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Progress Report
of
the Research Project
on

The Ecology of the Spruce-fir Forest
of Isle Royale National Park -
Fire Ecology

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During the first half of 1975 we completed a project dealing with the comparison of present-day Isle Royale boreal forests with those which existed prior to whiteman settlement of Isle Royale. The existing forest was described using data selected during the summer of 1974. The pre-settlement forest was described by analysing the vegetation descriptions in the original land survey notes of William Ives in 1847. The comparison shows that the forest has changed considerably. The most noteworthy changes are a drastic reduction in the relative density of balsam fir and a drastic increase in that of paper birch. Paper birch is now the most abundant species, whereas in 1847 fir was the most abundant. Other relative density changes are an increase in quaking aspen and a decrease in northern white cedar. White spruce has remained about the same. The nature of these changes suggest that fire has played an important role. Many fires were deliberately set by copper miners during the 1800's and a massive fire also occurred in 1936. The reduction in fir may also be due to extensive moose browsing.

American yew, mentioned as an ubiquitous ground cover in 1847, is now rare on the main island. This may also be attributed to moose browsing. Thimbleberry was never mentioned in the 1847 survey notes but today it is very widespread. The reduction in yew, probably permitted this increase in thimbleberry.

During the summer of 1975 we collected field data on reproduction of the major tree species, particularly as related to fire. This data is now being processed, but conclusions cannot be drawn at the present time.