Aspen and Spruce Defoliator Parasitoid Response to Harvesting Treatments

Lead by: Julia Wesley

Theme: Arthropod Diversity

Status: Completed

Start: 1998

End: 2002

Participants

- David Langor
- Louis Morneau
- John Spence
- Jan Volney
- Julia Wesley

Background

Insect defoliators in forested areas, for example, have important implications for ecosystem function. Hymenopterous parasitoids are essential to the maintenance of ecological balance through regulation of host populations. It is not well understood how insect species assemblages change and develop after harvest, however, it is known that parasitic Hymenoptera are more sensitive to disturbance than their phytophagous hosts. Thus, local populations of parasitoids are more vulnerable to extirpation than those of their hosts.

Objectives

Species identification of defoliator and parasitoid assemblages associated with aspen and spruce tree hosts. Parasitism rates for defoliator species from aspen (Operophtera bruceata, Choristoneura conflictana) and spruce will be measured.

Key Results

From aspen trees sampled from deciduous dominated stands, 3289 Lepidoptera were reared in 1998 and 1999 yielding 37 host- parasitoid linkages from 174 parasitised hosts. The majority of the caterpillars reared

from aspen were Choristoneura conflictana and Operophtera bruceata. White spruce trees were also sampled in 1998 and 1999 collecting 1373 Lepidoptera, 40 host- parasitoid associations were established from 80 parasitised hosts.