

Comparing species-area relationships of boreal forests guilds

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Theme: Biodiversity

Status: Continuing

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Participants

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Background

Species-area relationships describe how species richness increases with area. This method is well known because of its long history (de Candolle, 1855; Jaccard 1902). It has been used as a tool in numerous situations, for example, as indicator of ecosystem change and to measure the effects of disturbances (Lawrey 1991 and Terborgh et al. 2001). It is also a major tool in diversity conservation and reserve design (Diamond and May 1976). Numerous functions have been proposed to model the increase of species richness, S , with area, A , (see Tjorve 2003 for a review).

Objectives

To study the species-area relationship of boreal forests by comparing different guilds. Little is known about species-area relationships in boreal ecosystems. How are species-area relationships models for old mixed forests affected by disturbances? Do the species-area relationships models vary in a boreal forest ecosystem when different groups of organisms are studied? To answer these questions, species-area relationships will be constructed for mature mixedwood forest of Alberta before and after disturbance (harvest and fire). This will be done for different guilds of the boreal forest.

Key Results