Backcountry Skiing

A 5 part Series by Emerson Sanford

This series of articles originally appeared in “The Breeze” - the newsletter of the Edmonton Section of the Alpine Club of Canada and is reprinted courtesy of Emerson Sanford. Emerson is the Winter Chairperson of the Edmonton Section of the Alpine Club of Canada. Portions of this article refer to locations and establishments which are local to Alberta, Canada. In order to retain the original intent of these articles, such references have remained unchanged and readers are urged to contact experts familiar with their own locale to decide what similar locations and facilities may be available to you.

This series of articles will be provided in two packages. Initial Preparations & Fitness and Clothing & Equipment will be available in the first package. The remaining three articles on Shelters, Transporting the Injured and Avalanches will be available in the second package. Further information on training courses as well as additional copies of this and other articles and technical notes can be obtained directly from Rescue Dynamics at 5109 - 17A Avenue NW, Edmonton, Alberta, Canada T6L 1K5 [phone / fax (403) 461-5040]. Email can be sent to *resqdyn@compusmart.ab.ca* On the Internet, visit the Rescue Dynamics World Wide Web Site at - http://www.compusmart.ab.ca/resqdyn/

Backcountry Skiing. I.
Should I Go?

Article 1 in a 5 part Series

Winter Chairperson - Alpine Club of Canada - Edmonton Section

People who have never skied in the backcountry often have many unanswered questions regarding fitness level, skiing ability, clothing and equipment, safety, avalanche hazards, etc. The first time backcountry skier varies from teenagers going without family to retirees looking for a new experience. Ultimately, the decision of whether or not to go on that first trip depends on finding some answers to the above questions, which is difficult, or deciding the heck with it and just going on an organized trip to 'try it'. The intention of this series of short articles is to provide some answers to questions that people may have and to make backcountry skiing with the Alpine Club safe and enjoyable for a large number of people. This first article will deal with the questions of fitness and skiing skill.

Skiing in Control

The skiing schedule for 1995/96 states that "participants must be reasonably fit and able to ski in control while wearing a pack". Let us look first at skiing in control. In the mountains, the trip in to a destination often involves an uphill climb, and for a trip rated novice, the climb is probably not

very steep. Depending on weather and popularity of the trail, the conditions may vary from 50 cm of fresh powder to a hard packed trail. Rarely will there be a well defined set of tracks. The skier can either wax properly or put on skins to start the trip. Kick and glide techniques are seldom necessary either because of the uphill or the deep s now and although touring is the official term for this type of skiing, slogging is more often the order of the day, especially if wearing a heavy pack. If breaking trail is involved, the lead skier normally drops to the back of the line on a regular basis since breaking trail can be very tiring. Skiing ability is rarely a concern under these conditions and providing that there is a reasonable level of fitness, the "in" trip seldom presents a problem. On a clear sunny day, in the presence of beautiful mountain scenery, it is easy to become mesmerized into thinking that backcountry skiing is pure enjoyment even if somewhat tiring.
If this is a day trip, the skiers must normally turn around and ski out t he same trail. Day trippers are now going downhill on a man-made track or a packed trail. Now comes the challenge. If snow machines happen to use the trail, there are often "bumps" up to one-half meter high and spaced two to three meters apart. These can easily throw even an experienced skier off balance. If there is fresh snow, snowplowing to control speed on the downhill sections is often difficult. There may be some open hill sections which delight the telemarkers but intimidate the beginners. That narrow packed trail which was so easy going uphill is now a real challenge going downhill because it is too narrow to allow slowing down easily. Overnight trips will normally require a return on the same trail as well but the tracks made the previous day may have disappeared.

For the inexperienced skier, occasional falls are normal and of little consequence. Repeated and frequent falls have three major consequences. First, it slows everyone down, just because of the time required to get going again. If the person is wearing a heavy pack, it takes even longer since the pack often has to be removed in order to get up. The second consequence is related to the first, in that repeated falls are very frustrating and require a lot of energy to get up and get going again. As the skier gets more and more tired, falls become more frequent and each fall takes longer, further slowing the group. Third, each fall has a potential for injury and injured legs in the backcountry can be very serious, especially on day trips when the group is not prepared for an overnight stay. Frequent falls can also slow a group enough that they cannot reach shelter before dark (I will deal with unplanned overnight stays in another article). How do you know if you can do a backcountry trip? Try some trails around Edmonton. Test Yourself.

