse these conditions as having breached that contractual relationship, and may cause to have that relationship terminated.

The following terms of membership are referenced by, and form part of, the Member's Agreement.

1. Member in Good Standing

I must have a valid RMRA Membership. I will only participate in Activities while my membership is in good standing, and that by signing the activity trip sheet I am confirming that I am a member in good standing.

2. Personal Safety

No coordinator or member of the RMRA assumes any responsibility whatsoever for my safety during the course of my preparation for or participation in the Activities.

3. Risk Management Policies

I agree to learn, follow, and be bound by all RMRA Risk Management Policies and Guidelines whenever I participate in the Activities. I agree to make the Coordinator aware at any time when I question my knowledge of these Risk Management Policies or my ability to participate in any Activity.

4. Respect of the Environment

I agree to be respectful of the fragile nature of the wild lands and ecosystems we visit; to minimize my impact on the landscape by practicing a 'leave no trace' philosophy; to abide by government and park regulations and closures; to take out all my garbage and to practice proper wilderness sanitation techniques; to leave wildlife undisturbed if possible; to take back only pictures and memories and to leave flowers, fossils and similar treasures as they are for others to admire.

5. Preparation

I am personally responsible for my preparation prior to joining the Activities. Such preparation will include, but not be limited to:

- my health and physical fitness;
- securing adequate prerequisite knowledge of wilderness hazards, and skills to meet trip requirements;
- the adequacy and condition of my safety and wilderness equipment;
- the adequacy of my clothing and my supply of food and water to meet the demands of extreme weather or extended activity time;
- familiarizing myself with the Activity by reading books describing the route, determining potential hazards, being aware of weather forecasts and their potential impact on the Activity, consulting maps, discussing with other members who have taken the trip; and.
- contacting the Coordinator if I have any questions.

Under no circumstances will I expect the other Participants and/or the Coordinator to provide remedies in the event of my carelessness.

6. Adequate Ability

I will participate only in Activities where my skill level, physical endurance, current physical condition and mental attitude will allow me to adequately complete the Activity without becoming a burden to the Coordinator or to the rest of the group.

7. Decisions of the Group

I agree to abide by the decisions of the Group such as those regarding the route taken; trip objectives; turnaround time; pace; and duration and frequency of rest stops.

I agree that I will participate in Group decisions to minimize exposure to known risks, but if such decisions impose physical risks on me greater than my tolerance to risk allows, I agree to immediately inform the Coordinator of my discomfort or my inability or unwillingness to continue. I acknowledge that the Coordinator may cast the tie-breaking vote in group decisions and may propose, if another willing Coordinator or sufficiently experienced and willing member is available, to split the group into sub-groups to accommodate different skill and ability levels.

8. Right of Refusal

I confirm that the trip Coordinator or the Group has the right to refuse to let me participate in any Activity if, in the Coordinator's or the Group's opinion, I am not adequately equipped or in any other way I am unfit or unsuitable for the trip.

9. Staying with the Group

I agree to stay with the group subject to my abilities to keep up with the group; and agree to discuss with the Group and the Coordinator any alternate route I wish to take, and agree to abide by the decision of the Group and the Coordinator on my taking that alternate route.

10. Medical Conditions

I agree to constrain my choice of Activities to those that I have a reasonable chance of completing without great personal discomfort or placing undue stress on others; that I will inform the Coordinator before the trip if I have a medical condition that may under certain circumstances require medicinal or minor remedial care; that I will endeavor to have a friend in the group who knows of my condition and knows how to help me if my condition worsens; that I take with me personal medicines and/or instructions that could be administered by others if I was in no condition to administer myself; and that I will immediately inform the Coordinator if I feel my medical condition is worsening.

11. Dogs

Bringing a dog on a trip must be pre-approved by the coordinator. I realize that dogs (leashed working guide dogs excepted) may not be appreciated by other Activity participants; that dogs may have an adverse effect on wildlife, including wildlife endangering the dog and/or the participants; that I am responsible at all times to keep my dog under control and to abide by park and government regulations; and I confirm that the Coordinator has the right to refuse my participation in the Activity because of my dog.

12. Extraordinary Expenses

I am fully responsible for all costs and expenses which may be incurred in providing any special services to me, outside of regular services agreed to or provided by the RMRA in connection with the Activities, and without limiting the generality of the foregoing, I agree to be responsible for and to pay for all and any costs of rescues, special travel, medical attention or other special outlay for me personally, and to reimburse the RMRA or any member of the RMRA for all costs of these services as may be incurred by them for my benefit or at my request.

13. Financial Losses

I am fully responsible for any financial losses resulting from my inability to attend to normal business functions or from lost business opportunities due to participation in the Activities, or from delay or extension of the Activities, or from disability due to injury or illness incurred during the Activities.

14. Alcohol, Drugs

I will refrain from being under the influence of alcohol or mind-altering drugs while participating in the Activities.

15. Volunteer Drivers

I realize that volunteer drivers are necessary for access to the Activities, and that should I volunteer to drive I will keep my vehicle in a safe operating condition; that I will operate my vehicle in a manner consistent with safe driving practices; that I have at least the minimum car insurance as required by law; and that I may expect a reasonable contribution from passengers for auto expenses as suggested by the RMRA Executive.

16. Consent to First Aid

I consent to receive first aid by the coordinator and/or other participants in the event of an accident or illness during an RMRA Activity. However I reserve my right to refuse that first aid if I am in a clear and conscious state.

17. Guests

I agree to accompany my guests on all Activities that they may participate in while they are Guest Members of the RMRA. I will provide advance notice to the coordinator that I wish to bring a Guest and arrange for the Guest to complete any required waivers prior to arriving at the meeting location.

18. Minor Children

If I am designated a Responsible Member for a minor child by a parent or legal guardian of the child, then I agree to:

- get the Coordinator's approval to bring a child on the trip;
- be responsible for no more than one child at a time on any given Activity;
- be solely responsible for the safety and well being of the child; and
- stay with the child at all times during the Activity, including transportation to and from the Activity.

CHAPTER 2: PARTICIPANT'S RESPONSIBILITIES

Consideration of Other Participants

Participants with greater skills or endurance may have to lessen their expectations in order to keep the group together. Those with lesser skills or endurance may have to increase their level of efficiency and commitment to keep up with the group. In either case a positive, constructive attitude and a consideration for others increases the enjoyment of the activity for all.

Car Insurance

Members who occasionally volunteer to drive will need to have adequate car insurance as required by law in the jurisdictions in which they intend to drive. The Release of Liability, Waiver of All Possible Claims and Assumption of Risk form which members sign does not apply to damages and claims arising from a motor vehicle accident. Members who volunteer to drive on a regular and frequent basis should consider getting a rider on their insurance policy and increase their limits of coverage. Drivers traveling in the United States should also increase their insurance coverage.

Medical Insurance

Participants should carry their Health Care card while on RMRA Activities, and should purchase additional insurance when visiting locations outside Canada.

Avalanche Awareness

Members who participate in trips into avalanche terrain must take a basic avalanche awareness course and keep up to date with refresher courses (see [Avalanche Risk Management Policy](#)).

Staying Found

There is a temptation while in a group to simply follow without paying attention to the route. If you become separated you may become lost if you do not know where you are or how you got there. The following are some ways to stay found:

- know the route beforehand using guide books, maps, and other people's knowledge,
- pay attention at the trailhead meeting,
- observe your relation to prominent topographic features as you go,
- look back often at the route just taken, it sometimes looks quite different,
- bring and know how to use a map and compass,
- wear some article of brightly colored clothing.

Be Aware of Hazards

Do not blindly follow the group into hazardous terrain or conditions. Be observant for potential hazards along the route:

- slopes prone to avalanche or rockfall,
- deteriorating weather conditions,
- fresh signs of large animal activity (bear).

Condition of Participants

Be observant of your condition and the condition of your fellow participants. Let the Coordinator know if your condition or that of other participants is deteriorating, such as due to:

- exhaustion due to the pace or duration of the trip,
- a medical condition,
- cold injuries - frostnip, frostbite, hypothermia,
- heat injuries – sunstroke, sunburn,
- dehydration,
- blisters and other pains,
- stress from anxiety.

Emergency Supplies

The following are lightweight supplies that all participants can bring for emergencies:

- 2 large garbage bags that can be used as a simple overnight shelter (orange bags are most visible)
- small flashlight for signaling, or travel at night
- some extra food and water
- toque, mitts, and extra sweater and socks
- pocket knife and matches for fire making
- toilet paper
- water purification tablets

Information sheets available on the website and at RMRA meetings provide additional information on the equipment and clothing to bring on trips.

Trip Signup

Members who sign up for trips, or inform the Coordinator that they will be participating, will be expected to show up at the meeting place at least 5 minutes before the designated departure time to arrange car pools. If they find out later that they cannot participate then they should inform the Coordinator as soon as possible.

End of Trip

Wait at the trailhead at the end of the trip until everyone is accounted for. Volunteer to post a trip report or photos on the website.

APPENDIX 1: RISK MANAGEMENT POLICIES AND GUIDELINES

All participants on RMRA trips and activities are subject to the requirements of Risk Management Policies as determined by the Coordinators Council.

<u>Group Management Policies</u>	5
- <i>No one should leave the group without consulting with the Coordinator</i>	
<u>Avalanche Risk Management Policy</u>	6
- <i>Required reading for all Participants on trips into Avalanche terrain</i>	
<u>Rock Helmet Policy</u>	8
- <i>Rock helmets are required by all participants on summer trips that are Difficulty Level 7 or higher.</i>	
<u>Bicycle Helmet Policy</u>	9
- <i>Participants riding bicycles are required to wear a bicycle helmet</i>	
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Group Management Policies

"No one should leave the group without consulting with the Coordinator."

Problems can arise if one or more participants leave the group unannounced:

- The separated members could become lost, or stray onto more difficult terrain,
- The main group may have to abort the trip and conduct an unnecessary search,
- The main group cannot make alternative plans without abandoning the separated members.

There are times when a Coordinator may decide to split the group into 2 or more sub-groups:

- When the group is abnormally large,
- When diverse abilities of participants warrant different goals.

When a group is split up it is advisable that each sub-group has a Coordinator. The time and location for rendezvous should be clearly set.

"The Coordinator should ensure that all participants have returned to the trailhead at the end of the trip."

Depending on the nature of the trip and the number of participants this would usually mean that the coordinator or a designate would sweep the route on the way back out. All participants should wait at the trailhead until everyone is accounted for.

"At the discretion of the Coordinator, some, or all participants may be required to have a radio where there is an increased risk of members becoming separated".

Some activities, such as back-country skiing in trees have a higher risk of members becoming separated, but this can also happen when larger hiking groups become too spread out, and the wrong trail is followed. Many commercial backcountry ski lodges now issue all their guests with radios, and these have virtually eliminated the problem of lost skiers, and have also provided for a rapid response to injuries and equipment failures.

FRS radios (Family Radio Service) have been approved for use in Canada since April 2000, and provide a choice of 22 channels. The range will depend on the channel selected and the amount of tree cover, but is typically between 3 and 5 km in dense forest, provided there are no terrain obstructions. It should be noted that not all frequencies transmit at the same power level; channels 1 to 7 and 15 to 22, operate higher power than channels 8 to 14 (2 watts versus 0.5 watts), so selecting a higher power frequency is preferable.

It is critical at the start of a trip that the Coordinator confirms the channel and privacy tone to be used. Participants should also be reminded to keep their radio switched on, and avoid using it for unnecessary chatter.

Avalanche Risk Management Policy

Regional Avalanche Danger	Avalanche Terrain		Non-Avalanche (Green) Terrain
	Below Treeline	Treeline & Alpine	
Low	Recommended	Required	No Requirements
Moderate	Recommended	Required	
Considerable	Recommended	Required	
High	Required	No Trip	
Extreme	No Trip	No Trip	

Avalanche Equipment

- Avalanche Transceiver: 457 kHz , digital, minimum 3 antenna, batteries charged above 50%
- Avalanche Probe or Avalanche Probe Ski Poles, and
- Shovel

Required

All participants are required to carry avalanche equipment.

Recommended

Carrying avalanche equipment is recommended.

No Trip

The trip should be canceled.

Avalanche Terrain

Terrain capable of producing an avalanche, as well as surrounding terrain that could potentially be affected by an avalanche.

Non-Avalanche (Green) Terrain

Usually flat or low angled terrain situated well away from any avalanche terrain. Local features may exist such as trail embankments, building roofs, etc. that could produce a small slide capable of burying a person. Participants should take the safest logical route and be aware that flat light or whiteout conditions may cause them to stray onto more hazardous terrain.

Treeline

For this Policy treeline is the upper edge of the dense forest. If you can ski easily through the trees then you are most likely Above Treeline.

