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Snow Immersion Suffocation Fact Sheet

LAKEWOOD, Colo.—September 15, 2016—There have been 35 fatalities resulting from snow immersion suffocation (SIS) incidents occurring at U.S. ski areas since the 2006/07 season, according to a study conducted by Paul Baugher, a leading snow safety researcher and director of the Northwest Avalanche Institute, and the National Ski Areas Association (see Graph 1).¹ During this 10-year span, there are, on average, three to four SIS fatalities at U.S. ski areas per season.

During the 2015-16 season, there were four fatalities resulting from SIS incidents at U.S. ski areas (during the 2014-15 season, there was one SIS fatality). SIS incidents most often occur with deep snow and tree well immersions, where a skier or snowboarder falls into an area of deep, unconsolidated snow and becomes immobilized. The more the person struggles, the more entrapped in the snow he or she may become, and the risk of suffocation increases. According to Baugher, in many cases the victim can die as quickly as drowning in water.

Despite the best efforts of highly trained ski area professionals, SIS incidents can occur at any ski area or in the backcountry beyond ski area boundaries, although they remain extremely rare. The likelihood of becoming involved in a fatal incident of any type at a U.S. ski area is about one per million skier and snowboarder visits. (*See Facts About Skiing & Snowboarding Safety online at www.nsaa.org*). Safety remains the top priority in the ski industry and ski areas focus on in-bounds tree well and deep snow mitigation, safety, and education measures.

“Ski areas nationwide take proactive measures to remind their skiing and riding guests that the deep powder they so often crave can also turn deadly if they decide to go it alone,” said Michael Berry, president of the National Ski Areas Association. “Skiers and riders need to take

¹ Snow Immersion Suffocation incidents, or SIS incidents, have also been referred to as treewell immersions, or NARSID incidents, which stands for Non-Avalanche-Related Snow Immersion Deaths. The ski industry recently adopted the SIS acronym because it is more concise and comprehensible.

precautions and educate themselves about the risks involved when skiing in gladed terrain and deep snow conditions—especially after big storms—and you always need to heed warnings and obey ski area signage.”

The responsibility is on skiers and snowboarders to understand these risks, and adhere to safety recommendations such as always skiing or boarding within sight of a partner, especially when skiing off a designated trail, within the trees, or a gladed area. As part of the industry’s Your Responsibility Code, NSAA encourages guests to always ski or ride within sight of a partner, observe all signs and warnings, wear a helmet, and carry or wear a whistle in case they become engulfed in deep snow or a treewell. Also, it is wise to enter the ski area’s ski patrol contact phone number into your Smartphone—with the advent of Smartphone technology (such as voice command features like Siri on the Apple iPhones), if you become entrapped in deep snow or a treewell, using voice command to call ski patrol can be a critical hands-free tool. In addition, Paul Baugher, in connection with his colleague Gwyn Howat from Washington’s Mt. Baker Ski Area, has developed a SIS safety education website (www.deepsnowsafety.org) as an excellent educational resource for skiers and riders.

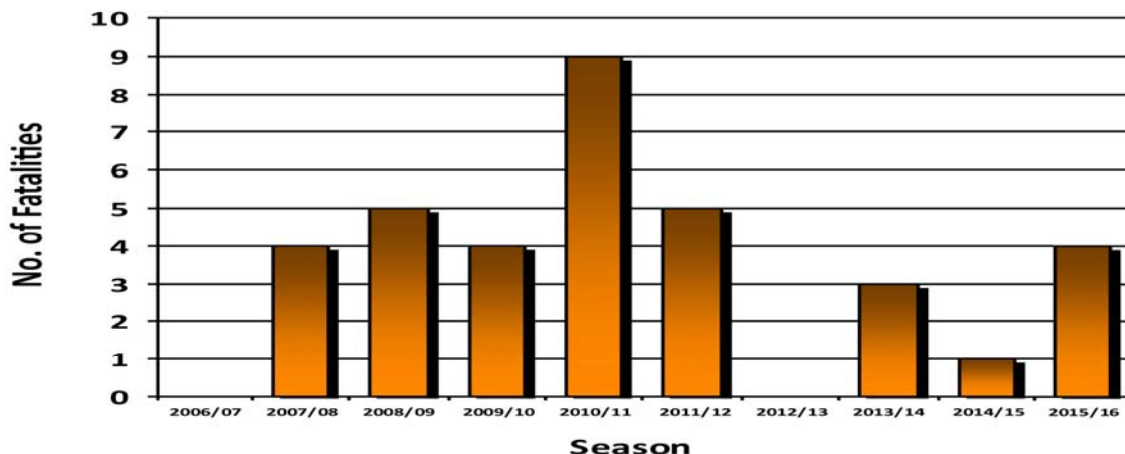
In addition to the safety website, NSAA has also released brochures and proposed signage for ski areas to use to educate their guests about the hazards associated with deep snow, treewells, and the dangers of SIS incidents (see Key Safety Tips below). As the signage indicates, skiers and snowboarders should stay clear of the base of trees, where snow often accumulates, and the hazards of entrapment are higher. The sign also reinforces to guests that they should always ski or board within sight of their partner, and keep them within close sight when skiing in dangerous terrain.

