

Effects of natural and anthropogenic disturbances on saproxylic beetle communities

Lead by: [Jenna Jacobs](#)

Theme: [Arthropod Diversity](#)

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Participants

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Background

The saproxylic community, a functional group dominated by beetles, depends on dead or dying wood of moribund or dead trees, on wood inhabiting fungi or on the presence of other saproxylic organisms (Speight, 1989). Saproxylic species are critical components of forest ecosystems, playing vital roles in the initial stages of decomposition and nutrient cycling (McGill & Spence, 1985). In North America little is known about the saproxylic arthropod fauna, except for a few economically important pests. However, in Europe the saproxylic arthropod fauna is relatively well understood (Speight, 1989), and studies have shown a biologically significant decrease in the distribution and abundance of saproxylic beetles in association with forest harvesting (Speight, 1989). These observations together with the fact that these organisms play vital roles in decomposition and nutrient cycling make them prime candidates for conservation efforts

Objectives

The main objectives of this study are to: 1) compare communities of saproxylic beetles among the four cover types that characterize the boreal mixedwood forest; 2) compare responses of saproxylic beetles in undisturbed stands to burned conifer-dominated and aspen-dominated stands and to their response to

stands harvested with the range of green-tree retention prescriptions that characterize the EMEND experiment; 3) determine the distribution of beetles through the mosaic of habitats created following wildfire and; 4) compile basic natural history information for little-known species of these beetles, including estimates of emergence times, flight behaviors, nutrient source and habitat preferences.

Key Results

n/a