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Avalanches and the Mount Whitney Basin

by Bob Rockwell

Prelude

Avalanches are a fact of life in high mountains in winter, and we take courses to find out about them. We learn how to assess avalanche danger, what gear and clothing to have along, how to quickly find and retrieve a buried partner, and survival techniques.

But when one thinks of "avalanche training," what usually comes to mind is honing your skills in avalanche transceiver use to locate a buried victim quickly. Avalanche rescue is indeed important, but strong emphasis in learning how to avoid avalanches is at least equally so—and that is a main subject of this essay. The former stresses skill in helping others, while the latter stresses watching out for yourself: two vastly different issues. Ask a survivor whether he is happy to have been rescued quickly by expert help, or whether he wishes he had been more observant of the danger before venturing out. I'll bet the answer is: both! But had he been more skillful in the latter, he might not have become so dependent on the former.

Years ago, Ray Smutek, a winter mountaineering guru of the times, wrote a defining Summit Magazine article[*] on the subject. Smutek was concerned about the preponderance of experienced mountaineers caught in avalanches, and he warned, as I am doing here: "In our zeal to teach avalanche 'safety,' have we perhaps forgotten that 'hazard' is the real concern?" Others have postulated that having an avalanche transceiver along and being confident in its use can cause a person to let down his guard, and therefore be more likely to become a victim.

In most avalanche courses we do learn techniques for assessing the likelihood of slopes to "let go." But one of the most important tools is knowledge of where avalanches have occurred in the past, and this is not often emphasized. Avalanches tend to repeat, year after year, in the same locations, so past history is extremely relevant. Below tree line, and especially when the snow is gone, the danger zones are easy to recognize if you are observant. Look for downed or broken trees below the slopes, and areas that should have mature trees but show only saplings and brush. Above tree line, you usually have to depend on prior reports.

I personally think that the avalanche danger in the Sierra Nevada—for the objectives and routes that attract mountaineers—is low, especially in springtime. Rich Henke, a veteran mountaineer and world adventurer, told me recently he had come to the same conclusion.

That's not to say that avalanches are infrequent, but it seems that most alert and observant mountaineers don't normally venture into the high-probability areas. Since I first started visiting the Sierra, I can recall only one mountain climber caught in a serious avalanche there (he was unhurt). And a friend told me about a fatality near Matterhorn Peak in the 1970s. There have probably been more incidents, but they are surely uncommon.

Backcountry skiers, though, are a different story, primarily because their goals and the slopes they seek out are usually not the same as those of mountain climbers.

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[*] Smutek, Ray: *Experience and the Perception of Avalanche Hazard.* Summit Magazine, Nov. - Dec. 1981

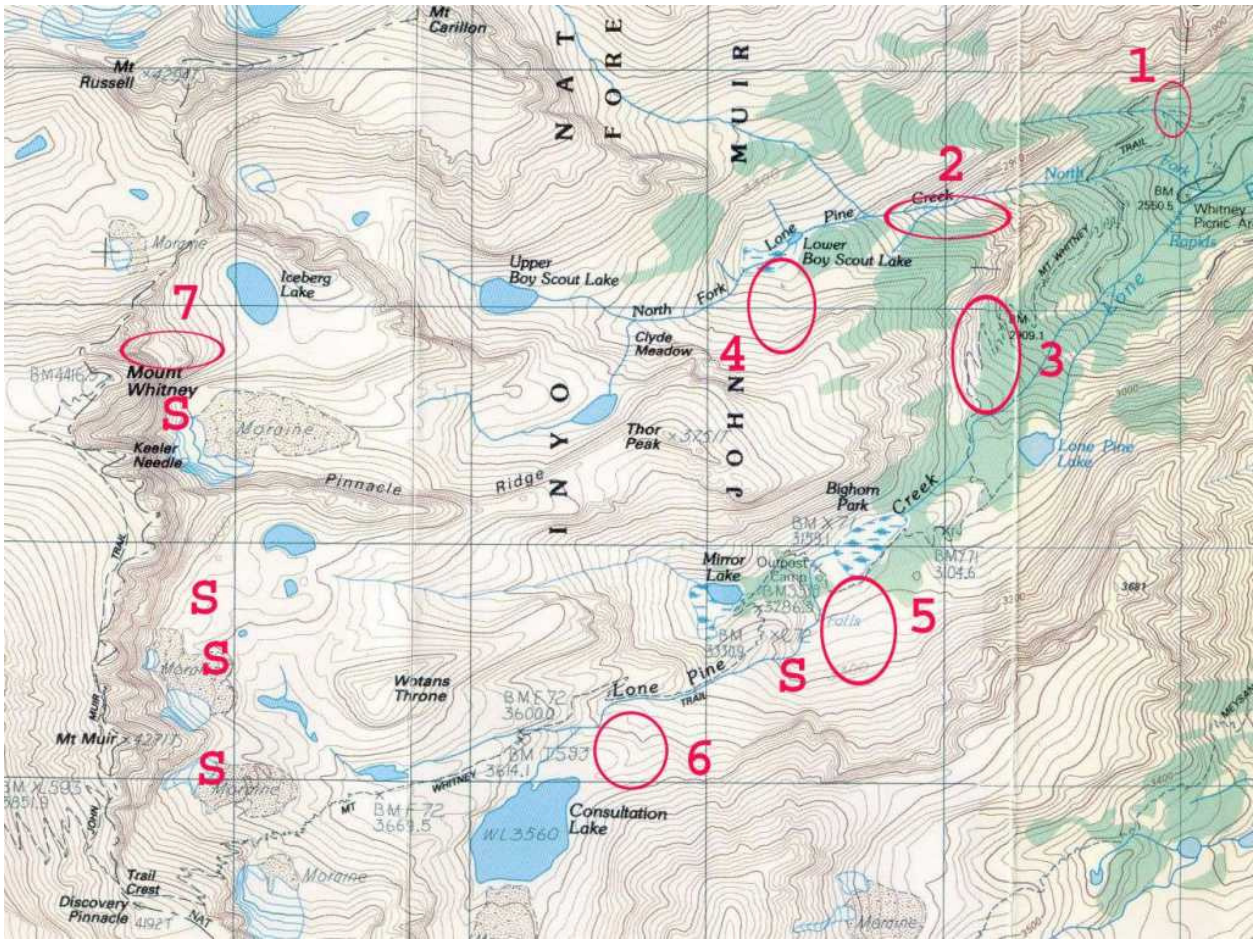
My regular climbing companions and I rarely take avalanche transceivers and shovels into the Sierra in winter. That means we must pay more and constant attention to our surroundings when we are up there, and adjust our route or plan as appropriate. Also, we almost never go if a serious storm has occurred within the prior two days. We are comfortable in our ability to interpret the conditions, and we are willing to assume whatever risk there may be—as we are willing to assume other risks in mountaineering. But everyone must make their own decision in this matter. Inexperienced people are especially urged to take a conservative approach.

