ABSTRACT: The Big Sky Ski Resort expanded onto the South Face of Lone Mountain for the 1995-6 season, adding approximately 1300 acres of terrain. The vast majority of this terrain is alpine in nature. Over 750 acres of the expansion is avalanche terrain with approximately 7 major slide paths comprising at least 500 acres. These slide paths have been sporadically controlled and visited over the past 20 years. The limited data that exists on these results will be examined, concentrating on events that determined current chairlift locations. Daily control work over the past three seasons has produced some large avalanches, one of which destroyed a structure and damaged a lift. Detailed weather, snowpack, and avalanche data for the past three seasons will be examined, concentrating on the large avalanche events. The avalanche hazard reduction routes, methods, and theories have evolved over the past three seasons but remain similar to their initial form. The effects of skier compaction on these large slide paths will be considered. The company's level of acceptable risk has changed as management realizes what these areas are capable of doing. Due in large part to the avalanche activity on the South Face, the Snow Safety program has been augmented. A monetary estimate of yearly avalanche hazard mitigation/evaluation related expenditures in the expansion area will be presented. Future avalanche hazard reduction methods and theories will be examined, both for the terrain now open and terrain that might be added in the future.

KEYWORDS: avalanche defense, avalanche countermeasures, avalanche tracks

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