



ABSTRACT

TITLE:	Effects of Sudden Aspen Decline on Large Mammalian Activity in Southwestern Colorado, USA
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ABSTRACT:	<p>Sudden aspen decline (SAD) is when aspen experience branch dieback, crown loss, and rapid mortality due to increased temperatures and reduced moisture availability. Aspen forests provide key habitat for a variety of plant and animal species. We conducted a study to quantify species richness and abundance of large mammals among different SAD levels based on recent crown loss (RCL): low SAD (0-25% RCL), moderate SAD (25.1-50% RCL) and high SAD (50.1-100% RCL) and in coppice harvest treatments on the San Juan National Forest, southwestern Colorado (N=7/SAD level/coppice harvest). We used motion-sensor cameras and scat counts to quantify large mammalian richness and abundance throughout the summer. Native large mammalian communities were significantly different between low SAD and harvest stands and between moderate and high SAD and harvest stands. Deer abundance was significantly greater in high SAD stands. Deer utilized high SAD stands at night more often than during the morning or afternoon. Elk abundance was significantly greater in moderate SAD stands than other SAD levels or harvest stands with the highest abundance in June when snowberry (<i>Symphoricarpos oreophilus</i>) provides food resources early in the growing season. There were no differences in bear abundance amongst SAD levels; however, no bears were recorded in harvest stands. Cows were significantly greater in high SAD and harvest stands than other SAD levels. Our results provide land managers information on how changes in aspen forest structure due to SAD or coppice harvest treatments alter both native and non-native large mammalian activity.</p>
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