“Skiing and snowboarding off of the groomed runs and in deep powder snow is one of the most exciting and appealing parts of our sport,” said Baugher. “If you decide to leave the groomed trails, you are voluntarily accepting the specific risks of falling into tree wells or deep snow and suffocating, but remember, these types of incidents are very preventable.”

Below are some additional and important safety tips to consider when skiing in deep snow.

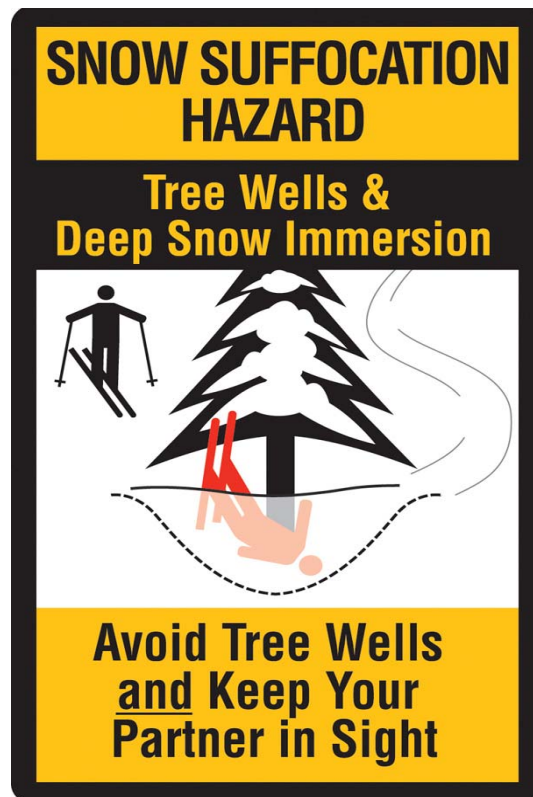
GRAPH 1

U.S. Ski Area Snow Immersion Suffocations 2006/07 - 2015/16



Key Safety Tips for Skiers and Riders

- **Each skier or snowboarder controls his or her own level of risk.** Only you can prevent this type of accident from happening. Always ski and ride with a partner, and within close sight. To minimize your risk, you must know how to travel safely with your partners in these un-groomed deep snow areas.
- **Always stay in visual contact so that your partner(s) can see you if you fall.** Visual contact means stopping and watching your partner descend at all times, then proceeding downhill while he or she watches you at all times. It does no good if your partner is already waiting for you in lift line while you are still descending the slope.
- **Stay close enough to either pull or dig out.** If you have any question about what "close enough" to assist someone in a tree well is, hold your breath while you are reading this. The amount of time before you need air may be how much time your partner has to pull or dig you out of danger. Other factors such as creating an air pocket or the position you fall in, may affect this critical timeframe.
- **Remember, if you lose visual contact with your partner you could lose your friend.** It is important to know that most people who have died in deep snow or tree well accidents had been skiing or riding with a partner at the time of their accident.



Unfortunately, none of these partners were in visual contact so they were not able to be of help in a timely manner.

- **Use appropriate equipment to minimize risks.** When skiing or snowboarding in high risk areas for deep snow or treewells, wear a helmet, enter the ski patrol's phone number into your Smartphone, and carry a whistle in case you need to get other skiers or riders' attention if you become entrapped in deep snow or treewells.
- **If you still have questions, contact your ski patrol.** Ask your ski patrol what the current risks and conditions are with deep snow at your local ski area *before* you explore dangerous terrain such as treed areas, glades, or off-trail terrain where deep snow and treewell risks are higher.

For more information on Snow Immersion Suffocation research, contact Paul Baugher, Director of the Northwest Avalanche Institute at paul@mountainguides.com or by phone at (360) 825-9261 (office) or (206) 310-1494 (mobile)

THE NATIONAL SKI AREAS ASSOCIATION, LOCATED IN LAKEWOOD, COLO., IS A TRADE ASSOCIATION FORMED IN 1962 FOR SKI AREA OWNERS AND OPERATORS NATIONWIDE.