Alpine

Wind action at and above treeline builds slabs in lee and cross-loaded areas. The resulting slabs are often less stable than the surrounding snowpack and can be difficult to recognize. Alpine areas are most exposed to the effect of wind on snowpack distribution. Near treeline wind generally has less effect on snowpack distribution but the distribution is complicated by bands of trees that may act as snow fences. Human triggered slab avalanches are a major concern (89% of accidents due to avalanches occur Above Treeline).

Below Treeline

The effect of wind is further reduced in dense forests below treeline. The snowpack is generally more stable in dense forests than in areas with larger spacing between the trees. However dense forests do not stop avalanches originating above treeline from running through them. Buried surface hoar is often more developed in sheltered areas and logging cut blocks than in areas above treeline that are more exposed to the wind. The major concern below treeline is naturally triggered avalanches running down distinct tracks and runouts.

Regional Avalanche Danger

Compiled by Avalanche Canada in Revelstoke on a regular basis, usually twice a week. *The rating levels are only general guidelines.* Distinctions between geographic areas, elevations, slope aspects and slope angles are approximate and transition zones between dangers exist. The information is available on their internet site: www.avalanche.ca

Training Requirements

Participants on trips into avalanche terrain are required to have taken an Avalanche Skills Training (AST), minimum level 1 course or have equivalent experience. Unless a participant has taken the course within two years prior to the trip, they are required to have participated in a Rambler in-house avalanche rescue refresher workshop (or equivalent other refresher) within the last two years.

Canadian Avalanche Danger Scale

Danger	Natural Avalanches	Human Triggered Avalanches	Advice for Ski Tours in Avalanche Terrain
Low	very unlikely	unlikely	travel is generally safe, normal caution advised
Moderate	Unlikely	possible	use caution in steeper terrain on certain aspects
Considerable	Possible	probable	be increasingly cautious in steeper terrain
High	Likely	likely	travel in avalanche terrain is not recommended
Extreme	numerous certain	numerous certain	avoid avalanche terrain; stay away from runouts

Factors Common to Accidents

Where

The majority of accident avalanches start above or near treeline on lee or cross-loaded slopes. Most start on 30 to 40 degree slopes but can start on lesser slopes depending on snowpack stability.

When

Many accidents occur during pleasant weather: generally clear skies, little or no snowfall and light or calm winds.

How

Human-triggered dry slab avalanches are the cause of most avalanche accidents. The weak layer often consists of surface hoar, facets or depth hoar.

Avalanche Risk Management

Avalanche risk management is best served by avoiding avalanche terrain. On trips with known avalanche danger participants can reduce their risk of being caught in a slide by proper planning, by safe route finding, by avalanche terrain analysis, by snow stability evaluation techniques, by awareness of changing conditions, and by good group management. **This attitude is by far the most important factor in avalanche risk management and should be your highest priority in the backcountry.**

The Winter Trips list has trips with Non-Avalanche (Green) Terrain for those who wish to avoid avalanche hazards.

Travel in avalanche terrain always carries some risk, and even experts get caught through misjudgment or bad luck. How prepared a group is to respond to an avalanche incident is a major concern of this Policy. According to the Avalanche Canada the best, if not only, chance a buried person has for survival is for rescue by other members of the group. An avalanche transceiver search is the most effective method of locating a buried victim. Probes and shovels are essential to then rapidly uncover the victim who would soon die of asphyxiation.

Coordinator's Responsibilities

If a Below Treeline trip has Recommended avalanche equipment, Coordinators should decide if avalanche equipment is Required for their trip, and should state this clearly when the trip is announced. On the day of the trip the coordinator should:

- check the latest regional avalanche danger level
- ensure the trip requirements are met as stated in this Policy
- have an alternate trip planned

Participant's Responsibilities

If avalanche equipment is required for the trip then the participant should:

- bring all required equipment in proper working condition
- be familiar with the equipment's use and regularly practice using it.
- confirm transceiver battery life is at least 50%
- on the day of the trip, check the latest regional avalanche danger level



(avalanche off Snowdome)

Rock Helmet Policy

"Rock helmets are required by all participants on summer trips that are Difficulty Level 7 or higher"

Rockfall Danger

Risk from falling rock is always present in steep mountainous terrain. Natural causes of rockfall include high winds, running water, freeze-thaw cycles, animal movement, and naturally occurring slides. Human activity from members of your group or from others above is probably of the most concern. Always be aware of where you are in relation to others on the slope.

Summer trips of difficulty 7 or higher generally encounter terrain steep enough to make rockfall a significant hazard to consider. This Policy does not require the helmet to be worn at all times, but common sense should dictate when the helmet should be put on. Many members make a habit of bringing their helmets on all Scrambles and Mountaineering trips.

⇒ ***Do not wait for others to put their helmets on. Use your head to save your head!***

Some less difficult Trail and Off-Trail trips pass beneath cliffs where rockfall is quite common. One example of this is the trail beneath the Yamnuska cliffs where wind and climbers can send rocks down. In this case it may be less risky to stay very close to the base of the cliff and to move as quickly as possible to a point of minimal risk.

Minimize Rockfall Risk

Learn how to move over rock as a group. If possible stay side by side while moving up or down a broad slope. This will not place anyone above anyone else. In confined areas stay close together as a group so any dislodged rock does not gather sufficient speed to be dangerous. In some short sections it may be best to move one at a time. Be aware of other groups above you, and do not assume there is nobody below you. Be as careful as you can to not dislodge rocks yourself by planning and placing each step carefully. Make it a point of personal pride to not dislodge any rocks, even if no one is below.

⇒ ***If you do dislodge a rock while someone is or may be below you yell "ROCK!" quickly and as loud as you can.***

Other Dangers

A helmet can save serious head injury from falls while scrambling or climbing. Many members have saved their heads from minor but painful bumps due to inattentive moments near a rock face.

Rock Helmets

UIAA approved rock helmets are designed specifically to prevent injury from falling rock. New models are light weight and breathe well. They should be worn properly to protect the forehead. Bicycle helmets are not made to stop small falling rocks, and motorcycle helmets are unnecessarily heavy, but both are better than nothing at all.



Bicycle Helmet Policy

"Participants riding bicycles are required to wear a bicycle helmet"

Minimum Participants Policy

"RMRA trips require a minimum of 3 adult participants"

Club members have in the past and will continue in the future to suffer serious illness and accidents. The victim may require an external rescue. The main purpose of this Policy is to ensure that there are enough adult participants to adequately respond to an incident by attending to the victim and by initiating a rescue.

⇒ *A victim of a serious illness or accident should never be left alone.*

Shock is always present with injury and can lead to death if not attended to. Heat production is significantly lowered making the victim subject to cold injuries, specifically

hypothermia. A mildly hypothermic immobilized victim is in serious trouble and will need all the resources available in the field to stay alive. A victim of advanced hypothermia is extremely difficult to treat. Hypothermia can occur in all seasons, and participants should bring sufficient clothing to be prepared for cold conditions on all trips.

If an injury or illness immobilizes a participant then there is at least one person to go for help and at least one person to stay with the victim.

Depending on the seriousness of the trip and the experience of the participants the Coordinator may require a larger minimum of participants for the trip to go ahead.

Trailhead Meeting Guideline

The Coordinator should conduct a short meeting with all participants at the trailhead before the start of the trip. There are many good reasons for doing this:

- The destination and route to be taken could be briefly discussed;
- Potential hazards or route finding problems could be noted;
- The Coordinator may designate a volunteer to lead or to sweep the group;
- A turn-around time could be noted;
- The time and/or place for the lunch break could be noted;
- An indication of the desired pace and number of rest breaks could be noted;
- New people could be introduced;
- A determination could be made of who has a first aid kit and, if relevant, a repair kit;
- The meeting ensures everyone starts out together.

APPENDIX 2: RISKS AND HAZARDS

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[RMRA Risk Management](#).....13

General Risks and Hazards

Outdoor Activities are Dangerous

⇒ *RMRA outdoor activities have associated risks that are DANGEROUS, exposing participants to Objective and Subjective hazards that can lead to serious injury, even DEATH.*

Objective hazards are an inherent part of the environment where the activity takes place. Natural rockfall off cliffs is an example. Groups can manage these risks by minimizing exposure to or by completely avoiding these hazards if possible.

Subjective hazards are introduced by the participants themselves. Rockfall caused by individuals is an example.

Some risks and hazards are foreseeable while others are not. These risks can be minimized by group management, by the experience and training of the participants, and by adherence to RMRA Risk Management policies.

Human Error and Negligence

⇒ *While some risks are inherent in the very nature of the activities themselves, others may result from human error and negligence on the part of persons involved in preparing, organizing, staging, and participation in the activities.*

Enjoyment & Excitement of Activities

Participants must acknowledge that the enjoyment and excitement of these activities is derived in part from travel to remote and wild environments. Participants must also acknowledge that activities with varying degrees of adventure and risk, both foreseen and unforeseen, contribute to such enjoyment and excitement.

Wilderness Terrain

Steep slopes in their natural state have many dangerous obstacles and hazards that may be hidden from view by snow, grass, or foliage, including but not limited to:

- loose rocks and boulders
- rock bands and cliffs
- snow cornices and wind scoops
- tree stumps, tree wells, and tree deadfall
- trees and foliage with sharp branches
- holes and depressions below the snow or ground surface

Man-made obstacles and hazards may include:

- logging and other roads
- steep road banks and washouts
- fences and other structures

In forested areas, wild rugged terrain, or bad weather, participants may become lost or separated from the rest of the group.

⇒ *Communication in this mountainous terrain is always difficult and in the event of an accident, rescue and medical treatment may not be available.*

Rockfall

Participants can be exposed to rockfall any time they are on or beneath steep slopes. Rock can fall naturally from wind, animal activity, erosion, and freeze-thaw cycles. Participants are also a frequent cause of falling rock.

Techniques to reduce the risk from rockfall and when the use of helmets is required are outlined in the [Rock Helmet Policy](#).

Snow Avalanches

Avalanches may be caused by natural factors including steepness of slope, snow depth, instability of the snowpack, or changing weather conditions. Natural avalanches occur most frequently during and just after major snowstorms, and during periods of rapid rise in temperature, especially to above the freezing point.

Avalanches may also be caused by the actions of the participants. Human triggered slab avalanches account for the most deaths and are a major concern for groups in avalanche terrain. Slabs are difficult to discern, unpredictable in stability, and can remain hazardous throughout the winter season.

Avalanches are a principal hazard of skiing, snowshoeing and winter hiking. Participants are encouraged to take a course in avalanche awareness to learn how to recognize, travel through, or avoid avalanche terrain.

The [Avalanche Risk Management Policy](#) sets minimum requirements for participants. On many trips all participants require avalanche equipment.

Glaciers

The principal risk of travel on glaciers, either on skis or on foot, is falling into crevasses. This risk can be reduced by roping participants together and by using route-finding skills to avoid crevasses. Groups should have skills and equipment to perform crevasse rescues if necessary.

Whiteout conditions can cause groups to become lost, to be delayed, or to move onto more hazardous terrain. Groups should pay careful attention to changing weather conditions and carry enough equipment and supplies to wait for better weather. Placing wands (flagged stakes) on routes can enable groups to retrace their route in a whiteout. GPS devices are useful to locate a group's position, but may not be accurate enough to avoid crevasses.

Seracs (large ice blocks) can fall at any time. Travel beneath seracs should be avoided or minimized. Normal precautions for snow avalanches are required by participants as well.

Extreme Weather

Low visibility due to fog, low cloud, blowing snow and whiteout conditions can cause participants to stray onto more treacherous terrain, or to become lost and disorientated, or to become stranded.

High winds and gusts can cause loss of footing and balance. High wind chill factors can cause frostbite and hypothermia.

Rain, sleet and snow can make trails, grassy hillsides, and rock routes treacherously slippery. Lichen covered boulders can become extremely slimy when wet. Streams that were once easy to cross can become impassable with heavy rains.

Cold temperatures in winter can lead to frostbite and hypothermia. Even cool temperatures in spring, summer and fall can lead to hypothermia, especially if accompanied by wind and wet weather. Always carry rainwear in wet weather months and extra warm wear all year round.

High temperatures can lead to heat exhaustion, heat stroke, and dehydration. Wear clothing that ventilates well, and shades from direct sunlight. Carry plenty of extra water and drink often. Avoid overexertion.

Prolonged exposure to sunlight especially at high altitudes or on reflective surfaces such as snow and ice can lead to sunburn and snow blindness. Wear protective sunscreens, good sunglasses, and clothing that shades.

Lightning

Thunderstorms and associated lightning strikes are weather extremes that are of great concern during the summer months. When a storm threatens get off high exposed summits and ridges as quickly as possible. Know what are dangerous locations during a thunderstorm and what are

safer locations. Always be alert for possible changes in weather conditions.

