

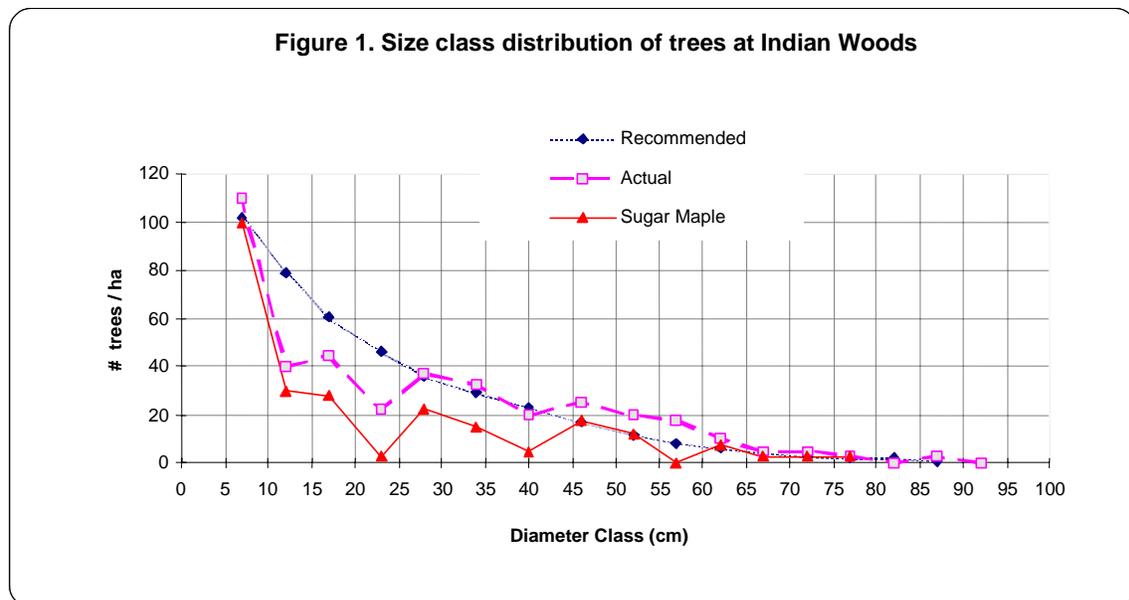
## Forest Survey at Indian Woods – Cruickston

Forest surveys at Indian Woods revealed a dynamic forest condition. Indian Woods has a diversity of tree species and tree sizes. It is referred to as an ‘old growth forest’ and it has a number of characteristics such as a diversity of structure in large and small trees, old trees, numerous snags with cavities and downed decaying wood.

In July a forest survey was carried out at Indian Woods by Terry Schwan, MNR Forester from Guelph. He was assisted by summer student Steve Roorda and Bill Wilson. Ten fixed area plots were established to measure tree species, diameter, basal area, snags, and downed woody debris. Not measured were tree age, tree height, cavities, shrubs or low plants. The area surveyed was about 6 ha.

### Findings

Sugar maple is the most common species in this forest. It is 42% of the trees over 10 cm. and 50% of the basal area<sup>1</sup> (BA) as shown in Figure 1. Other important trees were red maple, white ash, red and white oak, beech, white pine and black cherry but none greater than 15% basal area. Basswood was not found in the survey although it is in the forest.



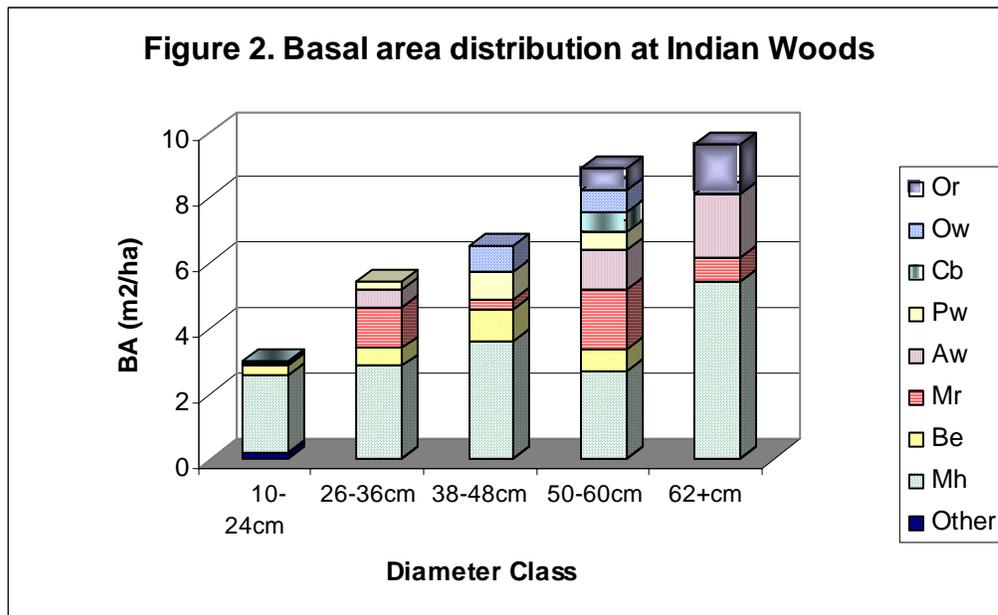
Indian Woods has a large proportion of large trees (>50 cm diameter). Tree species in this large size class include sugar maple, red oak, white oak, red maple and white pine. Over 55% of the BA was composed of trees greater than 50 cm. These large trees comprised

<sup>1</sup> Basal Area (BA) - the cross-sectional area of a tree stem measured at 1.37m above the ground (breast height). Expressed in m<sup>2</sup>. Stand Basal Area - the sum of all the individual basal areas for a given land area, expressed as m<sup>2</sup>/ha.

BA is an excellent tool for understanding dominance and composition. Species composition is the proportion of the total stand basal area represented by each species.

16 % of the number of trees greater than 10 cm. Mean tree diameter of trees greater than 10 cm was 34.5 cm. There are fewer trees in the 10-25 cm class.

The BA distribution chart provides a good indication of the change in tree species (Figure 2). There are no small white pine, red oak, white oak or black cherry (some small regeneration). These species are in the upper canopy and will not regenerate under the shady non-disturbed forest condition. They will gradually become a smaller component of this forest unless a large-scale disturbance produces larger gaps in the canopy in conjunction with a good seed crop.



Sugar maple, white ash and beech are found in all size classes and will continue to increase in importance under current conditions. Red Maple is not found in the 10-24 cm class and is not regenerating either. No survey of regeneration was done, however sugar maple is most common on the forest floor.

Analysis of the snags shows a basal area of 6 m<sup>2</sup>/ha. There are a number of large snags in sugar and red maple, red and white oak and white ash. The snags are in various states of decay and provide excellent habitat for wildlife.

Beech is a special case. It does not get much larger than 60 cm and there are numerous small snags. It is under threat from the Beech Bark Disease throughout Ontario. No evidence at this time in the stand, however this exotic disease will reduce quality and quantity of the beech in time.