ABSTRACT

TITLE:	The Potential Impact of Bark Beetles on Colorado Ski Areas
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ABSTRACT: Colorado is the leading ski state in North America and the industry generates approximately $4.8 billion in annual revenue within the state (Colorado Ski Country USA 2015). Ski areas are responsible for significant portions of the state's tourism and recreation sector, supporting more than 46,000 workers throughout the state (Colorado Ski Country USA 2015). If the ski resorts were to suffer from a beetle infestation, such economic loss would have a rippling effect across the state's economy, where the tourism and recreation sectors would likely suffer great losses. In Colorado, bark beetles are leaving a visual mark on the landscape as they devastate large areas of forests, specifically ponderosa and lodgepole pine trees. While the sight of so many dead trees can be dramatic, the beetles responsible for such a high number of tree mortalities are actually a native species to this area (National Forest Service 2015). The same species of beetles have been shaping the forests of North America for thousands of years; this time however, climatic conditions are now in favor of successful beetle populations which are occurring in epidemic proportions ([NPS] National Park Service 2016). Since beetle kill areas are currently encroaching on ski areas throughout Colorado, this may have a serious impact on how ski areas will look in the future. Without these trees, there may be no more tree runs, trees to retain the snow on steep slopes, and also to provide a wind buffer. These effects of tree loss are likely to have a dramatic impact on the quality and the amount of runs that a resort is able to maintain and offer visitors. The study sites for this project are the four ski resorts that were determined to be the closest to current beetle kill areas based on GIS analysis of aerial survey data that was gathered during the years 2010 to 2015 by the United States Forest Service. The four sites are Breckenridge Ski Resort, Monarch Mountain, Snowmass, and Wolf Creek Ski Area. These areas were evaluated for their size of susceptible forest stand, slopes that may be reliant on the current tree cover, and vicinity to beetle kill areas.