I am mainly familiar with the trails in South Edmonton (Alberta, Canada) and Elk Island National Park (Alberta, Canada) so I will use these for examples. Popular places for skiing in South Edmonton are either Terwilligar Park or Hawrelak Park, both being trails located on parklands within a large urban centre. Skiing around the perimeter of either of these parks is not a test for mountain skiing, although Terwilligar Park can be a bit of a challenge. For a first test, try a return trip from Hawrelak Park to Quesnell bridge along the river trail. This has a few good hills and is often hard packed by people walking on the trail. A more challenging trail is from Terwilligar Park to the Riverside golf course along the river trails. Another option is Trail #4 , the Moss Lake Trail, in Elk Island National park. If you can ski the hills on these trails without any particular difficulty, even if you fall occasionally, then try them with a 15 to 20 kg pack. If you can manage these with a pack, you should have little difficulty with novice trips in the mountains, as far as skiing ability is concerned. The trails do not test your ability to ski down a telemark slope but this does not usually present a problem to the otherwise competent skier. You can always get to the bottom by traversing and using kick turns. If you are from outside of Edmonton, contact a local club or experienced person to help you select similar suitable trails to test your skiing and fitness.

Fitness

These non-mountainous trails can also be used to test your fitness level. A backcountry trip will likely involve 4 - 6 hours of skiing with a pack, the pack weight varying from around 5 - 10 kg for a day trip to up to 25 kg for an overnight trip. Time yourself on the trails described above. Could

you ski these with a pack for 4 - 6 hours at a reasonable pace? You should be tired at the end of the day but not exhausted. Unfortunately there is no substitute for a reasonable level of fitness for skiing in the mountains. A person who becomes overly tired far from the end of the trail will slow the whole group, sometimes to the point of endangering the lives of people in the group, especially on a day trip if people are not equipped for an overnight stay and cannot return to shelter because of a slow skier.

A First Trip in the Mountains

For people who would like to try a trip in the mountains with friends, Skoki Valley in Banff National Park (Alberta, Canada) is a reasonable option. The trail is well used so there is normally help available if needed and little danger of getting lost. There is a lodge at the end of the trail which serves tea to skiers and provides a place to rest. The trail is challenging with two passes, Boulder and Deception, some telemark slopes, a "bumpy" trail section, and to finish it off, a hard packed ski out at the end. Despite these challenges, it is rated as an intermediate trail. It also has beautiful scenery and no avalanche hazard if you stay on the trail. There is a campground one km from the lodge for those who want to try winter camping.

In summary, the basic skiing/fitness requirements for trying that first backcountry ski touring trip are to be able to ski downhill on a trail carrying at least a day pack while staying in control, and being fit enough to ski for at least six hours at a reasonable pace. The pace need not be very fast if you have the ability to keep going without frequent rest stops or falls.

Backcountry Skiing. II.
Clothing and Equipment

Article 2 in a 5 part Series

Winter Chairperson - Alpine Club of Canada - Edmonton Section

The first article in this series dealt with skiing skills and fitness level required for an enjoyable and safe novice ski touring trip in the mountains. Having made the decision that your fitness and ski skill levels are adequate, the next questions often are: what equipment do I need and what do I wear? This article will provide some general guidelines to these questions. After reading these guidelines, it is important for each person to try their own equipment and clothing close to home under a variety of conditions to find out what works for them. Again, the trails described in the first article provide a good testing ground. As I write this article, the temperature outside is -26 degrees C, with light snow and a strong wind. Weather in Edmonton (Alberta, Canada) in winter is often very cooperative for testing clothing and equipment!

Suggested equipment list

1) Steel edged backcountry touring or telemarking skis. Narrow cross-country skis are often inadequate on unpacked trails. Wooden skis tend to be old and prone to delamination. They may not stand up to the rigors of a back-country ski trip.

2) Ski boots. These should be sturdy leather or plastic boots which cover the ankle. Light weight cross-country ski boots are not recommended. Gaiters are necessary in deep snow.

3) Ski repair kit. Ski tip, basket for poles, multi-tool, screws, wire, duct tape, crazy glue, etc. Only one person per group needs to carry a complete kit. Duct tape can provide a temporary fix to an amazing number of problems and should be carried by everyone.

4) Skins, wax. Skins are normally used by everyone on backcountry ski trips. Make sure your skins fit your skis, are a suitable width and the correct length. If your trip involves telemarking, skins will be put on and taken off many times.

