

# be slide-wise to navigate direct route to avvy info

The avalanche danger in the Wasatch, Utah, backcountry was characterized as considerable (read: human-triggered avalanches probable). Early season storms had deposited several feet of snow that then weakened during a relatively dry January. Several small storms then loaded extra weight on top of the unstable layer in February. But to my brother, Andy, his wife, Sharon, and five others who hoped to cut some fresh tracks in a bounty of new snow the scene was more enticing than unnerving. As they traversed the northwest face of the square-top mountain ridgeline at 12:45 p.m. on February 27, 2001, little did they know they were basically skiing over a ticking time bomb.

The group was vacationing from New Hampshire at Park City's The Canyons Resort and decided to take advantage of easy access to off-piste terrain. All highly skilled skiers and riders, none of them had felt compelled to carry avalanche gear such as shovels, probes, or beacons.

From the top of The Canyon's Ninety Nine 90 Lift, the group exited the snowsports area through a backcountry access gate and proceeded to Red Cliff Rocks area, despite large signs warning them of potential avalanche danger. They crossed the northwest face, which had a slope angle of more than 30 degrees and was at an elevation of about 10,000 feet, two factors that contribute to the risk of an avalanche.

As Andy continued northwest to view the entire cornice, Sharon descended from the ridge and made a few turns before she fell and lost a ski. Her son and two others skied down to help and the remaining two members of the party stayed on the ridge. As they waited for Andy to return, a large slab of snow broke loose just below the ridgeline and carried Sharon, her son, and



Warning signs mark the boundary of The Canyons Ski Resort outside Park City, Utah.

two others 20 to 50 feet down the slope. Sharon's son tumbled with the snow until he hit a tree, forcing him to the surface unhurt. Another skier who was caught in the slide was buried up to his waist but managed to dig himself out. Sharon and the fourth skier caught in the slide disappeared into a gully. When the slide stopped, the group located the fourth skier, who was completely buried but able to yell from underneath the snow. Sharon was still missing.

An immediate rescue effort was called and then postponed due to slide danger; search teams were evacuated while the slope was blasted. When the area was finally deemed safe, rescuers returned to the area and located Sharon buried under 4 feet of snow. It was approximately 3:56 p.m., more than three hours after the slide. My sister-in-law did not survive.

Unfortunately, this dramatic scene is

becoming all too familiar. This year, the State of Utah is reporting the deadliest season ever since avalanche reporting began in 1951. Six people have been killed, and it's only February. Among this year's victims is a snowboarder caught in a massive slide on the same face that claimed Sharon Reinfurt's life. Coincidentally, a little more than a year before her death, two other skiers died in the same spot.

Under similar avalanche warning and conditions, accident reports from January 22–25, 2005, logged 13 skier and boarder fatalities in France, Switzerland, and Austria. These included European, U.S., and Canadian citizens whose ages ranged from the early 20s to late 50s.

All these victims are examples of a growing trend of skiers and riders who confuse technical skiing and riding ability with backcountry preparedness. What's more, they are reminders of the over-

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whelming need for better education and awareness of avalanche danger.

## THE LURE OF THE BACKCOUNTRY

Perhaps due to crowded ski areas, long lines, boredom with the same old slopes, technological advancements in gear, commercial marketing of all things extreme, or the call of the pristine backcountry, a soaring number of winter enthusiasts in the past 15 years have taken to crossing beyond many a resort's boundaries.

A quick look at the average ski video of today compared to an older movie creates a dipstick for what today's audience supports. The steep-and-deep flicks that draw cult-like followings don't include much footage of inbound skiing at family-friendly resorts. Instead, big-name extreme competition champions are shown blazing new trails off vertical cliffs and down 60-degree slopes. These films seemingly reflect a cultural phenomenon within snowsports of touting one overarching concept: the more extreme the better. Adventurers in Europe and North America are answering the call of the wild; some of the individuals are experienced, some inexperienced. Some go with guides, some without.

As ski resorts continue to expand and add new terrain, bigger, faster, and higher chairlifts take people closer to action that previously was only accessible to those willing to "earn their turns" with several hours or even days of backcountry touring. What was once out-of-reach is now at our skitips, and people are taking full advantage of the new terrain.

