



AAC Publications

Many Avalanches

New Hampshire, Mt. Washington, Tuckerman Ravine

On April 7, seven avalanches occurred in Tuckerman Ravine. All were human triggered. At least five people were caught in one of the avalanches.

In the week leading up to April 7, there were two rain events. The first was March 29–30, delivering 0.75 inch of rain, followed by 0.32 inch of rain on April 4. Both of these were followed by hard freezes. On Friday, April 6, light snow showers began just after noon and continued through sunrise the following day. Hermit Lake recorded 16cm (6.3") of snow, while between 7 and 8 inches was estimated at the summit. When snowfall began on Friday, wind at the summit was around 30 mph from the south. Overnight, wind direction shifted to the west and speeds increased to 60–70 mph. The weather on Saturday was clearing skies, winds diminishing to around 40 mph from the west, and temperatures in the single digits on the summit and reaching into the 20s (F) at Hermit Lake. This weather pattern built a robust melt-freeze crust, over which touchy wind slab was built from the new snow.

During the morning of April 7, three avalanches were intentionally triggered by skiers. All three were ski cuts, two occurring in Lobster Claw and one on the rollover of the Little Headwall. Slab depths were up to 14 inches, and all slides occurred on a layer of softer snow immediately above the melt-freeze crust.

Other avalanches occurred in Left Gully and Chute, both of which were triggered unintentionally. We believe that no one was caught or carried by either avalanche.

Two avalanches in Hillman's Highway this day involved a number of people being caught and carried. At approximately 2 p.m., at least 40 people were climbing and skiing in Hillman's. An individual climbing uphill from the right fork into the left fork triggered the initial avalanche. This person was not carried in the slide. The crown was approximately 300 feet below the top of Hillman's, and the slide ran two-thirds of the way down. At least five people were caught and carried. USFS snow rangers responded to the incident and identified one injured skier who was transported to Pinkham Notch with a back injury that was not life-threatening. Another individual sustained a minor injury to the hand.

The second avalanche was triggered around 2:30 p.m., within minutes of the initial snow ranger team arriving on scene. The consensus of bystanders is that this second avalanche was triggered by the same individual who triggered the first, after topping out on the ridge and beginning to ski the hang-fire slab above the initial crown. This second avalanche was smaller and luckily did not capture any people.

ANALYSIS

Many opportunities for learning are presented by this day, which fortunately did not involve more serious injuries. First, it's an excellent reminder that avalanche conditions can develop on Mt. Washington during the normally stable spring months, which bring crowds of backcountry skiers to Tuckerman Ravine. On days with conditions like those on April 7, anyone venturing into avalanche terrain should bring a beacon, shovel, probe, and the knowledge to use them effectively.

A cardinal rule for traveling in avalanche terrain is to move one at a time through areas exposed to avalanche danger. Despite the often-heard phrase "It's just Hillman's," all of Hillman's Highway is avalanche terrain. On top of that, it's particularly confined. Had only one person at a time been exposed in Hillman's on April 7, it's likely that nobody would have been injured. On a slope as large as Hillman's, a number of people can travel on the slope before someone finds the specific location that will trigger an avalanche. In other words, tracks on a slope do not mean it's safe to ski or climb.

Finally, we should touch on ski cutting. The process of intentionally skiing a specific part of a slope likely to trigger an avalanche, with speed, from one safe zone to another, is an advanced practice and is only appropriate under certain conditions. It is only wise when you possess a high degree of certainty about what the ski cut will produce and the consequences if you're wrong. In particular, ski cutting is inappropriate when an avalanche may initiate above you. On April 7, the individual ski cutting on Lobster Claw and Little Headwall was a professional skier who had high certainty both in terms of anticipated result and the consequences for being wrong, and avalanches above were nearly impossible. Further, other people were not in the potential avalanche run-out zones. (Source: Mount Washington Avalanche Center.)

Images



Fracture line of a slab avalanche in Hillman's Highway that caught at least five people.



Brody Leven "ski cutting" a slope in the Lobster Claw gully on Mt. Washington.

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