

CENTRAL GUNFLINT SKI TRAILS

Few trail systems — anywhere — can boast such a splendid network of groomed and tracked ski trails. The trails sit on the very edge of the Boundary Waters Canoe Wilderness and wind through a varied landscape of rolling hills covered with spruce and aspen, spruce bogs, spectacular cliffs, stands of virgin pine and frozen lakes. Most of the trails are ideally suited to intermediate skiers —trails that require a fair amount of proficiency to negotiate the rolling terrain — but there is plenty of good skiing for beginners and some challenging parts of the system for advanced skiers. All parts of the system can be reached from either lodge in a comfortable day's outing. Though most of the trails are in the vicinity of East Bearskin and Flour lakes, one of the nicest loops extends across Gunflint Trail into a lovely, rolling region where skiers have the best chance of seeing big game. The trails are double tracked and clearly marked with directional signs.

Although these trails receive more use than many trails in the Arrowhead, there are plenty of loops designed to disburse people. The result is a feeling of light use across the network of trails, in spite of other skiers present on weekends.

Because so much attention has been paid to good trail surfaces, a Kassbohrer Pisten-Bully groomer enables good skiing even during poor snow conditions. More surfacing improvements are planned for the future, which will ensure that these trails will continue to be some of the best in the entire state.

(Excerpt from *Ski Country* by Robert Beymer)

ORIGIN OF THE LANDSCAPE

The northern part of the terrain you are skiing over is underlain by clastic sedimentary rocks, such as sandstones and conglomerates, of middle Precambrian age. To the southward these rocks are overlain by upper Precambrian volcanic rocks. These rocks are more than a billion years old. The volcanic rocks were formed by outpourings of lava in vast sheets. The earliest of these eruptions occurred in a submarine environment, but later eruptions were subaerial. The geologic setting may have been like that in Iceland today.

The layers of rock dip (or slope) toward Lake Superior. Some of the layers are weaker than others, and these weaker layers have been eroded away, leaving a stepped topography as shown below.



This is responsible for the characteristic north-facing cliffs that form the south sides of many of the lakes in the area. Good examples are East Bearskin and Aspen lakes, and the eastern two-thirds of Flour Lake.

Glacier ice has been the principal agent of erosion over the past two to three million years in this area. For probably more than 75% of this time, these ridges and lake basins have been buried under several hundred meters (yards) of ice. This ice flowed slowly westward and southwestward, entraining particles of rock and carrying them away. These rock particles, embedded in the sole of the glacier, were effective grinding agents and this grinding action contributed to the deepening of the lake basins. However, every 100,000 years or so the earth's orbit around the sun, which changes from slightly elliptical to more nearly circular, has had its present geometry and during these periods, each of which lasted 10,000 to 20,000 years or so, the climate of the earth has been similar to that of today.

Glaciers, unlike rivers, are able to erode basins, and it is these that, now filled with water, give a unique character to the lake district of northern Minnesota. But the lakes and ridges are not the only landforms left by the glaciers. Also common are eskers, sinuous ridges of gravel that was deposited in subglacial tunnels occupied by streams. Because eskers are formed in tunnels, they need not always run downhill, nor do they necessarily occupy the lowest places in the valleys. A small esker emerges from the west end of East Bearskin Lake. Another projects some distance out into East Bearskin about 1.2 km east of Bearskin Lodge; this esker separates the main body of the lake from its western arm. The Logging Camp Trail follows an esker for about 200 m along

the north shore of Flour Lake at its western tip. This esker continues another 200 to 300 m eastward along the shore of the lake, and forms a prominent point before it disappears beneath the lake surface. It reappears in two small islands farther east. Proceeding northeastward, the Logging Camp Trail crosses a north-south trending branch of this same esker system about 300 m east of the "Big white pine" between Wampus and Flour lakes.

READING CONTOUR MAPS

Topographic contours are lines on a map connecting points on the land surface that are the same elevation above sea level. On this map contours are drawn at intervals of 20 feet. There will thus be contours at 1700, 1720, 1740, ..., 1800, ... feet above sea level, and so forth. If you are standing on one contour and move to the next, you will either climb or descend 20 feet. If the distance between contours is small, the slope will be steep and conversely.

The beginner will find contours most useful for identifying steep slopes. Several closely-spaced contours will indicate such a slope—perhaps a cliff! A trail passing along the top of such a slope, as along the south sides of Rudy and Ruby lakes, is likely to offer appealing views. Conversely a trail that crosses several contours in a short distance will be steep. Avoid such places if you are not a good skier.

Contour maps are now made almost exclusively from aerial photographs. The map maker mounts the photographs in an instrument that allows one to see the land in stereoscopic projection. He then adjusts a dot of light so that it appears to be in contact with the land surface at a certain elevation. If the dot is then moved to a place where the elevation is different, it will appear to be either above or below the surface. By always keeping the dot in "contact" with the surface, the map maker can trace a contour. While this technique is quite accurate, there are problems with it. The occasional cloud or dense trees can make it difficult to see the ground. Thus some topographic features may be missed. The esker between Wampus and Flour lakes is an example.

WHY SHOULD I HAVE AN ACCURATE MAP?

Although the Bearskin-Golden Eagle trail system is well marked and the chances of becoming lost are minimal, it is imperative to have a map with you and to keep track of where you are. Then if an emergency arises and you need to get to a road or back to the lodge quickly, you'll know whether it is best to continue ahead on the trail you are on, to turn back, or possibly to turn off on an intersecting trail or road.

