

FACT SHEET



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NSAA Avalanche Safety Fact Sheet

LAKEWOOD, Colo.– September 1, 2011 – Despite the best efforts of highly trained ski area professionals, avalanches can occur at ski areas. The majority of mountain avalanches occur in the backcountry and outside of ski areas. The industry focuses on in-bounds avalanche mitigation, safety and education measures – safety remains the top priority within the ski industry.

“By the very nature and location of skiing, avalanches remain an inherent and recurrent risk within the sport,” stressed Michael Berry, president of the National Ski Areas Association (NSAA). “Skiers and snowboarders need to take precautions and educate themselves about the risks involved when skiing in avalanche-prone areas.”

Despite the risks associated with avalanches, fatalities resulting from avalanches at ski areas in the U.S. are rare. According to statistics compiled from the Colorado Avalanche Information Center, since 2001 avalanches have caused 283 fatalities in the U.S. Statistics show that there is less than one fatality from in-bounds avalanches at ski areas per one hundred million skier visits. (See graph data below). Since 2001, eight in-bounds fatalities have resulted from avalanches at ski areas, which is 2.8 percent of the overall number of avalanche fatalities in the U.S. The overall rate of fatality among skiers and snowboarders is .78 per million ski area visits. (See NSAA’s Facts About Skiing and Snowboarding Safety).

“Resorts do a phenomenal job with avalanche mitigation given how few fatalities there have been,” noted Dale Atkins, an avalanche specialist in Boulder, Colorado and Vice President of the Avalanche Rescue Commission for the International Commission on Alpine Rescue.

“The ability to manage Mother Nature is limited, particularly in alpine environments where local weather conditions can change dramatically in minutes,” says Berry.

Aggressive training and education efforts by ski areas have minimized the number of avalanche fatalities at resorts in the U.S., including frequent use of explosives to intentionally dislodge and release unstable snow (since the late 1950s, there have been far more than 3 million detonations of hand charges to mitigate avalanches in the U.S., according to the American Avalanche Association). Despite the industry’s solid track record, however, avalanche mitigation is far from perfect. As Dr. Ethan Greene, director of the Colorado Avalanche Information Center, points out, such fatalities do occur, despite the fact that the ski areas in which they occur have impressive safety records that span several decades.

“Ski patrols can minimize the danger,” explained Doug Abromeit, Director of the United States Forest Service Avalanche Center. “But they can’t eliminate it.”

Each ski season, areas pursue snow safety with vigor, taking proactive steps to provide avalanche safety education to its guests and employees, including mountain signage and closures, informational videos and hands-on training in the use of avalanche beacons and transceivers. Individual personal responsibility remains a hallmark of avalanche precaution and preparedness. NSAA emphasizes that skiers should *always* ski with a partner, and keep that partner within your sight. Strict adherence to trail closures can also reduce the risk of avalanches. Those who ski extreme terrain should consider carrying avalanche equipment, including beacons, transceivers, probes and shovels.

Furthermore, ski helmets are effective at limiting injuries. According to one medical textbook, although 75 percent of avalanche deaths are due to asphyxiation, 25 percent of avalanche deaths are due to trauma. (see Wilderness Medicine, page 59, Knox Williams, Dale Atkins, and Dr. Colin Grissom, 2007).

While there has been an increase in avalanche fatalities at ski areas over the past few years, most avalanche and industry experts attribute the increase to a combination of unusual weather conditions and recent advancements in ski equipment, as wider skis and all-mountain skis allow easier access to more extreme and steeper terrain on the mountain, increasing the odds of triggering – or becoming engulfed in – an avalanche.

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<u>SEASON</u>	<u>Total U.S. Avalanche Fatalities*</u>	<u>Total In- Bound Ski Area Guest Fatalities*</u>	<u>SKIER DAYS** (in millions)</u>	<u>RATE (per million) In-bounds only</u>
1980/81- 1989/90	143	3	502.2 (1980/81 – 1989/90)	0.006
1990/91- 1999/00	234	1	523.8 (1990/91 – 1999/00)	0.002
2000/01- 2010/11	283	8	635.5 (2000/01 – 2010/11)	0.013

* Statistics compiled from data from the Colorado Avalanche Information Center

** Data according to the 2010/11 Kottke End of Season Survey

Additional Avalanche Information Contacts:

- Dr. Ethan Greene, Director of the Colorado Avalanche Information Center
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 - http://avalanche.state.co.us/acc/accidents_us.php
- Dr. Karl Birkeland, Acting Director and Avalanche Scientist, USDA Forest Service National Avalanche Center
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THE NATIONAL SKI AREAS ASSOCIATION, LOCATED IN LAKEWOOD, COLO., IS A TRADE ASSOCIATION FORMED IN 1962 FOR SKI AREA OWNERS AND OPERATORS NATIONWIDE.

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