

McAtee Basin Avalanche Fatality
Gallatin National Forest Avalanche Center
14 April 2010

Synopsis

A group of six local snowmobilers entered McAtee Basin just south of Big Sky, Montana on Wednesday, April 14th. Shortly after entering the basin one rider attempted to climb a steep north facing slope when he triggered the avalanche. During this time another member of the group who was filming was caught by the avalanche and fatally buried. The rider who triggered the avalanche was partially buried but unharmed. The slope angle at the crown was 38 degrees, but rolled over to a steeper angle below the crown. The slide propagated over 1,000 feet across, broke 2-4 feet deep, and ran approximately 500-600 vertical feet. The runout angle near the burial site to the crown was 26 degrees. The U.S. classification of the avalanche is SS-AMu-D3-R3-I

GPS Coordinates

Crown: N 45.17194, W 111.44194

Victim Location: N 45.17332, W 111.44059

Elevation of crown is 9,500 feet.

Photos

<http://www.mtavalanche.com/images/10/mcatee-basin-avalanche-and-sympathetic-slides-14-apr-2010>

<http://www.mtavalanche.com/images/10/mcatee-basin-avalanche-debris-14-apr-2010>

<http://www.mtavalanche.com/images/10/mcatee-basin-avalanche-14-apr-2010>

Video Clips

<http://www.youtube.com/watch?v=9AUGJanJeGE>

<http://www.youtube.com/watch?v=rSBzKmRTZt0>

Weather

The snowfall and temperature data for this incident are from the Timber weather station located at 9,400 feet at the Yellowstone Club, approximately 5 miles to the north of the accident site. The wind data is from the Yellowmule weather station located 2 miles to the east.

On Tuesday, April 13th a strong storm system moved into the area depositing 1.5 inches of SWE totaling 17 inches of snow. This heavy burst of precipitation produced snowfall up to 3 inches an hour at and was accompanied by S-SE winds that blew at 15-20 mph. Temperatures during and after the storm were in the 20's F.

On Friday, April 14th no new snow was recorded and temperatures during the time of the accident were in the upper 20's F under partly cloudy skies. Winds were blowing out of the S-SW at 15 mph with gust reaching 26 mph.

Avalanche

The victim, Rider 1 (57), was riding with five other snowmobilers on Wednesday, April 14th. Rider 1 knew each member of the group personally and was familiar with each individuals riding ability. The entire group carried rescue gear and was familiar with avalanche rescue techniques. A majority of the members had taken avalanche awareness classes from the GNFAC in the past. Each member knew the terrain well and was familiar with current conditions. On the morning of April 14th the group made their way to the popular Buck Ridge Trail. They rode for a few hours and found no signs of instability or recent avalanche activity.

They entered McAtee Basin sometime in the early afternoon. This area has a similar aspect and elevation to the earlier slopes, but has addition hazard due to the terrain traps that make up the run out zones of the steep slopes above. They stuck to lower angle slopes near the bottom of the basin, but gradually gained confidence in the stability of the snowpack . While four riders continued to play on the slopes below, Rider 2 decided to test a larger, steeper slope near the center of the basin. As Rider 2 prepared to climb, Rider 1, decided to move into an open area in order to film.

Rider 2 made it half way up the slope before he triggered the slide. Rider 2 managed to get caught in a group of trees mid-slope and was able to avoid being dragged down in the avalanche. Unfortunately, the slide hit Rider 1 who was filming Rider 2. Rider 1 was carried 200 feet down hill and buried under his sled in a thick grove of trees. The other members of the group immediately arrived on the scene and quickly conducted a beacon search. They picked up Rider 1's signal and had him dug out in less than fifteen minutes. The group had to dig out the sled and saw numerous branches in order to reach Rider 1. Rider 1 was buried six feet deep and had no pulse when he was recovered. CPR was initiated, but Rider 1 never recovered and was pronounced dead at the scene.

SEARCH AND RESCUE

At approximately 3:10 p.m. – Gallatin County Search and Rescue was notified of a snowmobiler caught in an avalanche in McAtee Basin. A helicopter was dispatched from Bozeman and arrived on the scene with a paramedic from Big Sky at approximately 5:00 p.m. The paramedic pronounced the victim dead at around 5:10 p.m. He was loaded into the helicopter and flown to Big Sky Meadow Village.

SNOWPACK

Mark Staples and I dug a snowpit in the crown of the avalanche. The snowpack was 178 cm deep. The weak layer that produced the avalanche was at 112 cm and consisted of small grained facets 1 mm in size that formed during an extended dry period between mid February and mid March. This layer was

sitting over a thin ice crust and was capped by a 42 cm slab of 1 F to 4 F hardness with 23 cm of fresh snow on top. Stability test: ECTP 24, Q1 broke on this layer.

Avalanche Advisory: <http://www.mtavalanche.com/advisory/10/04/13>

Snowpit Profile: <http://www.mtavalanche.com/images/10/snowpit-profile-mcatee-avalanche>

Direct any questions regarding this report to Eric Knoff at eknoff@fs.fed.us or 406-587-6984

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