Avalanche

British Columbia, Northern Selkirks

Our party of six attempted an abbreviated version of the North Selkirks ski traverse, starting on April 16. On Friday, April 21, we left the Great Cairn (Ben Ferris) hut for the Guardsman Glacier and the summit of the Footstool, adjacent to Mt. Sir Sandford. We summited the Footstool on skis around noon, then waited out some cloudy weather for about an hour. From the col east of the summit of Footstool, we descended to the north from approximately 3,100 meters to roughly 2,850 meters on the Guardsman Glacier. At about 1:45 p.m. we decided to do another run adjacent to our ski tracks.

At approximately 2 p.m., while we were ascending our up-track, a natural, size 3 slab avalanche originating at about 3,000 meters on a northeast aspect caught three of the six members of our group. Two members were injured, requiring full assistance, but were not buried. (One had a fractured left leg; the other had shoulder injuries.) One member was buried approximately one meter below the surface. He was recovered five to six minutes after burial and was mildly hypoxic but did not require resuscitation and was without injury. The other three members conducted the rescues and were able to summon help via VHF radio for further support and evacuation.

ANALYSIS

The following factors were supportive of our decision to ski up and down this slope and then head up for another run. There was supportive snowpack, no avalanche activity had been observed that day or the preceding five days, and temperatures were stable. There was no deterioration to snow or ski quality consistent with rapid warming. The slope chosen to ski was very conservative: an angle of 20° or less. The slope that released was adjacent to our ski run and was quite steep (40° to 50°). This slope had been discussed as a potential risk during the initial ascent, and as a result the up-track and descent route were strategically made on the opposite side of the glacier. (This was the one factor that probably averted total disaster, because the main funnel of the avalanche missed us. Our group was caught in the leftmost fan of the slide, looking up.)

The following risk factors were unsupportive of our decision to ski a second run. The time of day, particularly in context with time of year (late April), were not ideal. The snowpack history was marked by a persistent weak layer deep in the snowpack (consisting of November facets and depth hoar). These conditions had set up a low-probability, high-consequence scenario through most of the mountain ranges of British Columbia, particularly throughout the East Columbia and Rocky Mountains. The steep slope adjacent to our ski run, although not impressive, held avalanche potential.

Our group discussed to a significant extent the pros and cons of undertaking or aborting a second run. Most of the factors above were brought up, although our confidence collectively had been bolstered regarding the persistent weak layer, based on our field observations. Some in the group were markedly reserved; others were motivated for a second run, including myself. After several minutes of indecision, the group collectively decided to go ahead.

In situations like the one described, where objective evidence of heightened risk is relatively low, subjective factors can play an important role in mitigating unnecessary risk and accident. Err toward the side of caution rather than confidence. A combination of fitness, motivational factors, and of course good weather caused our group, in particular myself, to overlook important human factors

that should have weighed more heavily in the final decision. (Source: Dr. David Urness, D.C.)

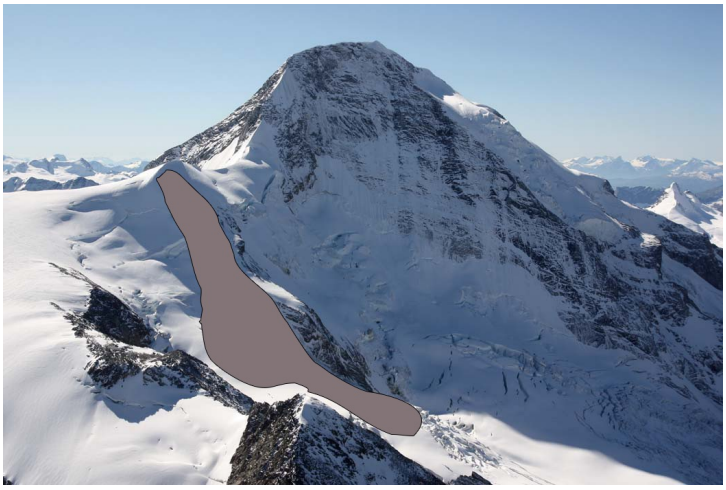
Images

The avalanche and scene from the air.

Avalanche and rescue scene.

The Guardsman Glacier after the first run from the Footstool, before the avalanche during the

second run.



Mt. Sir Sandford and the Footstool, showing approximate avalanche extent.

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