ABSTRACT

TITLE:	Indicator Insects and Pathogens of Sudden Aspen Decline, San Juan National Forest, Colorado
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ABSTRACT: Aspen (Populus tremuloides) stands in the San Juan National Forest, Colorado, have experienced an event referred to as sudden aspen decline (SAD) within the last decade. Unlike the natural dieback process that mature aspen stands undergo, SAD is an exceptional form of aspen mortality, which is connected with the dramatically rapid loss of entire aspen stands. Aspen trees are considered to be a keystone species within the surrounding environment they inhabit, therefore making the other organisms present within the aspen stands somewhat dependent upon environment the aspen trees create. Studies have identified potential contributors to the causation of SAD. The primary contributor to SAD has been identified as drought. Secondary contributors to SAD are mainly insects and pathogens. Previous studies have identified specific species found on trees experiencing SAD, but none have yet to correlate specific insect and/or pathogen species to the different levels of SAD. The presence or absence of an insect or pathogen may be dependent upon a variety of stand characteristics (i.e. tree density, etc.) as well as the amount of stress (likely from drought) the stand has undergone. Identified in this study are indicator insect and pathogen species of high-level SAD, which may assist in the regeneration treatment processes in future potential high-level SAD stands.