

Tree wells pose a backcountry snow hazard

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Earlier this month, an incident in Central Oregon highlighted one of the lesser-known hazards of snow country travel: the danger posed by tree wells. Tree wells form around the bases of evergreen trees when overhanging limbs interfere with the natural deposition of falling snow, and the resulting cavities can be deadly.

This month's accident had a happy ending; but, according to the Deschutes County Sheriff's Search and Rescue (SAR) team that performed the rescue, some of the credit goes to the telemark skier who was involved because he was well-equipped ... and lucky enough to have cell phone coverage where the accident occurred. However, the situation might not have become quite so dire if he had not been traveling alone.

Still, backcountry travelers should not rely solely on a cell phone. SAR coordinator Lt. Bryan Husband commented on the incident. "He was able to get out a 911 call, but subsequent attempts to call him and pinpoint his location were not successful." In fact, Husband said, "The initial cell phone coordinates were not accurate. He was on Tumalo Mountain, but the coordinates put him on Mt. Bachelor."

Husband emphasized the seriousness of the situation.

"He was well-equipped, but he's in an upside down position and couldn't unclip himself from those bindings. He called in and said he was

in good condition, but he was upside down and cold. Conditions change rapidly. Cold weather also depletes your battery really fast, which hindered our ability to communicate with him."

Tree wells are a danger in the backcountry, but incidents can occur anywhere. One Santiam Pass ski patroller recalls a similar incident when a skier became trapped in a tree well only about 15 feet off a principal groomed ski run. "He was skiing alone and lucky that someone saw him go into the tree well," the rescuer said. "He was hung upside down by his skis and you couldn't see or hear him."

In this case, a rescuer had to go down inside the tree well with the victim to release the victim's ski bindings, which held him in place. With the aid of another ski patroller, the victim was finally pulled to safety.

In yet another incident, a skier plunged headfirst into a tree well, and no one saw the accident. That skier was trapped upside down, completely immobilized and helpless. Fortunately, the victim was able to breathe but would probably have died of exposure had he not been able to reach his cell phone and call for help. As a result, help arrived; and the trapped skier survived.

Tree wells can resemble those quicksand traps that sometimes show up in horror movies. They form when the uniform blanket of falling snow is disrupted by tree limbs. The resulting open space created under the tree

limbs and around the tree trunk may partially fill with loose, unconsolidated snow. Like quicksand, these cavities can swallow a person in an instant. Such an accident can be compounded by snow adhering to overhanging limbs, which will often be dislodged on impact, further burying the victim.

Survival chances for a buried tree-well victim can be very poor. Termed Non-Avalanche Related Snow Immersion Deaths (NARSID), suffocation can occur in minutes, especially when a skier or snowboarder enters a tree well head-first.

Such fatalities are not uncommon and typically occur in North America each year. Fourteen years ago this month, a Bend snowboarder disappeared on Mt. Bachelor and, despite an extensive 10-day search, she was not found until weeks later, the victim of suffocation in a tree well.

Eight years ago, a Mount Hood snowboarder suffocated in a tree well after just 15 minutes, despite the fact that three other persons were on scene and attempting to extricate him.

Five years ago, British Columbia ski patrol members were conducting a training exercise, when one of the patrol members suffered an unplanned, head-first fall into a tree well; and the training session turned into a very real rescue mission which was recorded on video.

Even with multiple experienced and well-trained ski patrol members immediately



PHOTO BY CRAIG F. EISENBEIS

Tree wells filled with soft, unconsolidated snow can pose deadly hazards; and loose snow on overhanging branches can compound the problem.

on scene, several minutes were necessary to free the victim, who survived. Typically, victims are completely immobilized in the loose snow, and struggling only compounds the entrapment.

As the snow pack deepens over the winter, new-fallen snow can easily create and obscure potential tree-well traps. The best way to avoid the danger is to steer clear of trees and other topographical features, such as rocks or creeks, where such wells could be present. Ski patrol officials urge caution and warn that skiers and snowboarders in the backcountry should carry shovels and never travel alone.

Another way to avoid tree wells — or at least to reduce the chances of encountering them — is to travel in one of our many burned-over forests. Here, the dead trees have been largely stripped of needles and limbs. As a result, the snow falls in a more uniform fashion that does not lend itself to the formation of large tree wells and the resulting

unconsolidated loose snow that acts as a trap.

Conversely, as dangerous as tree wells can be, under certain circumstances, the natural snow cavities can also be used for shelter in an emergency. Very deep tree wells, with unconsolidated snow, should never be entered. However, if the snow is firm and the well is not too deep, a tree well can be the nucleus around which to build an emergency shelter.

When used together with a small plastic tarp, skis and tree branches can be utilized to form a roof for a shelter that can be quickly constructed over a tree well.

The Ten Essentials and other emergency supplies — especially space blankets or bivvy bags — should always be carried in the backcountry.

In the recent local case, a whistle — one of the Ten Essentials — was instrumental in leading to a rescue. Husband said that the SAR team was able to zero in on the victim by following the sound of his whistle.

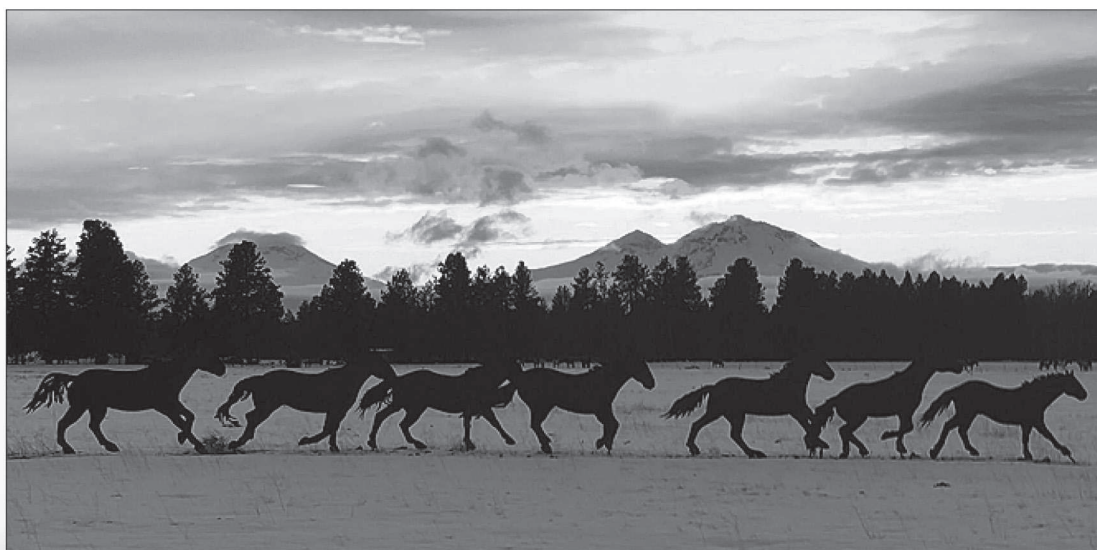


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