Large Animals

Encounters with bears, elk, moose, and other large animals can result in injury and disfiguration. Black and Grizzly Bears especially require participants to take precautions to avoid encounters. The following are some measures that can be taken in bear country:

- travel in groups of four or more, and stay together
 - make noise
 - be aware of bear signs, and where bears are likely to be
 - keep a clean camp, hang food, and cook downwind away from camp
 - be knowledgeable of recommended actions during an encounter
- consider carrying pepper spray and know how to use it

Small Pests

Bacteria, protozoa and to a lesser extent viruses can contaminate natural occurrences of water. Giardia is a common protozoa which causes 'beaver fever'. Unfortunately almost all water should be suspect unless its source is nearby and deemed safe (i.e. snowfields). Boiling, filtering, and to a lesser extent chemical treatments are methods employed in the wilderness to treat water.

Ticks are small spider-like insects that need blood to continue their life cycle. Some ticks may be carriers of Lyme Disease or Rocky Mountain Spotted Fever (there have been very few occurrences locally). Ticks can usually be found on terrain frequented by sheep and other ungulates during the months of May and June. Precautionary steps such as careful body checks and wearing clothing that restricts access to arms and legs can be taken to ensure you are tick free.



Bees, wasps and other stinging or biting insects can be hazardous to people who develop serious allergic reactions. Participants who suffer these reactions should carry appropriate medications, wear medic alert bracelets, and forewarn the trip Coordinator.

Stream & River Crossings

Accidents while crossing rivers and streams can lead to property loss, hypothermia from immersion in cold water, and death from drowning. Water levels and currents can fluctuate:

- seasonally, with late spring usually being the most dangerous
- daily, with glacier fed streams rising quickly during the day, especially in hot weather
- after periods of heavy rainfall.

A crossing that was once easy may not be passable on the return trip.



[French Creek]

Exposure to Heights

Participants can experience vertigo (a sensation of dizziness or imbalance) when exposed to heights. While a respect for heights is necessary for good judgment, vertigo can impede judgment and render participants helpless. Judge your capabilities carefully before committing yourself to exposed routes.



High Altitude Sickness

Trips may take participants to altitudes above 3000 meters. Some people are more sensitive to the lower atmospheric pressures encountered and may suffer symptoms of high altitude sickness. Headaches, light-headedness, or nausea are generally the first symptoms. Retreating to lower elevations is the best remedy.

Medical Conditions

Participants with medical conditions may deteriorate during a trip. Problems may develop from:

- overexertion (heart condition, asthma, diabetes)
- falls (back problems, arthritic or artificial joints)
- prolonged activity time (diabetes)

Participants should carry appropriate medications, wear a medic alert bracelet, and notify the Coordinator before the trip.

Failure of Equipment

Equipment failures are at least inconvenient and at worst can be fatal, such as:

- failure of hardware or rope used as an aid to climbing or for crevasse rescue can be fatal,
- failure of bicycle or ski equipment → loss of control and injury, or being stranded in remote locations,
- failure of avalanche transceivers can result in buried victims not being found,
- failure of stoves can result in improper food preparation and no water from snow melt in winter,
- failure of headlamps → hazardous travel in the dark.

Make sure all equipment is in proper working order and that you have a repair kit and know how to use it.

Travel and Transportation

Vehicle transportation to and from activity staging locations may include hazardous travel:

- on congested high speed freeways,
- on roads made slippery by rain, snow or ice,
- on narrow mountain access roads prone to slides and washouts,
- on roads with poor visibility due to fog, hail, or blowing snow.

Volunteer carpool drivers may be fatigued at the end of the activity and subject to drowsiness on the return drive home. Passengers should be alert to the driver's condition.

Volunteer carpool drivers' vehicles may not be in adequate mechanical condition resulting in being stranded in remote locations or being involved in an accident. Drivers should ensure their vehicles are in proper working condition.

Camping

The use of tents, huts, hostels, campers, etc. present participants with risks, such as:

- burns from campfires and explosive fuels used by stoves, lanterns, and heaters,
- carbon monoxide poisoning from improper ventilation of stoves, lanterns, and heaters,
- scalds from hot water,
- collapse of shelters (tents, pop-up campers) from wind or snow,
- cuts from use of knives, axes, or saws.

RMRA Risk Management

Risk Management Plan

The RMRA minimizes legal and physical risks to its members:

- by being registered under the Societies Act of Alberta,
- by allowing only members in good standing, their guest members, and minor children to be participants on RMRA trips,
- by requiring that all members read, understand, and sign the Member's Agreement and the Release of Liability, Waiver of All Possible Claims and Assumption of Risk,
- by requiring that all guests read, understand, and sign the Guest's Agreement and the Release of Liability, Waiver of All Possible Claims and Assumption of Risk,
- by requiring a parent (or legal guardian) of participating minor children to read, understand, and sign the Release and Waiver for Minor Children,
- by having a permanent Risk Management Committee to assess risk management measures for the club,
- by formulating and enforcing Risk Management Policies that conform with generally accepted standards in the outdoor community,
- by using a comprehensive Trip Rating System,
- by making the following information readily available to all members online:
 - Risk Management Policies,
 - Trip Rating System and lists of rated trips,
 - Risks and hazards associated with RMRA activities,
 - Participant's responsibilities,
 - General information on outdoor topics,

Release of Liability, Waiver of All Possible Claims and Assumption of Risk

The Rocky Mountain Ramblers Association is founded on the principle that its members are solely responsible for their own safety and well being. Amateur volunteers who have no special training or skills in preparing, conducting or leading outdoor activities run the Association.

⇒ *Members give up their right to bring a court action to recover compensation for any injury to themselves or their property. They also give up their family's right to bring an action to recover compensation as a result of their DEATH.*

⇒ *Members assume both physical and legal risks which have potential financial implications for themselves and/or their family should they be injured or killed while participating in an Association activity.*

No Insurance

The RMRA does not carry any insurance for its members or for its assets, which are minimal.

Educational Programs and Courses

From time to time the RMRA conducts free Wednesday evening programs on risk management issues and outdoor topics. These programs are conducted either by experienced members or by outside professionals.

Courses on First Aid and Avalanche Awareness may be offered seasonally. These courses are taught by recognized professional organizations. The club annually allocates funds to subsidize Coordinators taking these courses.

Communication with Other Clubs

The RMRA keeps in contact with other like-minded outdoor clubs through membership in the Alberta Hiking Association.

APPENDIX 3: TRIP RATING SYSTEM

Purpose of the System

Participants must know the following before deciding to go on a trip:

- what type of trip is it?
- what skill level is required?
- how physically fit should I be?

and additionally if it is a winter season activity:

- does the trip encounter avalanche terrain?

Currently the System rates the most popular activities in the club: hiking, snowshoeing and skiing, and associated hiking and skiing backpacking trips. Bicycling and other activities are generically rated as Easy, Intermediate or Difficult.

Lists of Pre-Rated Trips

In conjunction with the Trip Rating System the club has compiled a comprehensive list of pre-rated hiking and snow activity trips. The ratings for these trips were determined by a consensus of RMRA members and others in the outdoor community. The ratings will continually be refined and updated as more club experience is acquired. There are separate lists for summer and winter trips which can be found on the Members Area of the website.

⇒ *New members are encouraged to start out on easier trips to get a feel for the system.*

Category of Trip

What Type of Trip Is It?

The Category indicates the type of activity and terrain encountered, and suggests what equipment and skills would be needed to safely enjoy the trip. Categories are ranked in order of seriousness. Trips may have sections of differing categories, but the highest ranked section usually determines the overall Category of Trip.

Hiking Categories:

- | | |
|---------------------|----|
| 1. Trail Hiking | TL |
| 2. Off-Trail Hiking | OT |
| 3. Scrambling | SC |
| 4. Mountaineering | MN |

Skiing Categories:

- | | |
|-----------------------|----|
| 1. Track-Set Skiing | TS |
| 2. Trail Skiing | TL |
| 3. Off-Trail Skiing | OT |
| 4. Ski Mountaineering | MN |

Snowshoeing Categories:

- | | |
|--------------------------|----|
| 1. Trail Snowshoeing | TL |
| 2. Off-Trail Snowshoeing | OT |

Technical Difficulty Number [1 to 9]

What Skill Level Is Required?

The technical difficulty is a number from 1 (easiest) to 9 (hardest) that indicates the skills required or technical difficulty of the trip, and not necessarily the fitness required. The scale is subjective and relative (4 is more difficult than 2, but not necessarily twice as difficult). **In general the hardest section of a trip determines the overall Difficulty Number.** The scale is used over all Categories.

The approach for determining Hiking Difficulty is somewhat different from determining Skiing Difficulty.

- Hiking Difficulty relates to the skills necessary to stay in control without falling while walking, hiking, and climbing while on the trip.
- Skiing Difficulty relates to the skills necessary to stay in control without falling while skiing downhill.

Endurance Indicators

How Physically Fit Should I Be?

There are three Endurance Indicators that determine the level of fitness participants should have to safely enjoy the trip:

1. Distance (in kilometers)
2. Elevation Gain (in meters)
3. Activity Time (in hours)

Distance is for the complete round trip. Maps, guidebooks and GPS tracks are often a source of distance values. Actual distance traveled may be greater due to unaccounted wanderings of trails, side trips, etc.

Elevation Gain is often the most important Indicator for participants. Maps, guidebooks and GPS tracks are a common source of elevation gain values. Actual gain may be greater due to unaccounted topography.

Activity Time is a calculated Indicator and may not reflect the actual time spent on the trip. Actual time is proportional to overall group speed which is affected by weather and terrain conditions; the physical fitness, the skill levels, and the number of participants; and the style of trip (many stops or continuous travel).

Activity Time is an Indicator that should only be used relatively to compare Endurance requirements of various trips. It is a linear combination of distance and elevation gain derived from a mathematical model of popular 'type' trips.

⇒ *Trips with low Difficulty Numbers can have large Endurance Indicators requiring a high level of fitness.*

Avalanche Terrain

Does the Trip Encounter Avalanche Terrain?

Skiing trips are assigned one of two types of terrain:

- Avalanche Terrain Av
- Non Avalanche (Green) Terrain G

See the [Avalanche Risk Management Policy](#) for requirements of participants when on trips going into avalanche terrain.

All Downhill Resort Skiing and Trackset skiing are considered to take place on Green [G] Terrain. It is assumed that area operators have taken precautionary measures to effectively remove avalanche hazards from ski runs and trails within their area boundaries unless they provide notice otherwise.

Coordinator's Discretion

Coordinators may raise the Category or increase the Difficulty Number of trips, perhaps due to poor route conditions. They may not lower them.

Backpacks

Coordinators may use their discretion when rating hiking and skiing backpacking trips to reflect the increased weight, size, and awkwardness of packs.

Winter Hiking and Snowshoeing Trips

Hiking can occur all year round if conditions permit. Coordinators can use their discretion when rating hiking trips to reflect winter conditions.

Snowshoeing is more similar to hiking in winter than it is to skiing. Hiking Categories and Difficulty Numbers could be used for these trips where specific snowshoe ratings have not been made.

The [Avalanche Risk Management Policy](#) applies to winter hikes and snowshoeing trips when there is sufficient snow accumulations to produce a slide.



APPENDIX 4: DESCRIPTION OF HIKING ACTIVITIES

Hiking is currently the most popular class of activity offered by the club. While hiking is often considered a warm weather activity, the RMRA offers hikes all year round when conditions allow it.

Four Categories of hiking ranked in order are:

Trail Hiking [TL]	16
Off-Trail Hiking [OT]	18
Scrambling [SC]	19
Mountaineering [MN]	20

Each Category has its own risks and hazards as well as the risks and hazards of lower ranked hiking categories. APPENDIX 2 details some risks and hazards common to many RMRA outdoor activities, including hiking.

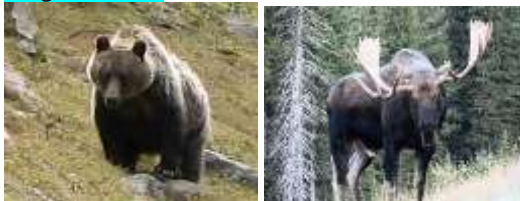
Trail Hiking [TL]

Trail Hiking utilizes official trails, unofficial trails, hiker-set trails, game trails, old roads and cut-lines. The route should be obvious with little or no route finding required under normal weather conditions.

Trail Hiking Risks and Hazards

The general risks and hazards outlined in [APPENDIX 2: RISKS AND HAZARDS](#) apply to hikes:

- [Extreme Weather](#)
- [Lightning](#)
- [Large Animals](#)



- [Ticks](#) are a nuisance in the spring (see [Small Pests](#)).
- [Stream & River Crossings](#)
- Sunburn is a possibility with strong summer sunlight. Wear clothing that shades, put on sunscreen, and wear good sunglasses.