While the trails on this map have been located with considerable care, their positions have not

been determined by accurate surveys. Where there are distinct topographic elements such as lakes, streams, cliffs and so forth, the accuracy is much better than in the absence of such features. Thus north and east of the Gunflint Trail the standard error in location is about ± 50 m; that is, two-thirds of the points on the trail should be within 50 m (150 ft) of their correct locations. The standard error in the Poplar Creek loop, however, is probably 75 to 100 m.

WHAT OTHER PRECAUTIONS SHOULD I TAKE WHILE SKIING?

Take a light pack with you with spare clothes. The pack is also convenient for carrying waxes, lunch, a jack knife, matches, a scraper, a spare ski tip, and some good strong string. The latter can be used to put a splint, made out of a sturdy spruce branch, on a broken ski pole.

Changes in weather, an injury, or a tour that takes longer than expected may make the extra clothing well worth the effort needed to carry it.

SKIING THE LAKES

Although not part of the official Golden Eagle-Bearskin trail system, lakes provide access to parts of the wilderness that are otherwise hard to reach. Moon and Deer lakes are two that are particularly attractive. From the west end of Deer Lake it is possible to bushwack up to Flour and return via the Logging Camp Trail. The effort, however, is considerable so do not attempt this if you are not in good physical condition.

The main problem with lake skiing is slush. Snow depresses the ice and water then seeps up through cracks and around the shore. This water spreads out on top of the ice, saturating the bottom of the snow pack. The overlying snow is a good insulator, however, and the slush may take a long time to freeze. The unwary skier, sinking down into this slush on a cold day, instantly acquires a coat of ice on his or her skis. Thereafter you will climb the steepest slope with ease, and plod down the steepest hill with no fear of losing control. The emergency scraper in your pack will now be worth its weight in chocolate.

Skis distribute weight very well, so with reasonable caution you will not go through the ice. If you cannot drive your pole through the ice with a single good thrust, it is probably thick enough. Be wary of places where streams enter or leave the lakes, though. Thin ice is common in such places.

SKATING

On rare occasions lakes may freeze in calm air without accompanying snow fall, forming clear

black ice. The alert and prepared skier can then have an experience never to be forgotten. Pull on your skates, take some boots to facilitate crossing between lakes, and set off for distant shores. But first some precautions:

—Take a ski pole to test the ice. Skates concentrate your weight, so the ice must be much thicker than with skis. However, if you cannot drive a ski pole through with repeated thrusts in one place, it will probably hold you.

—The Swedes have invented a form of ice pick called "isudubbar" which can be carried slung around your neck on a string and which enable you to "claw" your way out if you do happen to go through the ice. It consists of a pair of spikes (one for each hand) mounted in wooden handles so that about 2 cm projects from the wood, and carried in some form of protective sheath so that they do not puncture you accidentally. If you do not have the opportunity to travel to Sweden, you can probably fabricate some sort of viable substitute without too much difficulty.

—One or two members of a party should carry a light, strong rope that can be thrown to a skater who has the misfortune to go through the ice.

—Take a change of clothes in a waterproof plastic bag. If you do go through the ice, you will welcome dry duds.

—Until you are sure of the ice, stay close to shore. It is easier to get out if you can stand on the bottom.

And remember: **The ice can vary a lot in thickness.** It is generally thinner at the bases of steep slopes and around inlets to the lake (including springs) and outlets from it. Note also that deep water freezes last, so the ice will be thinnest where the water is deepest. Often you can see a seam in the ice separating ice of different ages and hence of different thicknesses. Don't skate across these without testing the ice on the far side first!

Text, trail mapping, and artwork by Roger LeB. Hooke unless otherwise noted.

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HYPOTHERMIA

Know the warning signs of HYPOTHERMIA. When the body is not sufficiently protected against the cold, intense shivering signals that it is desperately trying to maintain the core body temperature to protect the heart, brain, and lungs. Once the core temperature drops, even a few degrees, the heart rate slows, judgements are impaired, and responses are slowed. As people often don't want to admit in a group that they are cold, a mild situation can quickly and quietly turn into an emergency. At the first signs of HYPOTHERMIA (shivering, denial of obvious problem, unusual behavior, sluggish movement) among any member of a party, take the following actions:

1. Add extra layers of clothing (particularly to head, but also to neck and torso).
2. Drink warm fluids and eat sweet quick-energy foods, if available.

3. Keep the person moving in a friendly but firm manner while heading for the nearest warm shelter (either Golden Eagle or Bearskin Lodges, or on Poplar Creek Trail, Adventurous Christians [AC]). As wind and wet clothes can greatly increase the effects of cold, stay out of the wind and replace wet clothes, if possible.

4. Seek first aid assistance on safe procedures for warming victim, and medical assistance if necessary.

Persons with higher risk of HYPOTHERMIA are children and women (due to smaller body size), beginning skiers, and older people. However, able-bodied and competent male skiers have also succumbed to HYPOTHERMIA. Remember that your group is only as strong as its weakest member.

IF HYPOTHERMIA is a result of immersion in cold water, move as little as possible while in the water. This will conserve body heat.

ACCIDENTS

1. Do not move an injured person.
2. Keep the injured person as warm as possible.
3. If possible leave at least one person with the victim. Then go to the NEAREST LODGE (Golden Eagle or Bearskin). Both lodges have facilities for rescuing injured persons. When on the Poplar Creek Trail, help can also be obtained at Adventurous Christians (AC) at the NW end of Bow Lake.