

## **Response of Birds and Vegetation to the First Cut of the Uniform Shelterwood Silvicultural System in the White Pine Forests of Algonquin Provincial Park, Ontario**

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The response of birds and vegetation to the first cut of the white pine uniform shelterwood silvicultural system was examined in Algonquin Provincial Park, Ontario. Bird abundances and vegetation cover were compared among stands that were logged during the period of 1970-1994 and mature stands with no recent logging history ("Old-cut"). Of 63 species recorded, seven showed a significant difference in abundance between the treatments. The most important habitat variable for these seven bird species appeared to be the amount of understory vegetation and cover in the forest canopy.

Open forest species such as white-throated sparrow (*Zonotrichia albicollis*), chestnut-sided warbler (*Dendroica pensylvanica*), and mourning warblers (*Oporonus philadelphia*) were more abundant in stands logged between 1970 and 1978, and between 1986 and 1994, where the canopy cover was the least. Stands logged between 1970 and 1978 had significantly greater amounts of understory vegetation than other years (due to the poor cutting techniques of the time), creating ideal habitat for veery (*Catharus fuscescens*) and Canada warbler (*Wilsonia canadensis*). Bird species richness was greatest in "Old-cut" stands and in stands logged between 1978 and 1986 (the two treatments with the greatest structural diversity), while plant species richness was greatest in stands logged between 1970 and 1986 suggesting birds were selecting habitat based upon forest structure, rather than plant species composition.

Overall, there appeared to be little long-term effect of the first stage of this silvicultural system as bird abundances and vegetation cover recovered to the state of pre-cutting in 10-20 years. The effects of subsequent cuts may be more dramatic in the short and long term.