Poaching—ducking under area boundary ropes to access off-piste terrain—has long been a concern for ski areas worried about the safety of their guests. However, in a lot of places in the United States, poaching is not illegal if ski areas are on and/or adjacent to state or national forest land, which is open to public use. Neither is it the patrol's or the area's responsibility to police those who would ski out-of-bounds at their own risk. Just as skiing in bounds presents risks for which the resort is not

responsible, so does skiing beyond the area's boundaries. The ropes are merely indicators of the boundaries of patrol-controlled terrain. Still, resorts recognize the tendency for people to cross over those lines and have set up "access gates" as a way to funnel would-be poachers through a single point at which warning signs and information can be posted.

Backcountry access gates at snowsports area boundaries allow people to explore off-piste terrain without committing to a several-day jaunt into the wilderness. You can spend the morning in the halfpipe or the back bowls, grab some afternoon freshies on the other side of the gate, and then return to the hotel hot tub and après-ski activities in the resort village. This adventurous trend is a good thing for the snowsports industry as a whole because it keeps the sports fresh and exciting. Unfortunately, problems arise when novices and, yes, even experts underestimate the danger and overestimate their qualifications.

## WHEN BAD THINGS HAPPEN TO POORLY PREPARED PEOPLE

Snow scientist Peter Höller conducted a study of avalanche knowledge 15 years ago for the Austrian Institute for Avalanche and Torrent Research in Innsbruck. He drew up 50 questions and distributed 500 copies of his questionnaire to two regional Austrian alpine clubs. Three significant findings in the study suggested that avalanche education in Austria needed to reach a broader group, particularly those headed to the snowy outback.

Höller found that 1) a mere 19 percent of the ski mountaineers who participated in the study had any formal avalanche instruction; 2) only 60 percent of ski mountaineers regularly participated in avalanche beacon training or refreshing; and 3) most of the respondents *didn't even realize high avalanche danger exists on north-facing slopes!* The investigation drove home the fact that just because a backcountry enthusiast had first-class skiing and guiding skills didn't mean the

individual had the necessary avalanche awareness education.

Höller's immediate recommendations were to address and reduce these problems by offering more precise details on hazard management via public service announcements on TV and using radio weather broadcasts that actually mentioned the word "avalanche." Seasonally his organization and numerous others worldwide offer free classroom seminars and/or nominal-fee avalanche field courses that are formally advertised and open to everyone. A parallel icon in the international avalanche industry is Bruce Tremper, director of the Utah Avalanche Forecast Center.

Since Höller's initial research, the snowsports community has experienced growing involvement in backcountry activity. However, despite the efforts of Höller, Tremper, and others there remains a major problem: Avalanche accidents have not decreased in Europe or America.

In fact, fatalities in North America are still on the rise. The number of U.S. avalanche fatalities in 2003–04 (34) compared to 20 years earlier in 1983–84 (14) and 30 years earlier in 1973–74 (5) suggest more people are traveling and dying in the backcountry. Another study conducted in Austria during the 1999–2000 season showed a few positive changes, but none that would suggest backcountry accidents were less common or less likely to occur than a decade earlier. In 1990, for example, about 33 percent of the backcountry skiers surveyed had little or no idea about the processes that affect snowpack. In 2000, that number dropped only slightly to 25 percent. Clearly, the increase in education and awareness doesn't match the increase in activity.

In the years since Höller conducted his research, there have been numerous developments in avalanche technology and tools. For European skiers and boarders the daily avalanche rating is traditionally found at the ticket office and posted on all major resort trail map marquees with flashing lights that visually inform skiers

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to become further informed before crossing area boundary lines. This information is updated as weather changes. The three standard lights used for ski safety are green (go), yellow (use caution), and red (danger, DO NOT GO). Also, resort terrain is sometimes taped as “off limits” when avalanche possibility is high, and might include the placement of pictorial signage that is easy to understand. In some situations patrollers are placed at specific on-hill spots to give awareness of the pending dangers.

Many companies have introduced a new generation of products that, when used correctly, can help mitigate avalanche dangers. User-friendly avalanche beacons, technical clothing, collapsible shovels, and an invention called the AvaLung (See “AvaLung Designed to Deliver O<sub>2</sub> to Avalanche Burial Victims,” spring 2000) all promise to buy an individual and his or her traveling companions more time in the case of an avalanche. More time, that is, but not a miracle.