Trail Hiking Equipment

Hiking poles are popular. They can aid in maintaining balance on loose terrain or when wading streams, and assist with propulsion uphill and with braking downhill.

Footwear is the most important item you bring. More ankle support, more aggressive tread, and more stiffness are generally required for trips of increasing category and difficulty. Traction devices (e.g. microspikes, in-step crampons or studded sole attachments) may be helpful in icy conditions.

Rainwear should always be carried. Some members find umbrellas useful. Mountain weather can and does change quickly.

Extra warm clothing, water, and food should be carried for unexpected delays or for an unplanned night out.

A map, compass and GPS device are not only useful for locating yourself if lost, but provides entertainment at rest stops in identifying notable peaks.

Emergency equipment should include:

- a personal first aid kit (blisters, medications)
- a small flashlight, headlamp or signal light;
- two large orange garbage bags or other emergency shelter
- a whistle, a pocket knife, a fire starter

See the RMRA "Clothing and Equipment Guide" on the website documents.

Technical Difficulty

- **TL 1** walks have flat or easy gradients and a wide, smooth, solid trail tread. They are often well maintained and near to civilization. Official Park Interpretive trails are good examples. Light hiking shoes are generally sufficient, or even running shoes if the trail is dry.

Example: Upper Kananaskis Lake Circuit

- **TL 2** hikes have moderate slopes and generally solid trail tread. These trails are often purpose-built with erosion control features and switchbacks up hillsides. Some short rough sections or easy stream hopping may be encountered. Light hiking boots with ankle support are a good choice.

Example: Healy Pass

- **TL 3** hikes may be narrow with steep sections. The trail tread may have a rough, uneven surface with rocks and tree roots protruding. Sections may have a loose surface requiring care to prevent slipping. Often these trails go straight up the fall line of a hillside rather than having switchbacks. Erosion from running water often degrades the trail tread. Wading of shallow streams may be required. Boots with good ankle support and more aggressive tread are best for these trips.

Example: Prairie Mountain

- **TL 4** hikes may have long steep rough sections with loose and uneven footing. At times they can be overgrown with bushes or have windfall (fallen trees) to climb over. More difficult stream crossings or some mild exposure to heights may be encountered. Boots with good ankle support and more aggressive tread are required for these trips. Hiking poles can be a definite asset for maintaining balance on these trails.

Example: Mt Allan



[Mt Burke, TL 3]



[Lady MacDonald, TL 4]



[Dolomite Pass Trail, TL 2 at this point]

Off-Trail Hiking [OT]

An Off-Trail Hike's route is not obvious and route finding becomes necessary. Most Off-Trail Hikes rise above treeline onto alpine meadows and exposed ridges. Others occur below treeline along open streambeds, or through meadows and parkland forest. At times when snow obscures trails above treeline Trail Hikes become Off-Trail Hikes.

Off-Trail Hiking Risks and Hazards

The risks and hazards of Trail Hiking applies to Off-Trail Hiking as well. Off-Trail Hiking routes are often on steep vegetated meadows which can become very slippery when wet or when covered by snow. Falling and sliding down these slopes is a definite possibility. Hiking poles can aid in preventing falls and arresting slides.

Technical Difficulty

- **OT 1** routes have flat or easy gradients on firm open ground. Prairie, meadows, or open forest parkland near to civilization are good examples. Light hiking shoes are generally sufficient.
- **OT 2** routes have easy to moderate slopes and generally solid ground. Examples are routes on low rounded grassy foothills or up easy stream valleys with firm shingle or dryas flats. Some short rough sections or easy stream hopping may be encountered. Light hiking boots with ankle support are a good choice.
Example: Wasootch Creek
- **OT 3** routes have increasingly steeper slopes and rougher ground. There may be some loose footing, boulder hopping, small easy rock outcrops, snow hopping, some bushwhacking, and minor stream wading. Boots with good ankle support and more aggressive tread may be best for these trips. Hiking poles can be a definite asset for maintaining balance on these routes and on routes of higher difficulty.
Example: Whaleback
- **OT 4** routes may have sustained steep hill climbs usually on grassy or wooded slopes. Streambed hikes may encounter long stretches of loose boulders to navigate. Bushwhacking, more difficult stream crossings, or some mild exposure to heights may be encountered. Boots with good ankle support and more aggressive tread are best for these trips. Hiking poles can be a definite asset for maintaining balance.
Example: Kent Ridge

- **OT 5** routes usually encounter short sections of scree (small loose rocks on low angle slopes). Rock outcrops can usually be negotiated without the use of hands. Occasional exposure to heights is to be expected. Sturdy boots with an aggressive tread (such as Vibram) are best for this type of trip.
Example: Opal Ridge



[West Coast Trail, OT 1 at this point]



[Glasgow-Banded Traverse, OT 5 at this point]

Scrambling [SC]

A Scramble is when an Off-Trail Hike requires the use of hands to maintain balance, but does not usually require specialized climbing equipment or skills. Most commonly, Scrambles are day trips that ascend mountain summits or high alpine ridges.

Scrambling Risks and Hazards

Scrambles almost always encounter long sections of scree (small loose rocks on low angle slopes) and/or talus (boulders on low angle slopes). Movement over scree and talus can be difficult and falls should be expected. Rockfall generated by other participants on these slopes is common.

Scrambles often encounter rock bands that must be negotiated. Handholds and footholds can be loose and often give way. Rockfall from natural causes or from other participants is a constant threat. Participants may also be exposed to heights.

Wet rock can be extremely slippery and treacherous, increasing the difficulty and danger to exposure dramatically.

Many people find returning down a route more difficult than going up.

⇒ ***Make sure you are capable of returning down a route before proceeding up***

Scrambling Equipment

Participants should wear sturdy boots with good ankle support and tread. Many bring hiking poles for balance which can be especially useful on scree and talus slopes. Tough leather scrambling gloves are highly recommended for the sharp limestone found in the Rockies.

An ice axe is often standard equipment on difficult scrambles, and is used for self-belay and self-arrest on steep snow slopes.

⇒ ***Helmets are required for Scrambles of Difficulty 7.***

Many participants bring helmets as standard equipment on all scrambles. (see the Rock Helmet Policy in Appendix 1) A half length of 9 mm rope is often taken to assist some participants over short exposed sections.

Technical Difficulty

Difficulty ranges from 5 to 7. These numbers correspond roughly to the "Easy, Moderate, and Difficult" ratings of a popular guidebook "Scrambles in the Canadian Rockies" by Alan Kane. The Yosemite Decimal System ("YDS") numbers 1, 2 & 3 correspond roughly as well. These Difficulty Numbers are for dry rock routes free from snow.

- **SC 5** routes (Kane's easy, YDS 1) are hiking ascents on a rocky gradient with minor rock bands. This type of trip is often similar in nature to Off-Trail 5 trips. A problem with the 'use of hands' criteria for scrambles is that trip participants have differing levels of balance. Another criteria is that a Scramble 5 is a more 'serious' trip than an Off-Trail 5 trip. Expect to encounter longer stretches of scree or talus and mild exposure. Scramble routes are often in mountain environments with potential for more extreme weather and terrain conditions.

Example: Grotto Mountain

- **SC 6** routes (Kane's moderate, YDS 2) will likely encounter rock bands requiring use of hands. Route finding to locate the best way is often necessary. Exposure to heights can be more serious.

Example: Mt Temple

- **SC 7** routes (Kane's difficult, YDS 3) will likely encounter steep exposed sections that may have loose rock or smooth down sloping slabs. Frequent use of hands and a cool control of vertigo from extreme exposures is required. A fall could be significant enough to cause death. Route finding skills are generally necessary to find the most feasible way. Improper route finding may lead groups onto technical terrain. Some participants may prefer the security of a climbing rope for short sections.

Example: Mt Chephren



[scrambling on Mt Chephren, Aug /98 SC 7]

Mountaineering [MN]

Mountaineering requires specialized skills and equipment. Any trip that requires travel over glaciers, a climbing rope to prevent or to arrest falls, belaying skills to prevent falls, and arresting skills to stop a fall, is a Mountaineering trip. Mountaineering destinations are usually to more serious mountain summits that are often remote. Many of these destinations require multi-day trips.

Mountaineering Risks and Hazards

Extreme weather of all sorts is to be expected: low visibility, high winds, rain, sleet, snow, lightning, and cold temperatures. Weather is a major concern on these trips and is often the determining factor for successful climbs.

Rockfall caused by high winds, daily freeze-thaw cycles, and other participants can be a constant threat.

Glacier travel is commonly encountered with crevasses being the major peril. Glacial moraines can be hazardous with their very steep and often unstable rocky slopes.

Runoff from glaciers can produce very cold, deep, and swift flowing streams that may have to be crossed.

Rock bands and cliffs may have to be negotiated. Finding the best route can be difficult. Loose or poor quality handholds and footholds, and exposure to moderate and extreme heights may be unavoidable. Some sections of the route may be icy.

Failure of climbing or crevasse rescue equipment may be fatal.

Participants may succumb to High Altitude Sickness. Retreat to lower elevations is the best remedy.

Mountaineering Equipment

Ice axes, rock helmets, and crampons are standard equipment.

⇒ **Rock helmets are required on Mountaineering 7 and higher trips**

Climbing equipment is usually taken: climbing rope, harness, slings, prusik cords, and various pieces of climbing and/or crevasse rescue hardware.

Clothing for Mountaineering must be warm, water resistant, and tough wearing. Items include gloves and mitts, toques, balaclavas, breathable but waterproof jackets and pants, several warm layers and knee high gaiters. Mountaineering boots can be stiff full shank leather or plastic.

Technical Difficulty

Difficulty ranges from 6 to 9. These numbers correspond roughly to the Yosemite Decimal System numbers 3, 4 & 5.0 - 5.4. As with Scrambles, these Difficulty Numbers are for dry rock routes, although permanent snow and ice are often present and should be expected.

- **MN 6** routes would include low angle glaciers under 20 degree slopes with minimal crevasses. Use of crampons may be required for traction. A rope would be necessary on snow covered glaciers for risk management only.

- **MN 7** routes (YDS 3) may encounter the same simple climbing of a Scramble 7 but with the addition of prolonged snow slopes or moderate angle glacier travel with minimum crevasses. Use of a rope over short sections is common except when the glacier is snow covered use of a rope would be necessary for risk management.

Example: Mt Patterson

- **MN 8** routes (YDS 4) will encounter intermediate climbing and high exposure - most participants will want a rope. The technique of short roping is commonly used. Glacier travel may include negotiation of crevasse fields and short sections of moderately inclined ice.

Example: Mt Victoria

- **MN 9** routes (YDS 5.0 - 5.4) utilize equipment to protect the leader from falls. Participants use natural climbing ability; specialized rock climbing techniques are usually not necessary. Snow and ice couloirs may be an essential part of the route.

Example: Mt Assiniboine (N Ridge, 5.4)

APPENDIX 5: DESCRIPTION OF SKI AND SNOWSHOE ACTIVITIES

The snow sport season generally starts in November and lasts through March and into early April. The snowshoe season possibly continues longer for combined hike-snowshoe trips. The season for Ski Mountaineering trips on the Icefields generally starts in February and lasts through May and into early June.

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Common Risks and Hazards

Appendix 2 details some risks and hazards common to many RMRA outdoor activities, including skiing. The following are risks and hazards that participants on ski and snowshoe trips should be especially aware of.

Cold Temperatures

Most participants can stay comfortably warm while moving in temperatures above -20 C. When the temperature drops below -25 C many participants find it difficult to stay warm. Prolonged exposure to these cold temperatures can lead to frostnip or frostbite to fingers, toes, and exposed parts of the face and ears. Hypothermia (cooling of the body core) is also a potentially deadly threat. When cold temperatures are combined with wind, the danger of these injuries increases dramatically.

Participants should check each other for signs of frostnip. Uncontrolled shivering is an early sign of hypothermia. When these symptoms appear the affected participants should be treated (exposed skin covered up, warm layers put on, etc.), and the group should turn back.

Storms

Winter storms can bring high winds, heavy snowfall, and changing temperatures.

Avalanche danger can quickly increase with high winds and heavy snowfall either on their own or in combination. Sudden changes in temperature can weaken the snowpack as well.

Visibility can be reduced to whiteout conditions and old ski tracks can be covered by blowing snow, causing groups to be delayed, stranded, or to travel onto more hazardous terrain.

Wind can dramatically increase the chances of cold injuries such as frostbite and hypothermia

Falling: Injuries & Broken Equipment

Falling while traveling downhill can place high stresses on both the participant and equipment. Injuries to the participant, while perhaps not in themselves life threatening, may immobilize the participant and force the group to spend an unplanned night out. The group will have to take strong measures to keep the injured participant warm enough to ward off deadly hypothermia.

Equipment Failure

Skiing and snowshoeing are more dependent on equipment than hiking. Skis, snowshoes and bindings can and do break.

