

TEN YEARS OF AVALANCHE FATALITIES

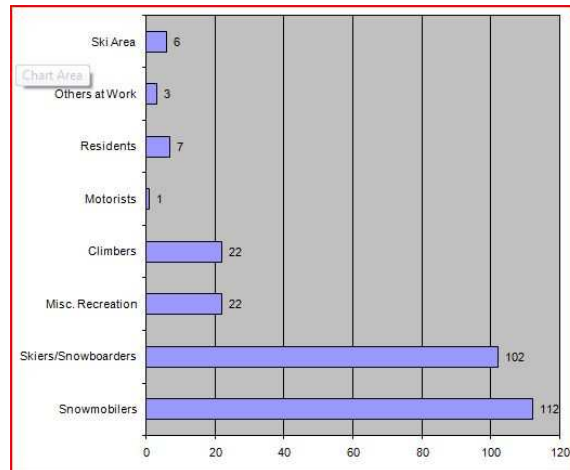
Doug Chabot

Snowfall in the first days of October brought out famished skiers drooling with hunger for powder. They skied, hit rocks and even triggered a few avalanches. A two foot snowstorm three weeks later also resulted in powder turns, base welds and bruises, but fortunately, no fatalities. Early season snowstorms excite skiers about the coming winter and put smiles on their faces. But the dark side of skiing is tragedy from avalanches. People die in slides they trigger. Overall, 94% of fatal avalanches were triggered by the victim or someone in their party. Avalanches rarely kill uninvolved bystanders. As skiers, our fate is in our own hands.

LAST 10 YEARS

In the United States 284 people died in avalanches over the last 10 winters, 42 of them in Montana—the second highest avalanche death rate in the US. Of those deaths, 22 occurred in southwest Montana; 14 snowmobilers and 8 skiers and climbers. Looking at nationwide avalanche statistics reveals patterns invisible at the local level.

More people die in avalanches on National Forest land than from any other natural hazard, including wildfire, floods, hurricanes and landslides. In the last 10 years an average of 179 people were caught in avalanches every winter. Ninety of them were buried, 30 were injured and 28 died.



THE AVALANCHE VICTIM

The avalanche records paint a picture of the typical avalanche victim. Ninety percent are men with most aged 25-29 years old. Women account for 10% of the fatalities, but the majority of them are between 40-44. Although it's obvious why testosterone driven young men are more likely to die, the mature female grouping is a mystery.

All but 4% of the avalanche deaths happened to people recreating on steep, advanced terrain. During the last 10 years backcountry skiers/snowboarders and snowmobilers are almost tied in numbers of avalanche deaths: 102 non-motorized to 113 snowmobilers, a less than a 10% difference in fatalities. Here in Montana the spread is greater because snowmobilers are more numerous.

The majority of avalanche victims are competent and experienced winter travelers. Three-fourths of them have some type of formal avalanche education. We know that education saves lives, yet it also has a nasty edge by falsely boosting our self-confidence. It takes a humble, self reflective person to keep our hubris in check. Accident investigations reveal that people's training lagged behind their activity skill level. In other words, their hunger for steep lines and deep powder exceeded their knowledge of avalanches.

THE AVALANCHE SPECIFICS

Avalanche accidents happen mostly in the backcountry. In the U.S. there's a growing trend to access the backcountry through developed ski resorts. An astonishing 52% of skiing and snowboarding accidents

happen within 2 miles of these developed areas, although it's unclear how many were using lifts at the resort. Regardless, sidecountry terrain has concentrated tracks from heavy use. Ease of access and limited gear (no skins or touring bindings needed) seduces folks lacking the necessary backcountry travel skills into serious avalanche terrain.

95% of fatal avalanches are slab avalanches which have a tendency to fracture once a person is well onto the slope. Slabs break like a pane of glass, all at once, offering limited or no chance of escape. Most fatal slides are small to medium size, with 53% of the fatalities from slides less than 20 feet wide and 1,000 feet vertical.



SURVIVAL

The survival of someone completely buried in an avalanche is far from guaranteed, even with a beacon. Time is the enemy. Within 15 minutes a victim who is uninjured has a 90% chance of surviving, but the chances plummet fast. By 30 minutes the victim's probability of living are 50%--no better odds than a coin toss, and at 45 minutes they drop to 25%.

Both skiers and snowmobilers need faith in their partner's skill at using an avalanche beacon, but even the newest and simplest models require practice. A study of recreational skiers found that if two people

are buried, one with a beacon and the other without, the person with the beacon only has a 10% greater chance of surviving because the average time to find someone was more than 30 minutes. A beacon in the hands of an avalanche professional and others who regularly practice, was definitely better but far from encouraging.

In addition to suffocation, avalanches can cause life threatening and fatal injuries by hitting trees, rocks and falling off cliffs. Approximately 25% of avalanche deaths stemmed from massive injuries.

A buried victim's chance for survival depends not only on the length of time and burial depth, but also the type of rescue. Victims dug up alive were rescued by their partners 78% of the time. Only 12% were found by an organized rescue team, while 10% were self rescues. If you leave the scene and go for help your partner will not be found within the golden window of 15 minutes. Although companion rescue gives the best chance of being found alive, those odds are still only slightly better than 50/50. Grim.

CONCLUSIONS

Avalanche victims usually trigger the avalanche that kills them. Of those completely buried, more die than live. Only 34% will ultimately survive. But partners that know how to use a beacon, practice with it and carry a sturdy shovel and probe can push the chance of living to over 50%.

Even more important than gear is avalanche education. With education and practice we can learn more about avoiding dangerous terrain. Avalanches are all about timing, so evaluating when it's safe to ski or snowmobile a particular slope is essential. Yet we need to be careful since a little knowledge can fool us into thinking we're smarter than we really are.

The best route in the backcountry is to travel with solid, experienced partners, take an avalanche class and never be afraid to turn around.

Note: Most of these statistics were gathered by Dale Atkins through data from the Colorado Avalanche Information Center.

Check out the Education page on our new website at www.mtavalanche.com for a listing of classes. During the first week of December we're offering classroom and field sessions for all user groups.