Conversely, these tools can provide a false sense of a security. Having the equipment means nothing if the people don't practice using it before getting caught in a slide. High-tech equipment will never replace sound judgment based on direct experience and that most fundamental asset: common sense. People often ignore or simply don't understand nature's warnings, and thereby fail to follow basic rules of avalanche safety. Placing that responsibility in the hands of others, though, isn't the answer.

Backcountry guides take people off-piste into territories where the majority of avalanches occur, but you can't blame Mother Nature for every injury or fatality. Even trained professionals have been known to throw caution to the wind when emotions and steep-and-deep stashes get the best of them. Errors of judgment account for a large percentage of avalanche accidents every year. In a few cases, placing too much trust in a guide proved fatal for some skiers; their guide chose to

go in overconfident and did not retreat even when he or she knew better.

In Europe, official investigations into avalanches in recent years have uncovered accidents resulting from poor decision making on the part of overconfident veteran guides. In fact, there are several cases pending on the continent that involve experienced backcountry leaders who exhibited what the courts call “reckless judgment and culpable negligence” that led to a death or severe injury to one of their guests. When facts show that safer alternatives were available and accidents could have been prevented, European guides often have their licenses revoked and are subject to legal action.

Mother Nature is not always at fault, and there isn't always a negligent professional to blame either. Sharon Reinfurt and the other victims caught in avalanches outside of The Canyons let their advanced ski skills outweigh their knowledge of terrain, snowpack, and weather.

## ALPING OTHERS ALP THEMSELVES

Writing an article for *Ski Patrol Magazine* about the risks of backcountry travel is sort of like preaching to the choir. Most patrollers—especially those in the Rockies, out West, or in the Alps—pursue extensive avalanche education. Many of us train for rescue efforts and understand how to avoid dangerous situations. Even those of us in places such as Michigan, New Hampshire, Vermont, and Virginia have participated in an avalanche course or two. Unfortunately, area guests don't always understand that our responsibilities and our work stop at the ski area boundary lines and that “backcountry” means uncontrolled.

Neither patrols nor ski area management should ever be held responsible for poor judgment on the part of their guests, especially when the guests leave the area's boundaries. While we can't prevent people from ducking ropes or skiing out-of-bounds and into dangerous terrain, there are a lot of ways patrollers can encourage skiers and riders to learn about and be prepared for avalanche danger.

Considering the ever-increasing ease of access to information of all kinds, there's no excuse for those thinking of visiting the backcountry not to keep up with the latest avalanche information available, whether it relates to new equipment, rescue techniques, or even daily snow conditions for a given region. However, some people might not know where to look for it or even that they should. And when intrigue in the form of fresh powder just beyond the nylon rope meets impulse, the unprepared get in trouble.

As a patroller, you can lead by example: Keep current on your knowledge via the avalanche courses offered in your area. Stay in close contact with local snow authorities. If your area provides backcountry access by way of gates, take the time to check snow conditions in those off-piste areas, even if you don't plan to ski there. Understand how recent weather patterns might have affected the snow, and be prepared to explain it to guests who are thinking of skiing out of bounds. You can also facilitate with the education of others by helping people in your town or visitors to your area find the education they need. (For recent avalanche statistics and information in North America or Canada, the following are a few sites with outstanding links: [www.avalanche.org](http://www.avalanche.org), [www.nsidc.org](http://www.nsidc.org), [www.nsp.org](http://www.nsp.org), [www.csac.org](http://www.csac.org), and [www.avalanche.ca](http://www.avalanche.ca). To view the various offerings of European avalanche centers, as well as links, refer to [www.lawine.org](http://www.lawine.org).)

The NSP works with a number of affiliate organizations that lead avalanche courses on a regular basis. One such NSP affiliate is the Colorado Mountain College (CMC), an accredited school that offers a popular Level I Avalanche Training Seminar. The curriculum covers the basics of terrain, weather patterns, and snowpack in terms of avalanche buildup. Also included is information on everything from the natural process of snow generation in the atmosphere to current avalanche rescue procedures. Patrollers and recreational skiers alike are welcome and



encouraged to take the course.