⇒ *It is critical to carry a repair kit and to know how to use it. The kit should have parts and tools to fix the bindings you are using.*

Broken skis, snowshoes or bindings may also force the group to spend the night out.

⇒ *Adequate warm wear, extra food, and extra water to survive an unplanned night out should always be taken on backcountry ski and snowshoe trips.*

Avalanche transceivers require batteries.

⇒ *Extra batteries provide backup if the trailhead battery check shows battery power levels at less than the required 50%.*

Hazardous Terrain Features

Unseen holes, depressions, embankments, rock bands, and cliffs present hazards to participants especially in whiteout conditions.

Thinly covered rocks, boulders, bushes, deadfall, tree stumps and roots can lead to injurious falls.

Trees are obvious obstacles to avoid. Uncontrolled skiing or sliding into trees can be fatal. Tree wells can immobilize a participant rendering them helpless. The 'buddy' system should be employed when traveling in trees.

The snowpack around small trees and bushes often consists of loose unconsolidated sugar snow. Travel in this terrain can be slow and arduous. Moving into patches of this snow can be like falling into a depression.

Cornices can form over cliffs and steep slopes. Unwary participants who travel over them risk falling through and down the slope. Participants who travel under them risk being caught in an avalanche triggered by cornices falling from their own weight.

Gullies and bowls with steep slopes are not only avalanche traps; they can be difficult to get out of. Snowboarders have died spending an unplanned night out trapped in a gully.

Sunburn

Sunburn is a hazard with the snow surface adding reflected light to that from the sun, especially in the stronger daylight of spring. Wear clothing that shades, put on sunscreen, and wear good sunglasses.

Inconsistent and Difficult Snow

The snow surface can be inconsistent with varying types of snow, ruts, grooves, bumps, icy patches, and water channels. Temperature and wind are important factors in determining snowpack and snow surface conditions.

Air temperature can determine whether falling snow is light powder fluff or large wet flakes. Prolonged cold spells can weaken the snowpack with formation of sugar snow. Dramatic warming, especially to above 0 C, can weaken the snowpack and create hazardous avalanche conditions.

The warmth of the sun can affect the snow surface in varying amounts depending on exposure time and exposure angle. The snow surface can be quite different in the shade of trees compared to open slopes.

Wind, especially above treeline, can form a variable and difficult surface to ski on. Wind can scour snow exposing bare ground, and form wind scoops and sastrugi. Wind can deposit snow forming drifts, wind slabs, and cornices, and compact snow forming wind crust.

Avalanches

Avalanches are a concern when traveling in avalanche terrain. Snowpack instability can be difficult to judge even for experts. This is especially true above treeline where wind plays an important role in forming dangerous slabs. Route finding skills are required to avoid avalanche terrain as much as possible. Participants should take an avalanche awareness course, be familiar with the use of avalanche equipment and do an annual transceiver practice. (see the [Avalanche Risk Management Policy](#))



[avalanche track on Boom Lake trail]

Skiing Difficulty Factors

Rating skiing trips is more complex than rating hiking trips. There are more factors that can change a trip difficulty considerably. The approach used here is to consider factors that affect a skier's ability to descend slopes in control. While trail breaking and ascending uphill do require some learned techniques and at times can certainly be arduous, the effort or 'difficulty' of these activities are more related to Endurance than to Technical Difficulty. Skiing out of control in the backcountry is a dangerous practice that can lead to injury and broken equipment. Such accidents can place the whole group in survival mode with winter's short days and cold nights.

The following factors affect a skier's ability to descend slopes in control:

- gradient or steepness of slope
- snow conditions
- width of slope or turning radius
- ski equipment

Gradient

It is easiest to stay in control on flat terrain. Steeper slopes increase speed requiring quicker reactions to avoid obstacles. Higher speeds also place stronger forces on the skier and on the ski equipment. The following terms may be used to describe gradient [with Downhill Resort Skiing terms for comparison]

- **Flat** [flat to bunny hill]
- **Easy** [green runs]
- **Moderate** [blue runs]
- **Steep** [black diamond runs]
- **Very Steep** [double diamond runs]

The same gradient term may refer to different slope steepness depending on the Category of skiing. A very steep Trail may in fact have less gradient than a very steep Downhill slope. The terms are used according to how steep a slope 'feels' to a skier using appropriate ski equipment.

Snow Conditions

Given that the gradient is not flat this factor has perhaps the most influence on a skier's ability to stay in control. The

following terms may be used to describe 'normal' conditions:

- **Groomed** slopes are usually consistent in quality with many obstacles (rocks, tree roots, holes, etc) removed. These slopes are often purpose-built with skiers' pleasure in mind.
- **Below Treeline** trails and glades are often protected from wind that can adversely affect snow conditions.
- **Above Treeline (or Alpine)** wind can form crust, [sastrugi](#), and drifts as well as expose bare rocky sections. These conditions present an inconsistent and at times difficult surface to ski on.
- **Glaciers** have Alpine snow attributes as well as crevasses. Skiing while roped up presents additional challenges for the skier.

Width of Slope

Width of Slope or available turning radius affects a skier's ability to stay in control. Not only are turns a pleasurable component of skiing, they are also necessary to control speed. Wider slopes give skiers more options for turns. The following are some Width terms that may be used:

- **Open** or sparsely treed slopes offer the most opportunity for controlled turns.
- **Roads** of generous width such as old access roads or purpose-built double-track ski trails.
- **Trails** of normal width such as purpose-built single-track ski trails.
- **Tight** or confined routes are difficult to ski. Examples are twisting narrow hiking trails or heavily treed slopes.

Ski Equipment

Ski Equipment affects a skier's ability to stay in control. For example, Nordic equipment is appropriate for Track-Set skiing but on Ski Mountaineering trips they lack the ease of turning for controlled descents under difficult conditions. Conversely Alpine Touring equipment appropriate for Ski Mountaineering would make Track-Set trails too easy and would deprive the skier of the enjoyment of light, fast travel. The trip ratings assume the appropriate skis, bindings, and boots are used.

Track-Set Skiing [TS]

Track-Set skiing is often on official purpose-built trail systems that are consistently machine-groomed for track-set and skate skiing. These official trails are often wide enough for two sets of tracks, and have smooth turns and long runouts. Narrower trails are track-set by snowmobiles and can have sharp corners.

Track-Set Skiing Risks & Hazards

Skiers can attain high speeds down steep hills. Thin, stiff Nordic skis can be difficult to control at these speeds and there is a risk of falling on hard snow surfaces, into trees, or into other skiers.

Track-set ski areas can be very popular, with beginners and experts alike skiing the same trails. The mix of slow beginners (perhaps children) and fast experts can be cause for collisions.

It is not uncommon for trails to become rutted by fallen skiers, snowshoe hikers, beginners walking down slopes, or by large animals such as moose and elk.

In the Spring freeze-thaw cycles can produce icy trails and frozen springs. Stronger daylight of Spring can also cause marked changes in snow consistency from open to shaded areas.

Track-Set Skiing Equipment

Classic Nordic skis, Skate skis, or Light Touring skis are best suited to Track-Set trails, although any ski that fits in a track (65 mm) will suffice. Nordic and Light Touring skis have a wax pocket provided by a double camber or a stiff single camber. Skate skis have little camber but rely on edge control for propulsion.

Although civilization is often close, or moderately close at hand, skiers should still carry enough warm clothes to keep warm at rest stops, or in the event of an injury or equipment failure.

Types of Track-Set Skiing

Double Track

Example: Cascade Fire Road

Double tracked road width trails provide the easiest track-set skiing for a given gradient. There is enough width to use turns or wide snowplows to control speed. Skiers going uphill and downhill have their own track that reduces the risk of collision.

Single Track

Example: Boulton Creek Trail

Some narrow trails may not provide enough width for proper snowplows let alone turns. Some sections have to be skied flat-out increasing the risk of falling, perhaps into trees at the edge of the trail. The chance of collision increases with skiers going both directions sharing the same track.

Technical Difficulty

Difficulty numbers range from 1 to 5 which correspond roughly to the "easy, easy intermediate, intermediate, hard intermediate, and difficult" ratings of a popular guidebook "Kananaskis Country Ski Trails" by Gilleen Daffern.



[track-set skiing, Telemark Trail, Lake Louise]

Trail Skiing [TL]

Trail Skiing routes follow old roads, cutlines, ski trails, and summer hiking trails. The route should be obvious with little or no route finding required under normal conditions. Trail skiing almost always occurs below treeline. Above treeline summer trails are not discernable from open terrain.

Trail Skiing Risks & Hazards

Some Trail Skiing trips encounter avalanche terrain with the major concern being natural avalanches running down avalanche tracks and runouts. Trail embankments as well could produce a slide large enough to bury a skier.

The confined nature of Trail Skiing makes it difficult to avoid hazardous obstacles on the trail (rocks, boulders, fallen trees, frozen springs, etc.). Skiing out of control may result in colliding with a tree.

Icy trails and steep inclines can make skiing fast and thrilling. Controlling speed with snowplows, sideslipping or occasional controlled falls may be necessary to ski safely. When all else fails, walking down the side of the trail may be the best descent method.

Trail Skiing Equipment

Light Touring and Backcountry Touring skis and bindings are ideal for Trail Skiing. They have enough stiffness, moderate width, and enough camber for fast stride and glide, yet enough side cut and width for some turning ability. Metal edges provide more control on hard or icy surfaces.

Trail Skiing can take groups far from civilization. Enough warm clothing, extra food, and extra water should be taken for a possible unplanned night out. Each skier should have a personal first aid kit, a repair kit specific to their ski equipment, a whistle, matches and fire starter. A headlamp allows skiers to travel at night, which can occasionally happen in the short days of winter. Bring extra batteries.

The group should carry at least one shovel (more for a large group) to make an emergency snow shelter.

Avalanche rescue equipment may be required according to the [Avalanche Risk Management Policy](#).

Types of Trail Skiing

Road

Example: Lake O'Hara Fire Road

Roads provide the easiest trail skiing for a given gradient. Roads usually have smooth bends and long runouts. There is enough width to use turns and wide snowplows to control speed.

Good Trail

Example: Boom Lake

Some trails are purpose-built with wide turns and long runouts. Others may be easy switchbacked summer hiking trails that may have sharper corners and shorter runouts. Trails may not provide enough width for proper snowplows or turns. Some sections have to be skied flat-out increasing the risk of falling, perhaps into trees at the edge of the trail.

Gnarly Trail

Example: Ink Pots (upper section)

These trails are often narrow with tight turns. They may have steep sections with no runouts, sharp corners, and steep embankments. They may be overgrown, or have deadfall, rocks, roots, and stream crossings as hazards. Sideslipping often controls speed. Some sections may have to be walked.

Technical Difficulty

Difficulty numbers range from 1 to 6 as determined by Coordinators considering varying difficulty factors.



[Fitzsimmons Creek, Mt Armstrong]

Off-Trail Skiing [OT]

Off-Trail Skiing is the third category of Skiing. A guideline for defining Off-Trail Skiing is when the route is not obvious and route finding is generally required. Most Off-Trail routes go above treeline. Some may be below treeline passing through trees or forest glades.

Off-Trail Skiing Risks & Hazards

Off-Trail ski trips often encounter avalanche terrain. Alpine slopes steeper than 25 degrees should be suspect. Forest glades may in fact be avalanche tracks.

Off-Trail Skiing Equipment

Backcountry Touring, Telemark Touring, and Alpine Touring skis and bindings are strong enough and wide enough to allow good floatation and ability to turn. Metal edges are needed for sometimes difficult snow conditions.

Avalanche rescue equipment is usually required according to the [Avalanche Risk Management Policy](#).

Types of Off-Trail Skiing

Forest Glades

Example: lower slopes of Bow Summit

Glade skiing can be very enjoyable with snow that is often unaffected by wind. The slopes can be quite wide allowing for broad turns to control speed. Groups often ski forest glades when whiteout conditions blanket higher alpine slopes. Glades may be sections of forest with widely spaced trees, or longitudinal meadows. Be aware that these slopes may in fact be avalanche tracks with starting zones higher up in the alpine.

Alpine Slopes

Example: Parkers Ridge

Alpine slopes are affected by wind much more than Forest Glades. The snow surface can be inconsistent and at times difficult to ski (crust, [sastrugi](#)). Storms are often more severe in the alpine with high winds, large snowfalls, and whiteout conditions. Wind slabs are often less stable than the surrounding snowpack and can be difficult to recognize. Route finding and avalanche awareness skills are required to safely negotiate alpine terrain.

Trees

Example: Dolomite Circuit (into Mosquito Creek)

Groups do not usually seek out closely spaced trees to ski in, but sometimes have to ski through them as part of a trip. Trees are the major hazard, requiring tight and quick turns to avoid collisions. Falling into tree wells is dangerous, possibly rendering the skier helpless until help arrives. The 'buddy' system should be employed while skiing in trees.

