

Mount Laurie. C.S. was leading the fourth pitch when he pulled out a rock the size of a microwave. He fell approximately 5–7 meters with the rock and was caught by his belayer.

At 2145, some nearby campground staff reported a light shining midway up the mountain face. Twenty minutes later, C.H. arrived back to the parking lot and confirmed that his partner was in trouble on the mountain. He reported that C.S. had a broken wrist and was conscious.

Kananaskis Emergency Services personnel began to arrive on the scene and climb up the scree slopes to the base of the cliff. At 0100, two of the rangers began climbing the cliff towards the victim. As they were climbing in the dark, they did not arrive at the victim until 0615. They administered first aid to the victim's broken wrist and elbow, multiple contusions, cuts and abrasions. C.S. was then heli-slung out to the waiting ambulance. (Source: Kananaskis Country Alpine Specialist)

### **Analysis**

Mount Laurie, better known as Yamnuska, is a popular limestone cliff on the eastern edge of the Canadian Rockies. The routes are up to 12 pitches in length, and most tend to be hard for their grade. The rock protection tends to be very good on the mountain, but the rock is also notoriously loose in sections, and it is not unusual for “microwave size blocks” to come undone. Every suspicious looking hand hold and foot hold must be tested completely before putting one's trust in it. (Source: Nancy Hansen)

## **FALL ON ICE, INADEQUATE PROTECTION, POOR POSITION, INEXPERIENCE and AVALANCHE (TWO SEPARATE ACCIDENTS)**

### **Alberta, Banff National Park, Cascade Waterfall**

These two serious accidents are reported together because they happened on the same climb within minutes of each other on December 17. They were separate and distinct accidents in one respect, but both incidents overlap in terms of terrain and the roles of the various people present.

Cascade Waterfall is one of the most accessible multi-pitch Grade III climbs in Western Canada. It is situated within sight of Banff town site, and consists of several hundred meters of ice beginning with easy lower-angled terrain leading up to three steeper main pitches of climbing. It is not uncommon for there to be several teams of climbers on Cascade at once. Like the majority of ice climbs in the Canadian Rockies, Cascade Waterfall is exposed to avalanche risk.

About 1400 on December 17, nine climbers in four separate parties were all positioned at various points along the main upper climb. One party of climbers had reached the end of pitch one, which is moderate Grade III. They decided to turn around and rappel back to the start of the pitch. When 21-year-old M., a beginner ice climber, reached the end of his rappel, he detached from the rope and began to walk across the low-angle ice. He was aiming for the ledge of dry rock which several others were using to exit the climb onto scree slopes to the east. Witnesses on the ledge say he took one or two steps, lost his balance and fell. He had no tools at hand and accelerated rapidly. He tumbled approximately

100 meters down the low-angled ice and came to rest on a broad ledge part way up the low-angled approach ice. All but two of the other climbers present were immediately aware of the accident and several began to descend toward M. by rappelling from the upper pitches or by down-climbing the scree route.

Meanwhile, two other climbers had reached the top of the main cliff and had walked a further 70 meters to a final 12-meter curtain which they both climbed. They were unaware they had reached the access to an alternate descent in the forested slopes to the west of the climb, and prepared to rappel the gully. They tried to install an Abalokov anchor several times, but found the ice at the lip of the curtain unsatisfactory. After 20 minutes, they finally chose a tree on the slope beside the gully. T. (31), a German national who was living and working in Calgary, rappelled to the foot of the curtain and detached from the rope on the flat snow at the foot of this ice step.

When his partner was halfway down his rappel, an avalanche came over the lip of the ice. One quarter of the main basin 200 meters further up the mountain had released. The climber on rappel immediately swung to his right away from the main volume of the slide. T. had no protection where he stood. He was hit by the full force of the avalanche and swept down the gradually steepening slope and over the main waterfall. He fell approximately 250 meters, coming to rest only a few meters from the victim of the first accident.

The avalanche occurred 15 minutes after the first accident. It caught everyone below in various stages of descending. The flying debris contained a large amount of loose rock which rained on the parties below. Some climbers were hit, but miraculously no one else was swept off or killed by the rock and ice fall.

All of the survivors were able to walk off the climb. Several were badly bruised and had broken bones. One climber spent a week in hospital in Calgary due to concern about kidney damage. Both the men who had fallen undoubtedly died almost instantly.

### **Analysis**

**Accident #1:** Many climbers solo up to the point where this fatal accident occurred. In other words, it is “easy” grade 2 or 3 terrain. The difference is that climbers have ice tools in their hands when walking up the rolling steps. Due to his inexperience, M. misjudged the risk if he slipped while unroped and without an ice tool in his hand. The ice ramp below him was polished and unforgiving. He slipped seconds after detaching from the rappel, before anyone could warn him of the danger.

**Accident #2:** The avalanche hazard was rated “considerable” at treeline on December 17. By definition, “natural avalanches are possible” with this rating. Moderate snowfalls and steady winds had been gradually increasing the risk over the previous week. At the same time, one of the effects of the wind had been to strip snow from exposed terrain, giving the mountains in the Banff area the characteristic appearance that climbers have come to call “bony” or bare. On December 17, the terrain above Cascade Waterfall did not “look” very threatening.

This accident illustrates the difficult choices that are presented when the

avalanche danger is in the mid-range of the scale. The party involved in the avalanche accident had considered the risk and decided to go anyway but to try and finish the climb as fast as possible in order to minimize their exposure. By midday, very strong warm winds had begun. The survivor said that about the time the slide hit them, he and his partner were concerned by the winds and by the fact it was taking them so long to get set up to go down.

There were seven other climbers on Cascade when the slide occurred. They all must have made some kind of calculation of the risk of climbing there that day. But one has to wonder to what extent any of them were also influenced simply by the presence of so many others on the climb. (Source: Parks Canada Warden Service)

## **FALL ON SNOW, NO HELMET, CLIMBING ALONE**

### **British Columbia, Kootenay National Park, Mount Stanley**

On August 6 a climber was reported overdue from a solo attempt on the Kahl route, a popular snow and ice alpine climb. He had been dropped off at 0600 at the trailhead and had been expected back by evening. The Warden Service was contacted at 2030. It is relatively common for climbers to be overdue on this route and usually when parties get benighted, they return by midday the following day. However, since the climber was solo, a search was initiated at first light the following morning. The climber was located in a rock gully below a snow slope on the usual descent route. He had fallen about 200 meters down the snow slope and eventually got hung up halfway down the gully. He died of the injuries sustained during the fall, including serious head lacerations.

### **Analysis**

It appears from the subsequent investigation that the climber tried to self-arrest once he lost his footing. He was wearing crampons and it is possible that snow balled up underneath them, causing them to lose their effectiveness. His skid tracks went over a rock outcrop on the snow slope and he likely lost control of his self-arrest attempt at that point. In addition, he was carrying a technical ice tool which is not well suited for self arrest. Although he fell a considerable distance, a helmet may have reduced his head injuries and perhaps a different outcome may have ensued. (Source: Parks Canada Warden Service)

## **AVALANCHE, INEXPERIENCE**

### **British Columbia, Mount Robson Provincial Park, Mount Robson**

K.G. and M.J. (both 19) were in a party of four climbers who were camped near the Dome, a feature near the base of the Kain Face on Mount Robson. They left their basecamp at 0600 on August 15 to climb the Kain Face while the other two climbers remained at the basecamp. Their friends last saw the party at approximately 2230 at the top of the Kain Face. A big storm moved in during the night of August 15, which deposited several centimeters of heavy wet snow on the face.

On August 16, the two remaining climbers at basecamp on the Dome re-