For those who live in an area where there is no avalanche instruction or who are interested in creating their own pro-

grams, the American Avalanche Association (AAA) has developed a set of guidelines for that purpose (see [www.americanavalanche-association.com](http://www.americanavalanche-association.com)). While the AAA's guidelines do not represent a curriculum for

instruction, they do provide a framework to be used by instructors interested in writing their own curricula. The guidelines were developed by avalanche professionals who are experts in avalanche forecasting, education, and control.

More than anything, patrollers can help by staying in touch with area guests as well as area management. Talk to skiers and riders who plan to travel in the backcountry and make sure they know what steps to take before venturing off-piste. If part of your patrol duties include "sweeps," frequently visit access points where skiers and riders might go out-of-bounds and dissuade those who aren't prepared. Consult with area management about ways to publicize educational programs offered by the area, the patrol, or local affiliates.

## Jackson Hole Sets Example for Backcountry Travelers

Wyoming's Jackson Hole Ski Area stands out as a shining example of how to both provide backcountry access and promote safety for snowsports enthusiasts. Choices made by the resort's area management help create a positive, personal interaction with visitors who choose to cross the area's boundary. The resort took the time to demonstrate that it's possible to provide quality customer service without instilling a feeling of being policed.

The resort literally "opens the door" for backcountry enthusiasts by providing four gates within the area's boundaries that allow guests to access the backcountry. The gates are only open at times when backcountry conditions meet the criteria for safety as determined by a member of the ski patrol designated as the "touring officer," or that individual's assistant.

Each of the four gates feature "control points" that fit into a plan of "physical access management" whereby skiers and snowboarders are forced to stop at the gate and confront signage and questions regarding their readiness for backcountry travel. The three control points are as follows:

1. A swinging boundary gate that the guest must physically push open to access the given touring area. Each gate has a locking sign that is adjusted daily with regard to the conditions beyond it. When the sign on the gate is flipped down, it reads: "YOU ARE NOW LEAVING THE SKI AREA BOUNDARY. THIS IS YOUR DECISION POINT." This side of the sign also contains language stating that hazards exist in the touring area, guides are recommended, and individuals are responsible for their own safety and rescue. When the sign is flipped up to lock the gate, it contains this message: "CLOSED DUE TO AVALANCHE HAZARDS."
2. Each gate also features a notice that's updated periodically with postings for the backcountry avalanche report as issued by the region's forecast laboratory. Every day the snow safety manager delegates the responsibility of updating the signs to a specific patroller.
3. And finally, touring status boards with area maps are located at the gates, ticket areas, base, and top stations as well as other locations that are applicable to that given resort's backcountry area. In addition, this is usually where resort liability disclaimers are clearly posted. The boards are easy to read under various weather conditions, have meaningful information (e.g., scaled map of area, tips, and emergency phone numbers), and feature a laminated daily regional avalanche center warning report.

In addition to the area setting a prime example for the snowsports do-it-yourself crowd, the Jackson Hole Resort Mountain Sports School helps enthusiasts seeking knowledge by offering a number of backcountry camps each winter. As part of the school, Jackson Hole Alpine Guides prides itself on being an "educational guide service," and the online course description for its main winter camp says that it is: "... designed to teach aspiring backcountry travelers how to safely break away from in-bounds terrain and explore the areas beyond..." The goal of the backcountry camp is to teach participants how to travel in the winter backcountry "safely and confidently."

Over the course of the three-day camp, leaders cover the basics of route selection, avalanche hazard evaluation, transceiver use, and rescue techniques. Students learn snow safety by performing such tests as the compression tap, shovel shear, and Rutschblock. In addition to supervising the hands-on aspect of the course, guides also cover intangible topics such as backcountry decision-making and group dynamics.

—Steven Reinfurt

## CONCLUSION

When passing through the backcountry, it's never simply a case of every man, woman, and child for him- or herself. Staying safe demands solid education, awareness, common sense, the possession and knowledge of the proper tools, and common courtesy for the lives of others. Even if the number of avalanche deaths in the U.S. and Europe begin to decline, it's important for everyone—from patrollers to guides to backcountry novices—to remain alert and on the lookout for potential danger in the outback. Overconfidence can easily kill, but keeping current with education and refresher courses in avalanche safety skills can save lives. +

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