Technical Difficulty

Difficulty numbers range from 1 to 6 as determined by Coordinators considering varying difficulty factors.



[Rummel Lake cutblocks]



[Jonas Pass, on the way to Jasper]



[above Hidden Lake]

Ski Mountaineering [MN]

Ski Mountaineering is the most challenging category of skiing. Any Off-Trail trip that has glacier travel or has a remote mountain summit as a destination is Ski Mountaineering.

Ski Mountaineering Risks & Hazards

Glacier travel requires route-finding skills to avoid open crevasses, and specialized equipment and skills for rescue from falls into hidden crevasses. Other hazards include avalanches, falling seracs or cornices, and sometimes-difficult skiing conditions (crust, [sastrugi](#)). Group cooperation is necessary to ski down glaciers while roped up.

Destinations are often remote and exposed to extremes of weather and temperature. Route finding in whiteout conditions can be difficult. Groups may become disoriented and ski onto more dangerous terrain, or become lost. Terrain features such as snow drifts and wind scoops may be difficult to see, resulting in falls.

Some summits require completion over rock or ice, requiring the skills and equipment of summer mountaineering.

Groups need to be self-reliant, and prepared to bivouac overnight. Packs are often heavy with necessary equipment, especially for multi-day trips.

Ski Mountaineering Equipment

Telemark Touring or Alpine Touring skis and bindings are necessary to meet the stresses placed on them with heavier packs and sometimes-difficult conditions. Skiing in control is very important. Many skiers prefer short wide skis than float well and turn easily.

Ski Mountaineering takes groups into remote and sometimes hostile environments. Participants should be self-reliant in case of unplanned overnight bivouacs. Their equipment should be in good working order, and their repair kit sufficient to fix gear or at least allow for a retreat.

[Avalanche Equipment](#) is standard. Other equipment is trip dependent and may include: ice axes, crampons, crevasse rescue gear, climbing gear, or winter camping gear.

Types of Ski Mountaineering

Summits

Example: Storm Mountain (Banff)

Similar to Off-Trail [alpine slope] trips in nature but in more serious terrain. The destinations are often remote and the route is often on or near avalanche slopes. Some summits can be skied to the top, but many require the final section to be walked/hiked/climbed. As with summer season Mountaineering trips specialized equipment may be necessary.

Glaciers

Example: Mt Gordon - Wapta Icefields

Ski Mountaineering trips over glaciers require specialized equipment for crevasse rescue as well as avalanche rescue. Many of these trips are multi-day so winter camping gear may be required as well. High exposed icefields are prone to storms with strong winds and whiteouts. If the route over the glacier is long then wands should be taken to retrace the route out in case of whiteout conditions. Participants must be prepared for extreme cold, high wind chills, and sunburn in spring months. Groups may find themselves in survival mode while skiing roped up with heavy packs down a steep crevassed glacier in a whiteout blizzard!

Technical Difficulty

Difficulty numbers range from 6 to 9 as determined by Coordinators considering varying difficulty factors.



[ascending Mt. Rhondda above Bow Hut]

Snowshoeing Difficulty Factors

Rating snowshoeing trips is more complex than rating hiking trips. There are more factors that can change a trip difficulty considerably. The following factors affect a snowshoer's ability on the trip.

Snow Conditions

Deep snow with trail breaking requires greater effort than a packed trail and may increase the technical difficulty. Participants should keep in mind ratings are based on good conditions and the Technical Difficulty and Endurance factors may rise significantly with a change in conditions. While we cannot predict snow conditions for any particular time, we can make some broad assumptions on what constitutes 'normal' snow conditions. The following terms may be used to describe 'normal' conditions:

- **Below Treeline** trails and glades are often protected from wind that can adversely affect snow conditions.
- **Above Treeline (or Alpine)** wind can form crust, [sastrugi](#), and drifts as well as expose bare rocky sections. These conditions present an inconsistent and at times difficult surface on which to snowshoe.
- **Glaciers** have Alpine snow attributes as well as crevasses. Snowshoeing while roped up presents additional challenges for the participant.

Snowshoeing Equipment

Choose a model and size that will support your weight on the snow you expect to encounter. Powder snow common to the Rockies does not support weight as well as West Coast snowpacks do. Isothermal snow in the spring may also have poor support characteristics.

Ski poles are suggested for balance and help with propulsion.



[tribulations while snowshoeing]



[Playing around near Elephant Rocks]

APPENDIX 6: DESCRIPTION OF OTHER ACTIVITIES

While Hiking and Skiing are by far the most popular activities, the following activities are sometimes offered to members:

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Bicycling

Bicycling is an activity that is offered both on its own and as access to other activities, usually hiking. Spring is when many bike trips are offered; skiing is tapering off and hiking may still be limited.

Bicycling Equipment

There are two main classes of bikes: Road, and Mountain.

Road bikes are built for speed on paved surfaces. They are lightweight bikes with narrow rims, smooth tires, and higher-ratio gearing.

Mountain bikes are sturdier bikes built for rough roads, trails and off-trail routes. They feature lower-ratio gearing, wide rims, and knobby tires for control on steep, rough inclines. More expensive bikes have strong lightweight frames with front and sometimes rear suspension. These bikes can be fitted with smooth tires or 'slicks' for faster road cycling.

Bicycle helmets are mandatory on RMRA bicycle trips.

Other necessary items include: bell, water bottles, front headlight, red rear taillight or reflector, mirror, and sometimes a cycle computer for speed and distance measurements. Repair kits should be taken for flat tires and broken chains.

Specialized clothing has been designed for road cycling and mountain biking, but any wind proof and/or rainproof jackets and pants will do. Bright colors and reflective strips are a good idea to keep cyclists visible to motorists. Gloves keep hands warm on cool days.

Road Cycling

Road cycling can occur on any paved surface from shoulders of high-speed freeways to country lanes. Trips on seasonally closed roads over Highwood Pass, up the Sheep River Valley, and up the Elbow River Valley are popular.

Most trips are day trips with cyclists carrying necessary clothing and equipment in light daypacks or in bags designed to fit on bike frames such as panniers. Multi-day

road tours staying overnight in tents, hostels, or motels are more adventurous. Larger capacity touring panniers are needed to carry the required food, clothing and equipment.

Road Cycling Ratings

The RMRA does not have a formal rating system for Road Cycling but the terms "Easy, Intermediate, and Difficult" could be used. Participants generally will want to know the distance to be cycled.

Road Cycling Risks and Hazards

Sharing the road with cars and trucks is the main risk in road cycling. Motorists not paying due attention have struck and killed cyclists. It is also possible for cyclists to lose control of their bikes and be struck by motorists. To reduce this risk cyclists should ride single file on the outside edge of the road preferably on paved shoulders if they exist, wear bright colored clothing with reflective strips, and use headlights and taillights in poor visibility. Rearview mirrors allow cyclists to anticipate upcoming traffic.

Roads with potholes, ruts, loose gravel, standing water, and bumps and depressions can cause a cyclist to lose control and fall. If traveling at high speed, especially downhill, these hazards may not be seen until too late.

Gusting headwinds and crosswinds can cause a cyclist to lose control. Rain can make road surfaces slick and can cause braking systems to work less efficiently. Snow and/or ice can be hazards in spring and fall or in summer on high mountain roads.

Equipment failures while riding, such as deflating tires or chains breaking, are hazardous. Keeping tires and chains in good repair reduces this risk.

Mountain Biking

Mountain biking occurs off-pavement on old roads, hiking trails and off-trail routes. Most trips are day trips with cyclists wearing day backpacks.

Mountain bikes are sometimes used for quick access to trailheads for hiking when it is not possible to use vehicles. An example is biking the Little Elbow River Road to access the Mt. Romulus hike.

Mountain Biking Ratings

The RMRA does not have a formal rating system for Mountain Biking but the terms "Easy, Intermediate, and Difficult" could be used. Hiking Trip Categories of Trail and Off-Trail, Difficulty Number, and Endurance Indicators of distance and elevations gain could also be used to rate Mountain Bike trips.



[Glasgow-Banded traverse bike approach,]

Mountain Biking Risks and Hazards

The main risk of Mountain Biking is falling off the bike while negotiating sometimes steep, rough, and loose trails and off-trail terrain. Although speeds are generally slower than Road Cycling, the hazards of the route are generally more abundant: roots, loose rocks, trees, embankments, streams, potholes, standing water, mud, gravel, deadfall, and narrow twisting trails. Snow and ice can be encountered in all seasons.

Mountain Biking is generally harder on both bike and rider. The risk of a mechanical breakdown and/or injury is greater than with Road Cycling. With the general awkwardness of mountain biking with large packs, many cyclists are tempted to take a minimum of survival clothing and equipment. However, cyclists may find themselves injured or stranded far away from the trailhead unprepared for a night out, yet it may take more than a day to get help. Therefore cyclists should take sufficient survival gear on all trips.

Cyclists on bikes can travel on old roads and trails much faster and quieter than can hikers. There is a greater risk of surprising wildlife, which in the case of a Grizzly Bear can be dangerous. Cyclist should slow down and try to make more noise when in bear habitat.

Cyclists should slow down and make way for hikers, and warn them when approaching from behind. Cyclists should also dismount and stay clear of horses.

Car Camping

Car camping is a leisurely cousin to backpacking without the requirement to carry all the camping equipment. The opportunities are tremendous not only in western Canada and the United States, but all over North America for that matter. Many car camps go to local campgrounds that offer opportunities for interesting day hikes. Other trips may combine several campgrounds on a road circuit that takes participants over a large area. Day hiking may be an important activity on these trips but other activities may be offered as well: sightseeing, touring historic sites, fishing, etc.

Car Camping Equipment

A variety of camping styles can be employed but tents, camper vans, and trailers are the most common. On longer tours a night at a hotel, motel, or hostel may be planned.

Car Camping Risks and Hazards

Stoves, lamps, and heaters using white gas, propane or other fuels can flare up or explode if not maintained or used properly. There is a danger of carbon monoxide poisoning if these devices are used in areas with poor ventilation.

Car camping takes place in campgrounds open to the general public. There is always the risk of theft or damage to personal belongings. These campgrounds can also be magnets for wildlife seeking food. Be aware when in bear country especially. Keep a clean camp and lock up food in car trunks.

Roads and highways can be busy, especially in the summer and at tourist hot spots. The risk of being in a vehicle accident is always present.

⇒ *It is prudent to purchase extra medical insurance especially if traveling to the United States. Drivers should increase their liability insurance as well.*

Paddling

Canoeing can be a relaxing and enjoyable way to see the countryside. Many rivers near Calgary such as the Bow and the Red Deer provide easy paddling for canoes and kayaks. There are also opportunities for white water runs for those with excitement in mind, or lake exploration for a more serene experience.

River trips require more planning than lake paddling. Car shuttles or pickups have to be arranged, and known river hazards reviewed.

There should be a minimum of three boats on trips that venture very far from civilization. In the event of one boat becoming unusable, the other two boats can carry the stranded participants and their gear.

Each boat should have at least one person experienced at paddling, especially on river trips.

Paddling Risks and Hazards

River Trips:

Hazards can include strong currents, eddies, whirlpools, standing waves, waterfalls, boulders, cliff embankments, submerged logs, log jams, sweeper trees, shoals, and cold water. There is risk of trauma, hypothermia, and drowning by tipping or being thrown out of the watercraft, by being struck by objects in the water such as rocks, boulders, and submerged logs, or by being trapped in sweeper trees or log jams. Strong currents and cold water can make it very difficult to reach shore. Some rivers have their water flows controlled by dams; and sudden changes in water flows can be dangerous to paddlers.

Lake Paddling:

Hazards can include sudden storms with high winds and lightning. There is a risk of tipping into the water with strong gusts, or of being electrocuted by lightning. On large lakes there is a risk of becoming disoriented and lost.

Boating Regulations

Regulations governing boating safety on Canadian waters come under the jurisdiction of the Canadian Coast Guard. They have established a list of equipment requirements for pleasure craft, and the law requires that these items be on board. For the category of canoes and kayaks not over 6m in length the minimum equipment requirements are:

Personal Protection Equipment:

- 1) One Canadian-approved personal flotation device or life jacket of appropriate size for each person on board.
- 2) One buoyant heaving line of not less than 15m in length.

Boat Safety Equipment:

- 3) One manual propelling device or an anchor with not less than 15m of cable, rope, or chain in any combination.
- 4) One bailer or one manual water pump fitted with or accompanied by sufficient hose to enable a person using the pump to pump water from the bilge of the vessel over the side of the vessel.

Navigation Equipment:

- 5) A sound signaling device or a sound-signaling appliance.
- 6) Navigation lights that meet the applicable standards set out in the *Collision Regulations* if the pleasure craft is operated after sunset and before sunrise or in a period of restricted visibility.

