Potential Factors Driving Sandberg's Bluegrass Growth In Relation to Sagebrush Cover

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Sandberg's bluegrass (*Poa secunda*) is a native perennial bunchgrass found throughout most of the Intermountain West. Like many other cool season bunchgrass species, Sandberg's bluegrass is a valuable and readily attainable forage as winter snowpack thaws and recedes. Because a large percent of Western North American rangeland is co-dominated by shrubs, it is paramount that land managers have an adequate and increasingly broad understanding of the biology and relationship between grasses and shrubs. With this in mind, we measured water availability, soil temperature, and basal area of Sandberg's bluegrass plants inside and outside of the sagebrush canopy as well as a simple plant count with the purpose of evaluating potential drivers behind growth and success of this species. Basal areas were significantly greater inside the canopy versus outside ($P = 0.033$) which was consistent with our hypothesis. Soil temperature was significantly lower inside the canopy versus outside ($P = 0.049$) while soil water content was not significantly different. However, there was no significant correlation between basal area and soil water content or soil temperature. We infer from the data collected that Sandberg's bluegrass is indeed more robust and numerous within the canopy of sagebrush compared to outside the canopy; however, the primary driver for this is still unclear. It is our conclusion that future research is needed in order to evaluate and identify the reason for this occurrence.