The User-Friendly Spray-Can

How Tree Markers are Applying Ecological Knowledge in Ontario's Forests

Forestry in Ontario has a rich and vibrant history. Since time immemorial, we have shaped our forests just as they have shaped us. Our experiences have proven that human activity must be managed carefully if our forests are to continually provide us with the resources and benefits we need such as wood and other forest products, wildlife habitat, and a clean environment. However simple this statement may seem, it has been a long road developing the world-class forestry practices we employ today.

In the 1970s, there were controversies over logging in Algonquin, Quetico, and Lake Superior Provincial Parks. These controversies stood on the principles of harvesting in a provincial park and the lack of silvicultural methods that were being used. Research in Algonquin Provincial Park had shown that single-tree selection and shelterwood silvicultural systems could ensure a continuous supply of timber as well as address many of the concerns related to aesthetics and recreational use of forests after harvesting. These silvicultural systems were adopted in and around the Park. Further controversies and protests in the 1980s centred on logging old-growth forests, notably in Temagami, as the public believed there was little recognition of biodiversity in harvesting and regeneration operations. Pressure for change resulted in Ontario adopting single-tree selection and shelterwood silvicultural systems with important modifications to conserve biodiversity for many of its forest cover types.

So what does this have to do with tree marking? The nature of these silvicultural systems is that forest managers select trees that will be harvested or left on site based on a variety of considerations. This is not to be confused with selective cutting or high-grading. These carefully executed harvesting systems strive to mimic natural disturbances and ecosystem processes as much as possible. As a result, a lot of attention and understanding is needed when

planning a harvest and that is the job of a Certified Tree Marker.

Tree marking is a vital management tool that allows us to regulate and improve the quality, structure, and vigour of forests when applying silvicultural systems that include single-tree and group selection, uniform shelterwood, clearcut with seed trees, and thinning. This is complicated and difficult because silvicultural tree marking requires people that can withstand rigorous physical work in remote areas, have considerable knowledge of the ecology of their forests and most importantly, know how to apply this knowledge. In Ontario tree marking is done by private enterprise within a competitive business environment so tree markers need to also be very fiscally efficient in their work.

Ontario's tree markers are trained and certified by the Ontario Tree Marker Program established in 1992 by

the Ontario Ministry of Natural Resources and forest management companies. The Ontario Tree Marker Program sets standards for the level of expertise required to be a tree marker. All Crown-owned forests that are managed under partial harvest silvicultural systems must be marked by Tree Markers certified to these standards. Many private woodlot owners also employ Certified Tree Markers to help ensure their forests are managed sustainably. In fact, in Ontario 80% of Certified Tree Markers are entrepreneurs that provide a service paid for by the customers—the private land owners and forest management companies. There are many benefits that Certified Tree Markers have on overall harvesting operations and forest health. They allow harvesting operators to carry out their work more efficiently, which enhances economic return. By understanding ecological processes, a Certified Tree Marker can

Instructors Al Stinson and Fred Pinto set the group up for the Level 2 auditor's exam.

A top and butt mark.

help ensure that a forest after harvesting regenerates with the desired species composition, density, structure, and habitat features, all while enhancing the future quality and quantity of timber.

Tree marking involves a number of tasks, starting with the development of a suitable prescription, which should incorporate the overall goals and objectives for the forest, species composition, structure, quality, habitat features, stand age, site and soil conditions, as well as evidence of existing regeneration. Once the necessary information is gathered, a prescription is developed that adheres to the province's regulations as well as the landowner's objectives. The prescription is then given to a Certified Tree Marker, who implements the prescription, and if necessary works with the prescription writer to make any required adjustments (e.g., modifications to accommodate a newly discovered raptor nest).

While tree marking, the Certified Tree Marker will observe exterior indicators of health and vigour of the tree. Tree spacing and size relative to the overall structure of the stand are also considered. They will also look for and retain ecological features such as cavities, stick nests, or whether or not a tree is a supercanopy tree. Unique forest conditions, aquatic features, rare vascular plants, and species at risk are also accounted for and managed according to provincial guidelines. The tree marker must understand general biodiversity principles as well as some of the key aspects of wildlife habitat. When this is done, they make a decision based on the information for which tree is cut and which tree is retained.

So how does a tree marker mark trees? Two distinct marks are applied to each tree: a top mark and a butt mark. The top mark consists of a horizontal line or dots of paint that circle the bole of the tree at or above breast height and is used to see which trees are to be removed or left behind. The butt mark is a vertical line from the root collar up about 50 cm in length and is used for quality control to ensure that the correct trees are removed. Different colours of paint are applied for marking boundaries (such as reserve areas) as well as trees that are to be removed or retained. Once the tree marker is finished, a certified Tree Marking Auditor may conduct audits to ensure that all activities on site are done correctly. They also help tree markers correct any potential errors before harvesting. The auditor will look for infractions based the retained basal area, location and consideration of boundaries, the achievement of ecological and silvicultural objectives, paint application, and tree quality and spacing. Once the audit is complete, harvesting operators are given the green light to begin operations.

There are three course levels offered in the program. Level one is the tree marking certification which trains markers to gain a high level of knowledge that they can apply to forest operations in Ontario. The course and subsequent audits certify a tree marker for five years, at which point a refresher course must be taken for re-certification. Level two certifies a tree marker to independently audit marking operations. Level three trains people in prescription writing for selection or shelterwood systems, but no certification is offered through the Level three courses. All silvicultural prescriptions must be approved by recognized members of the Ontario Professional Foresters Association.

Tree marking provides an important role in promoting effective and ecologically sound silvicultural practices in Ontario. It has created a unique business in Ontario's woods where consultants provide a service to private landowners and managers of public forests. In the end, it all comes down to them—all the science and policy that is put into practice—all in the hands of a tree marker with a can (or two) of spray paint.

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For more information on tree marking or how to become a tree marker, visit the following Web sites:

Ontario Ministry of Natural Resources
www.mnr.gov.on.ca

Ontario Tree Marker Program
www.ontariotreemarkers.ca

The Ontario Woodlot Association
www.ontariowoodlot.com