Also there are laws governing safe enjoyment of Canadian waters. “*Rules of the Road*” apply to every vessel in all navigable waters, from canoe to supertanker.

This information is available in a free publication "Safe Boating Guide" available at government offices and at retail boat stores, (e.g. Undercurrents in Bowness) or online at Transport Canada's marine safety web address <http://www.tc.gc.ca/marinesafety/TP/TP511/menu.htm>.

Click on Boating Safety.

Canoeing Equipment

For canoeing the following would satisfy the above regulations:

- 1) One Canadian-approved personal flotation device or life jacket of appropriate size for each person on board
- 2) One buoyant heaving line 20m in length
- 3) One paddle for each person, plus a spare
- 4) One bailer (one empty plastic bleach bottle with the cap on and the bottom cut out)
- 5) One whistle
- 6) Canoeing at night is not recommended.

Survival equipment such as extra warm-wear, outerwear, fire making material, and food can be stored in waterproof bags. A tarp can make a simple shelter in an emergency.

Sport Climbing

Sport Climbing is a branch of climbing that has exploded in popularity within the outdoor community. The climbs are 5th class on the Yosemite Decimal Rating System, and can range from easy to extremely difficult. Sport Climbing differs from traditional 5th class climbing in the following ways:

- routes are one rope length or less, often ½ rope length,
- routes are well mapped and documented,
- many routes are bolted,
- routes are usually clear of loose rock, moss, etc.,
- climbing crags are usually only a short walk or hike from access roads,
- there is no summit or destination as a goal; the goal is the route itself.

There are several flavors of sport climbing: indoor climbing walls, top roping, lead climbing, and bouldering.

Sport Climbing Risks and Hazards

Sport Climbing can be an enjoyable and safe activity if equipment is well maintained, participants have taken a professional course on climbing, and the climbing is executed properly.

Short falls are actually part of the sport and at worst may result in a scratch or two. Participants are self-motivated to attempt routes at or just beyond their capabilities. Falls due to equipment failure can be fatal. Inexperience or inattention of the belayer can result in a climber fall being fatal.

Climbing crags are normally clear of loose rock either from deliberate cleaning of the route, or from the self-cleaning of a large number of climbers. In spite of this there is still a good possibility of rock fall from above the route due to natural or human activity. All participants should wear rock helmets on outdoor routes: climbers, belayers, and observers.

Volunteer groups replace suspect bolts at popular climbing areas. Nevertheless all bolts should be checked before using! Always back-up a suspect bolt with other protection.

Sport Climbing Equipment

All climbing equipment should be UIAA approved. All equipment should be checked for wear and retired according to manufacturers' suggestions. A climbing harness is required and should be properly worn with all straps doubled-back through buckles. A harness with generous padding is comfortable while hanging. A standard 10 mm climbing rope of 60 meters length is recommended. Specialized rock climbing shoes are usually worn. They are lightweight, tight fitting, and have grippy rubber soles. Inexperienced belayers should use self-activating belay devices for added safety. Anchor building equipment has to be in top condition.

⇒ *It is wise never to buy used equipment unless you are very sure of its owner and its history; your life or your partner's life is at stake!*

Indoor Climbing Walls

Commercial indoor climbing walls offer a safe controlled climbing experience all year round. The walls have artificial holds placed to provide easy to expert routes. Climbing is top roped and bombproof save for the experience of the belayer. Participants must go through an orientation session and sign a standard liability waiver before initial climbing. Inexperienced belayers can use belay devices that self-deploy when the climber falls.

Top Roping

Example: Wasootch slabs - Kananaskis Country

The climber is always on a top rope from above; there are no climber falls, only climber hangs. There is no need to clip into bolts. The top anchor must be made properly with good equipment and backed up. Often multiple bolts or very sturdy trees are used for anchors. These pitches have easy access routes to set up and remove the anchor. The belayer usually belays from below, but could belay from above on longer pitches. Only experienced people should set up the anchors, and they should be belayed while doing so.

Lead Climbing

Example: Back of the Lake - Lake Louise

The climber is belayed from below, pulling the rope up as the climb progresses. The rope is clipped into bolts as the climber reaches them to provide protection from falls. The distance a climber will fall is twice the distance from the last clipped bolt. A bolted top anchor is then used to lower the climber back down who then removes clipping equipment on descent. The climber's ability to reach the first bolt without falling is an important consideration. A fall here means a fall to ground.

Bouldering

Example: Okotoks Rock

Bouldering does not require any equipment although rock shoes are generally worn. Climbers practice technique on crags and boulders, but do not climb high enough to injure themselves when falls occur. The ground surface should be flat, preferably of sand or of forest duff material. A partner typically spots the climber to reduce the chance of injury on falls.

Downhill Resort Skiing

Although not truly self-propelled what with mechanized lifts, it is an accepted mode of skiing enjoyed by thousands of skiers. It has been included as an activity for a number of reasons:

- the Ramblers historically have had resort skiing as part of their program of activities,
- many members, especially new members, can relate downhill run ratings to the RMRA system.

Downhill Skiing Risks and Hazards

Downhill resorts take considerable measures to make their hills as low risk as possible. Slopes within their boundaries are well marked and rated for difficulty. There is generally always an easy run to the bottom of the hill. Rocks and tree stumps exposed due to a lack of snow are usually well marked or fenced off. Avalanche control measures generally provide skiers with avalanche minimal risk terrain to ski on within resort boundaries. The runs are patrolled and help is generally close at hand in the event of injuries. However some hazards and risks are present:

There is a real risk of being hit by another skier, perhaps one who is out of control or skiing too fast. Recently more and more skiers are wearing helmets.

Groomed slopes can be very fast, and it is easy to attain speeds beyond your ability and comfort zone. There have been fatalities with skiers colliding with trees while skiing out of control.

Chairlift rides can expose unprepared skiers to high wind chill factors.

Downhill Skiing Equipment

Standard Downhill, Alpine Touring, and Telemark Touring skis and bindings are best for their sturdiness and ease of turning. Safety straps are required on skis not equipped with brakes.

Many Downhill skiers do not carry a pack based on the knowledge that help is close at hand and a warm lodge is not far away. A lot of skiers however do take a small pack with an extra warm layer, extra mitts, sunscreen, facemask or balaclava, food and drink.

Types of Downhill Resort Skiing

Groomed Runs

Examples: Bunny Hills, Green and Blue runs

Groomed runs provide the easiest skiing for a given gradient. These runs are groomed daily to compact the snow and to remove bumps and ruts. Often the domain of beginners and intermediate skiers, these are the popular 'cruiser runs'

Mogul Runs

Examples: most Black Diamond runs

Moguls are challenging runs that require quick and proficient turning techniques to descend in control. These runs are not heavily groomed but they usually have consistent snow conditions with hazards marked off.

Forest Glades and Tree Skiing

See Off-Trail Skiing.

APPENDIX 7: COORDINATOR'S RESPONSIBILITIES

Coordinators are not professional guides or social workers. They may not possess any more than basic first aid knowledge that may not be current, and are not bound to treat an injury. Coordinators are ordinary members of the club who have volunteered to further the aims and activities of the Association.

First Aid Knowledge

Coordinators are required to have taken a basic level first aid course, and are encouraged to keep up to date with refresher courses.

Avalanche Awareness

Coordinators who take trips into avalanche terrain are required to take a basic avalanche awareness course, and are required to keep up to date with refresher courses per the [Avalanche Risk Management Policy](#).

Probationary Coordinators

A Probationary Coordinator is required to have a Full Coordinator with them on their first three trips to act as a mentor when required.

Coordinators Council

All Coordinators are members of the Coordinators Council, and are responsible for setting policies for outdoor activities.

Adequate Capabilities

A Coordinator should only undertake trips that are within his or her capabilities in terms of skill level, experience, and endurance.

Adequate Preparation

Coordinators should pre-plan their trips before posting or announcing them by consulting appropriate maps, guide books, and experienced individuals who have visited the proposed area. Trip information also may be obtained from the list of trips maintained by the club. Specifically inquire about:

- the route to be taken and alternate routes,
- distance and elevation gain,
- approximate time to complete the trip,
- rating levels and hazards of the route,
- minimum capabilities required of participants to complete the trip safely, and
- special equipment required to complete the trip safely and to meet RMRA Risk Management Policies.

Complete a website posting and trip signup sheet as fully as possible. Mention foreseeable hazards and equipment required to help members judge if they have sufficient skills for the trip.

Have a pre-trip meeting of participants if the activity is a multi-day camping or backpacking trip.

If the trip is in avalanche terrain then on the morning of the trip obtain the latest regional avalanche danger level for the area. If the hazard is such that the trip requires avalanche equipment which was not required when the trip was announced then the trip should be canceled or an alternate trip taken.

Trip Cancellation

Once a Coordinator has posted a trip on the website, he or she is obligated to show up at the meeting place regardless of the weather, etc. or to post a cancellation of the trip as early as possible. If the coordinator has chosen to have members sign up on-line, or phone/e-mail the coordinator then the members who have signed up must be telephoned and advised of the cancellation. In the event that the Coordinator is unable to lead the trip due to illness or other emergency, he or she should make all possible efforts to find another Coordinator to take the trip.

Screening of Participants

Coordinators may screen potential participants to ensure their suitability for the demands of the trip. Inform them of the requirements of the trip in terms of skills, endurance, and equipment. The Coordinator may suggest to a potential participant that they may not be qualified for a trip and ultimately may refuse any person they feel is not suited to the trip.

Car Pooling Location

Screening of participants may be required for those who did not sign up for the trip in advance. An inspection of each participant's equipment may help to judge if a participant is suited to the trip. Coordinators may check that all participants have required equipment. Have all participants sign the trip sign-up sheet.

Assist in establishing car pools. Consider which participants may want to go out for dinner after the trip.

Inform participants of arrangements for coffee stops, car shuttles, etc. Make sure drivers know the route to the trailhead.

Group equipment for backpacks is sometimes best organized at the carpooling location when everyone is present and the available equipment can be inspected.

Coordinators may check to ensure sufficient extra equipment and clothing is carried within the party to deal with an emergency. This is critical during the winter if two

or more people were required to remain in the mountains overnight awaiting rescue.

Travel to the Trailhead

Coordinate overnight permits, sign-out registration, etc. for the group as required. Be observant of changing weather conditions.

At the Trailhead

Conduct a short trailhead meeting (see Appendix 1). Organize avalanche transceiver performance checks near the trailhead as required.

On the Trail

Some concerns and priorities of a Coordinator on the trail are:

- regular accounting of all participants during the trip,
- selecting a safe and not unnecessarily difficult route in line with the difficulty rating of the posted trip; getting consensus from the group if changing to a more difficult route is proposed,
- observing the weather,
- encouraging feedback from the participants regarding their physical condition, observations of large animal activities and weather changes, suggested alternate routes and the like,
- determining a safe and adequate return time and location to ensure that the group is able to return prior to darkness: avoid traveling after dark,
- determining lunch stops or specific points at which the participants should regroup,
- ensuring that if huts are used, they are left clean and properly closed,
- ensuring any campfires are out and if necessary, all traces of the fire are removed by cleaning the site and replacing the sod previously removed.

Emergencies

Take charge of the group in an emergency such as a serious injury or avalanche, or appoint another more qualified person to take charge if the circumstances warrant such action. Organize the group for a possible rescue evacuation, overnight survival bivouac, or both.

End of Trip

⇒ ***Ensure that all participants have returned to the trailhead at the end of the trip.***

Aid members in establishing remuneration for carpool drivers. Arrange for posting of the number of participants to the website. Consider posting a trip report and photos to the website, many members would appreciate reading how trips turned out. Consider updating the trip description and rating and noting any special route-finding information that may be helpful the next time the

trip is taken. Special information may include GPS readings, photos of notable pitches, drawings showing routes taken superimposed on maps or photos, etc.

Trip Signup Sheets

Coordinators are responsible to give the trip signup sheet to the Membership Director within 30 days of the trip or retain them themselves for 3 years.

Group Management

Managing the group during an outing may take many forms and each Coordinator will develop a personal style based on experience and from observing other Coordinators.

It should be remembered that most participants are adults and wish to be treated as such. Guidance should be offered to participants when their actions impact on other individuals or on the group as a whole, or when they are in contravention of RMRA Risk Management Policies or of accepted backcountry etiquette.

A consensus approach to making decisions about route, trip objectives, etc. gives all participants a chance to express their views. The Coordinator should consider all opinions, but weigh in favor of those participants who may be less skilled or possess less endurance. If group numbers warrant then it may be possible to divide into two groups with different objectives and expectations. The Coordinator should appoint another coordinator for the second group, and make clear plans for re-grouping.