There is considerable debate these days about the roles that social interaction and group dynamics play in the discussion of avalanche danger and how to react to it. Please make intelligent decisions, and do not succumb to peer pressure.

The Mount Whitney Basin

The main purpose of this essay is to relate what I have observed about past avalanches in this basin, in the hope that people who travel there will learn the high-probability areas.

I have been making winter ascents of Mount Whitney and nearby peaks several times each year for well over 30 years. Refer to the map below to see what I've observed in the way of large accumulations of avalanche debris and other incriminating evidence.



The notes and pictures to follow correspond to the numbered red zones on the map.

1. There is a short section above the main trail near the Carillon Creek crossing that has avalanched a few times. It affects only 50 feet or so of trail, and should be of little concern.

2. The North Fork of Lone Pine Creek between the main Mount Whitney trail and the Ebersbacher ledges is often hit by heavy avalanches coming off the slopes south of the canyon. This is always a place to be wary.

3. The same can be said of this area of the main trail, where avalanches come down the east couloirs of Thor Peak. Look around when you are up there in summertime: Those broken trees didn't just grow that way! The widest and most dangerous couloir is the most northerly one, and avalanches from it usually cover several trail switchbacks.

4. In late May 2003, this slope avalanched heavily. The snow reached and covered a section of use trail on the south side of Lower Boy Scout Lake. This is the only time I have known this slope to let go, but the conditions at the time were uncommon: A couple of feet of heavy wet snow had fallen a day or two earlier, and it was quite warm. This slope is a popular route up and down Thor Peak, and I would not have wanted to be on it that day!

5. This slope avalanches frequently, but it is rare that it reaches Bighorn Park or any part of the main trail. It did, though, in late May of 1995. If you look, you'll see a swath of only 10-year-old trees southeast of Outpost Camp as evidence. A similar avalanche occurred in May 2005. These events came very late after a heavy snow year, under conditions similar to those in paragraph 4. above.

6. Some small avalanches often come down here, but don't reach either the main trail or the route to Trail Camp that people usually take in winter.

7. The Mountaineer's Route couloir does avalanche, and given the right conditions, it could be serious. However, most avalanches there are small because the chute above does not accumulate large amounts of snow. I have never heard of, or observed evidence of, a severe avalanche in this couloir…but I would nevertheless be wary there.

That's about it. "S" indicates a few of the dozens of places where snow sloughs come down steep couloirs. These couloirs are narrow, so the volume of snow they can collect is small and the sloughs don't reach very far below the bottom of the couloir. It's entertaining if you happen to observe one, but none finish near popular trails or routes. They're almost always powder, so the clouds from these small amounts of snow make them appear much more serious than they really are. Of course, if you were in or just below one of these couloirs at the time it would be very exciting! But probably not too dangerous.

Avalanches tend to occur on slopes between 30 and 60 degrees, although just because a particular slope is in that range doesn't mean it is prone to avalanche. There are other parameters that work in our favor. Of particular interest is the popular 35° slope on the primary winter route between Trail Camp and Trail Crest, west of the famous 97 Switchbacks. I have never seen evidence of an avalanche having occurred there. Furthermore, I have never sensed a serious threat while climbing or descending it, around 100 times over the years, in a variety of conditions. Small slides, yes. Sometimes, glissading late in the day, I've brought down some snow with me—several feet in front and to the sides—so I am creating and riding sort of a mini-avalanche. But it has never been worrisome.

Note that I'm just providing past personal observations—not implying at all that everything outside the red zones is always safe. For example, until 2003 I had not been aware of a serious avalanche in zone 4, so an earlier version of this map would not have shown it.

It's worth summarizing that, on the entire main Mount Whitney trail, once you are past the east couloirs of Thor Peak there seems to be little to worry about.

Wrap-up

Generally speaking, for those who know about and practice avalanche avoidance procedures, the popular winter and spring climbing routes to peaks in the Mount Whitney basin are pretty safe. But saying something is pretty safe is not saying it is perfectly safe. Learn as much as you can about avalanche hazards and avoidance, be alert and observant, and take a longer path around or retreat if you sense that the conditions are not quite right.