5) Avalanche transceiver, (available for rent from the ACC). Everyone who goes into the backcountry should have a 457 kHz or dual frequency transceiver. Old frequency (2.275 kHz) transceivers are now obsolete and are not compatible with new frequency instruments. Even if your party has 2.2 75 kHz or dual frequency instruments, others who may be close by and come to help in an emergency will not necessarily have dual frequency transceivers (See article V, Avalanches).

6) Snow shovel. Used for building a snow shelter in case of emergencies on the trail and for digging victims out from an avalanche. Not everyone need have one, but there should be at least two in any telemarking group or touring group going into areas with any avalanche hazard at all (See article V).

7) Avalanche probe. Not required of everyone but definitely bring one if you have access to one. I will provide instructions on how to build you r own in Article V.

8) Bivy bag (also known as a bivouac sack). A good safety item if you have one. Can be used to transport an injured person and provides useful protection while waiting for rescue or if a forced overnight stay outside is required.

9) Warm clothing. When touring or telemarking your day pack should always contain enough clothing to survive if you are injured and cannot ski. See clothing list.

10) Sun glasses, sunscreen and lip balm. Sun glasses are normally required by everyone on sunny days in the winter. Bring good quality glasses which will protect your eyes. Sunscreen and lip balm are often required even on cloudy days (See article by Ray Cislo, December 1995 “Breeze” - Alpine Club Edmonton, Canada Newsletter).

11) First aid kit. Everyone should have bandages, tape, moleskin, second skin, etc. to repair blisters, which are very common when ski touring. Again, duct tape works wonders. Bring additional bandages for cuts (skiing into trees), blue foam pad and duct tape for a splint, etc. if you wish.

12) Emergency supplies. Include some or all of: matches, a lighter, fire starter, a candle, whistle, light and spare batteries, map and compass, space blanket, emergency nylon shelter (a design for a bivy sack is given at the end of this article) and an insulating pad. You should carry some food, an insulated water bottle and toilet paper.

Most equipment can be rented from reputable dealers. (In Edmonton, Alberta try the Campus Outdoor Center, University of Alberta, West side of the Butterdome.)

Suggested clothing list

Wear layered clothing so that you can remove or add layers in sequence as required. Most active wear clothing should be made of synthetic fibres although wool is adequate and wool-synthetic blends are often very good. Cotton is not recommended for active wear under any circumstances because it absorbs moisture, is very slow to dry and can lead to hypothermia. Cotton - synthetic blends may be adequate but are not recommended.

You should bring the following layers of clothing on a backcountry trip:

1) First layer, worn next to the skin. This layer is a full cover underwear (long legs, long sleeves, as well as liner socks and gloves) and should wick moisture away from the body. Polypropylene or similar fabrics are best.

2) The second layer is for warmth and may consist of polyester fleece tights and turtle - neck / zip - tee, long sleeved shirt, or similar garments. More that one layer may be required. Warm head gear, such as wool or polyester fleece toques, balaclava, ear bands, etc. Warm socks and warm mittens of similar fabrics form part of this layer. Gloves are not as warm as mitts, but are often good on warm days. Bring a neck tube and / or a face mask.

3) The third layer is for protection from the elements, wind and snow, and usually consists of windproof shell pants and jacket or a one piece suit, headgear and overmitts. These are usually made of sturdy synthetic fabric and are often water resistant (e.g., Gore-Tex). The pants and jacket should have lots of zippers for venting when active.

4) The fourth layer consists of a warm jacket (down is popular, also polyester fleece) or sweaters to be worn over or under the shell jacket during rest periods or lunch stops. Down or synthetic insulation "booties" are excellent for keeping feet warm when not skiing.

The main objective is to stay warm without sweating. Once sweating starts, minor adjustments can be made by adjusting headgear, such as removing a toque and wearing an ear band, or by venting outer layers. If you continue to sweat, you must remove clothing before you become wet. The outer shell is not normally removed as it prevents snow from adhering to wool or fleece clothing.

Making your own Bivouac Sack

During a recent first aid course, Cyril Shokoples demonstrated his design of a bivy sack. This shelter is used to provide protection from the elements during rest and food stops while ski touring and can be very useful for temporary protection of the injured. The sack is made from a lightweight weatherproof coated nylon fabric and is simply a rectangular box 1.5m high, 2.0m long and 1.0m deep, with an open bottom. A similar system, called the Zdarsky Tent, was described in the Alpine Club of Canada National Newsletter, Volume l8, #4, December, 1993. The bivy sack described here can be supported on skis or simply draped over two or three people without support. The length can be increased to accommodate more people.

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