Stragglers

The issue of how to handle stragglers is a difficult one and is situation dependent. The following suggestions could be considered:

- encourage participants to use the 'buddy' system so that no one is left alone,
- put slower participants in front; they may be encouraged to maintain a reasonable pace,
- split the group into two groups of differing goals and expectations,
- encourage participants to keep sight of the person behind, particularly on Off-Trail trips,
- regroup at trail junctions, or have each person make sure the person behind knows the correct way; marking trail junctions with signs is a dubious technique,
- make sure everyone knows the turn-around time,
- ask for a volunteer 'tail-end' person.

GLOSSARY

arrest: to stop a fall or a slide once it has started - a climber's fall can be arrested by the belayer and the climbing rope.

- **self arrest:** to stop your own fall or slide - an ice axe can be used to self arrest a slide on a snow slope.

avalanche course: participants learn:

- how snowpack stability, slope, weather conditions, and human actions can cause an avalanche;
- to recognize and navigate through avalanche terrain;
- proper use of avalanche rescue equipment.

avalanche rescue equipment:

- **transceivers** are used to find other transceivers within a 70 meter radius, and provide the best method to quickly find buried victims.
- **probes** are thin poles that can determine the exact position of the buried victim;
- **shovels** need to be sturdy and large enough to quickly dig out the victim.

avalanche terrain: terrain that contains, or is in proximity to, avalanche zones;

- **Below Treeline, Above Treeline:** the Avalanche Risk Management Policy defines these two types of avalanche terrain which have different general characteristics.

- **Green Terrain** has no known avalanche hazard

avalanche triggers:

- **natural triggers** include falling cornices or seracs, snowpack loading by wind driven or falling snow, rapid changes in temperature - especially to above freezing;
- **humans** can trigger avalanches by their added weight on an unstable snowpack.

avalanche zones:

- **starting zone** - where the snowpack initially fails and an accumulation of snow starts to slide;
- **track zone** - the path down which the avalanche gains maximum speed;
- **runout zone** - where the avalanche slows down and deposits debris.

bears: consider all bears dangerous; travel in groups of 5 or more, make noise, be aware of fresh bear sign, keep a clean camp, pack out all garbage; do not scream, run or panic if charged - stay calm, prepare to climb a tree or play dead.

belay: to prevent a serious fall - in climbing a belayer feeds the rope out to the climber;

self belay: to prevent your own fall - use an ice axe on snow slopes.

bivouac: a lightweight, no-frills overnight stay - sometimes planned, sometimes not; 2 large plastic trash bags can make an emergency bivouac shelter.

bergschrund: a large crevasse found at the upper limit of glacier movement; formed where the moving glacier breaks away from the ice cap or upper snow slope.

blisters: the most common injury in hiking, often with people new to hiking, or with those wearing new boots; a two sock system and proper fitting boots prevents most blisters; a first aid kit with moleskin, scissors, and/or 'second skin' type products should be carried by all participants.

buddy system: no one should hike or ski alone; team up with another participant of similar ability; often used when skiing in trees.

bushwacking: traveling off-trail through brush or forest; hazards include sharp branches, fallen logs, uneven footing, and obscured vision; there is a risk of becoming injured, disoriented and lost.

cornices: accumulations of wind driven snow on the lee side of ridges and other features; often overhanging, they can be unstable and break away due to human or natural causes; when on ridges stay well back from the edge - preferably on solid rock, avoid traveling on slopes below cornices.

couloir: a snow or ice filled gully that often provides the best or only route up a mountain face.

crampons: attachments to boots to allow safe travel over hard snow or ice; usually have 12 metal points.

crevasses: brittle upper layers of glacier ice form tension cracks due to: increasing slope angle, underlying bedrock features, and changes in ice flow direction.

cross-loaded slopes: winds blowing perpendicular to gullies deposit snow accumulations that can be difficult to recognize, and can be dangerous to skiers.

dehydration: lack of water reduces blood volume which can make participants more susceptible to fatigue, or to shock if injured, or to hypothermia if in cold and/or wet conditions; or to sunstroke if in hot and dry conditions.

etiquette on the trail:

- don't follow too closely to the person in front - leave 4 or 5 paces between you;
- don't fall too far back and make others wait for you;
- step off the trail to adjust a pack, tie a shoe lace, or take a picture;
- step aside for skiers coming down the trail;
- give the last person time to catch up at rest stops, and time for them to rest as well;
- be cheerful and dependable - someone you would like to hike or ski with.

facets: under certain conditions snow crystals grow facets (or plates) from water vapor rising in the snowpack; faceted snow, or sugar snow, has very little cohesion, and can make a snowpack unstable.

frostnip: cold temperatures and wind can freeze exposed skin; affected skin can be pale colored and numb; re-warm with your hand, do not rub; protect skin with clothing and/or turn back.

frostbite: skin and underlying flesh freezes from cold temperatures and lack of blood circulation; body extremities such as feet, hands, and exposed facial features (ears, nose, chin) are most susceptible; affected areas look pasty, are hard to touch, and lack feeling while frozen; get to a hospital immediately, try not to use or to thaw the affected part.

hoar layer: a weak snow layer that can make a snowpack unstable.

- **depth hoar:** sugar snow (facets) that forms in thin snowpacks during cold temperatures.
- **surface hoar:** feathery 'dew' crystals on the snow surface that can be fun to ski on but which can form a dangerous weak layer when buried.

giardia lamblia: a waterborne protozoan that causes giardiasis; symptoms include diarrhea, cramps, and vomiting after a 1 to 3 week incubation period; boiling, filtering or chemically treating water can be effective in prevention of contracting giardiasis.

glissading: a fast, fun, and often the easiest way of descending a snow slope either by 'skiing' on your boots, or sliding on your backside; an ice axe is often used as a belay device to maintain control.

GPS: Global Positioning System - a system of satellites enable hand held devices to determine location to within tens of meters; useful in featureless terrain or in whiteout conditions; a reasonable backup to map and compass.

graupel: or pellet snow; often associated with the passage of a cold front.

hypothermia: a victim's core body temperature drops due to heat loss exceeding heat production; prevent heat loss by removing wet clothes, getting out of the wind, and adding insulating layers;

- **mild hypothermia:** early signs are shivering, slurred speech, and confusion; victim can still produce sufficient heat, and should drink lots of water and eat energy rich food; abort the trip immediately.

- **severe hypothermia:** victim is in a stupor or is unconscious and cannot produce sufficient heat; victim should not be moved, but given external heat sources to stay alive - extremely difficult in the field.

- **prevention:** dress warmly, eat energy foods and drink lots of water often, avoid getting chilled at rest stops, and avoid becoming exhausted.

'leave no trace':

- stay within the bounds of the existing trail to protect trailside vegetation - usually walk single file
- stay on the trail even if it is muddy or rutted.
- save vegetation and prevent erosion by not cutting across trail switchbacks.

- select resilient areas instead of vegetation for rest breaks.

- look and photograph instead of picking or collecting

- choose talus or scree instead of fragile meadows for cross-country travel.

- spread out when it is necessary to cross a meadow to minimize damage to vegetation.

- if you need to mark your route, remove the markers on the way back.

- place tents on rock or soil if possible, not on vegetation; do not make trenches for water runoff

- use the 'cat hole' method for bathroom stops - dig a small hole into the active soil layer, replace vegetation.

- pack out all garbage, do not bury it or toss it away; garbage is not only unsightly, it habituates animals, especially bears.

lee slopes: slopes protected from wind; lee slopes accumulate snow by normal snowfall and by wind depositing snow as it slows down; formation of wind slabs on lee slopes presents a dangerous hazard for skiers - many avalanches accidents happen on lee slopes.

lichen: a composite plant made up of a fungus and an algae, usually black, but can be gray or orange, that grows slowly on boulders; these are the oldest plants in the mountains - some dating back 11,000 years; lichen covered boulders can be extremely slippery when wet.

Glossary

lightning: if a thunderstorm approaches:

- get off exposed alpine ridges and summits - get as far down the mountain as you can
- do not stand under a lone tall tree (or small clump of trees), or at the edge of a taller forest.
- get off any body of water (lakes), do not stand on damp ground (swampy areas, ditches)
- do not stand in shallow caves, or rock scoops in cliffs
- do not stay in wooden shelters or tents
- get into forest of uniform height, or into a vehicle if you are caught in a storm:
- discard large metal objects,
- sit on your dry pack if it is > 4" thick, or
- squat or kneel on ground, cover ears with hands.

moguls: large mounds created by skiers turning, usually on steeper downhill resort ski runs

objective hazards: natural processes and conditions that exist whether or not humans are involved: storms, lightning, natural avalanches and rockfall, crevasses, cliffs, etc.

pace: the speed of travel; an adequate pace makes good time but does not burn out slower participants.

permits: National Parks require permits unless traveling non-stop through them. Wilderness Passes are required to stay overnight in backcountry camp grounds or huts.

prusik: a knot used by climbers to attach themselves to a rope using a cord (usually 5 to 7 mm thick).

quinzhee: a snow shelter that can be made by shoveling snow into a large mound, letting it settle, and then hollowing it out; "quinzhee" is an Athapaskan word for snow shelter that was popular in the taiga regions of the north.

sastrugi: wind scours dry snow into hard, wavelike patterns that can make skiing difficult.

scree: loose small rocks and coarse sand that form fans below cliffs and gullies, larger rock scree is usually easier to ascend, smaller rock scree is often easier and fun to descend.

seracs: large ice blocks formed by glaciers tumbling down steep gradients; their unpredictable falling can start snow and/or ice avalanches.

shock: vital organs lack oxygen due to: breathing problems, bleeding, burns, head or spine injuries, heart attack, allergies, strong emotions; shock is present with injury and illness, and can lead to death; always treat for shock.

subjective hazards: human processes and conditions that can lead to accidents: ignorance, improper training, poor judgment, inadequate equipment, poor conditioning; overconfidence, false pride, apprehension, or fear.

suncups: cup-like features formed on sunny snow slopes in low humidity climates - can make skiing difficult.

talus: similar to scree, but consisting of larger rocks and boulders that can be stepped on individually; lichen covered talus indicates a stable slope.

ticks: small spider-like insects that may carry Rocky Mountain Spotted Fever or Lyme disease; occur most frequently in May and June in areas visited by ungulates (sheep, etc.); check hair and clothing often for ticks, especially if bushwacking or walking and sitting in grassy clearings.

traction devices: equipment that may be worn on boots to provide grip on ice, e.g. microspikes or icers.

treeline: the upper limit of the dense forest; the snowpack above treeline is affected by wind, and can be more variable and unpredictable than the snowpack below treeline.

UIAA: Union Internationale des Associations d'Alpinisme; an International organization that set standards for alpine mountaineering.

vertigo: a sensation of dizziness or imbalance that may render a participant helpless when exposed to heights.

wind slab: wind blown snow can accumulate in hard cohesive slab layers that can be several feet thick and extend over large areas; when a slab is triggered, cracks can propagate rapidly causing the whole slab to avalanche; slabs are dangerous for skiers in that they may be less stable than the surrounding snowpack yet difficult to recognize.

zdrskey tent: a lightweight emergency shelter that can accommodate 3 people sitting down.

Information Sources

As part of a club initiative to keep members informed of key risk management issues and club policies, the RMRA maintains the following:

Outdoor Activities Guide:

This Guide contains information that is referenced by, and forms part of, the RMRA Release of Liability, Waiver of All Possible Claims and Assumption of Risk form. Topics covered include:

- Description of Activities
- Associated Risks and Hazards
- RMRA Risk Management Policies and Guidelines
- Trip Participants' Responsibilities
- Trip Coordinator's Responsibilities
- RMRA Trip Rating System

This Guide also has the terms of membership that is referenced by, and forms part of, the RMRA Member's Agreement.

⇒ *This Outdoor Activities Guide must be read and understood as an integral component of the Membership Application Process. Anyone who is unclear about this material should consult with a member of the Executive.*

Trips List:

This on-line list has summer trips (hiking, scrambling, mountaineering) and winter trips (track-set skiing, backcountry skiing, ski mountaineering, snowshoeing) that have been assigned ratings by club Coordinators.

General Information Guide:

This Guide has general information on the club (history, committee structure, bylaws) and articles on outdoor topics.

Website

The RMRA maintains a website at www.ramblers.ab.ca. The public area of the site has online copies of these guides in addition to membership application forms, reports on recent trips and other general information. The members' area of the site has information on upcoming trips, social events, meetings, courses, programs and online copies of current and historical newsletters. Members are given passwords to gain access to the members' area.

The Association

The Rocky Mountain Ramblers Association, the "RMRA", is a not-for-profit organization registered under the Societies Act of Alberta. It is a member of the Alberta Hiking Association (AHA). The RMRA may be contacted by mail or email:

Rocky Mountain Ramblers Association
PO Box 75044 Cambrian
Calgary, Alberta T2K 6J8

Email: See website for current address.

