

Regulations and Policies Pertaining to Private Woodlot Management

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1.0 Introduction

The small private woodlot sector plays a critical role in supplying wood fibre to Nova Scotia's pulp, paper and sawmill industries. According to a report by Woodbridge Associates, commissioned by the Nova Scotia Department of Natural Resources, privately-owned woodlots - comprising fifty percent of Nova Scotia's forestland - supply 66% of the total softwood and hardwood harvest in the province.

Despite rising demand and record high prices, the provincial timber supply derived from private woodlots has declined significantly since 1997: the "participation rate" of formerly active woodlot owners is down 36% from its peak in 1997 (Woodbridge 2011). This is seen as bad news by NSDNR and the forest industry: "This low participation rate among previously active woodlot owners is a substantial constraint to the prospects for a recovery in the province's harvest volume – and a major policy challenge" (Woodbridge 2011).

The increasing scarcity of available softwood lumber and pulpwood, combined with the recommendations in the Woodbridge report, have led to a surge of interest in ways to involve woodlot owners who do not currently manage their forestland for commercial wood products.

The purpose of this report is to highlight approaches to private woodlot management practiced in other North American jurisdictions that could be a model for re-engaging woodlot owners in Nova Scotia. Legislation, regulations, policies and programs from a variety of states, provinces and municipalities were reviewed. Only those that had the potential to have positive impacts on forest health and sustainability, and on the economic situation of landowners, small contractors and rural communities have been emphasized in this report.

All the jurisdictions studied have, at a minimum, adopted volunteer, incentive based approaches while some have also established mandatory requirements. A typical incentive is a reduction in annual property taxes with the preparation of an approved forest management plan. A regulatory approach, on the other hand, may restrict heavy cutting, or require treemarking before cutting.

There are a variety of reasons for developing programs or passing legislation to encourage private land forestry. Governments may be concerned with preventing uncontrolled clearcutting or high-grading, maintaining a steady stream of wood for the forest industry, and/or protecting water quality and other forest values. The adopted approach has much to do with the dominant industry in the region, the proportion of private versus public land, proximity to urban areas, and threats to forestland, including subdivision pressures.

Political buy-in to any kind of mandatory policy influencing woodlot owners is a difficult sell. Woodlot owners are a highly diverse group of individuals, many of whom are hostile to government interference of any kind. Proposed harvesting restrictions that could increase costs to the industry and/or woodlot owners may be met with considerable opposition.

Nevertheless, many Nova Scotians, including woodlot owners, believe a paradigm shift is long overdue. Harvesting practices over the last 50 years have severely degraded the province's forests, resulting in a shift to ever younger forests, species composition dominated by early successional, low value tree species, and highly fragmented forest cover (Pannozzo and Colman 2008; Wilson et al. 2001). The only environmental protections for privately-owned woodlands in this province are minimal: the Wildlife Habitat and Watercourses Protection Regulations require a 20-m-wide treed strip along each side of watercourses, as well as 10 residual trees per hectare of clearcut.

2.0 Voluntary, incentive-based programs

All the voluntary programs reviewed have a variety of approaches with a common theme: a financial incentive offered by the government in exchange for the woodlot owner acquiring and following a management plan.

2.1 Ontario's Managed Forest Tax Incentive Program (MFTIP)

Ontario has both a voluntary, incentive-based program to encourage woodlot owners to manage their land, and, depending on the municipality, bylaws that set minimum standards for forest harvesting. The latter will be discussed in section 4.2 of this report.

Ontario's voluntary Managed Forest Tax Incentive Program is available to landowners who own 4 hectares or more of forest land, excluding residences, and who agree to

prepare and follow a managed forest plan for their property. Under this program, participating landowners have their property reassessed and taxed at 25 percent of the municipal tax rate set for residential properties (Ontario 2012a).

This program does not require commercial extraction of timber. Appropriate management activities can include tree planting of native tree species, tending, thinning, pruning and harvesting; recreational activities such as hiking, skiing or hunting; wildlife management involving habitat work or participating in monitoring programs; or protecting environmentally sensitive areas by limiting disturbance.

Any harvesting carried out on MFTIP-approved properties has to be carried out according to “good forestry practices”¹ as defined under Ontario’s *Forestry Act*, and cutting practices have to meet Ontario Ministry of Natural Resources’ silviculture guides. There is a guide for each of the different forest types in Ontario (for example, *A Silvicultural Guide for the Tolerant Hardwood Forest in Ontario*). Each guide outlines the silvics of the major tree species in that forest type, with recommendations for appropriate harvesting methods to regenerate that species.

A landowner can write their own plan, and have it approved by a MFTIP-certified plan approver, or they can hire a professional forester to write the plan for them. All MFTIP plans are briefly reviewed by the Ontario Ministry of Natural Resources to ensure all necessary components are included, with some flagged for more in-depth auditing.

Without the exemption earned by having land under this program, forestland is taxed at a residential rate. This can be quite expensive.

Another program in Ontario well worth noting is the Conservation Land Tax program. If all or part of a landowner’s property is deemed to be significant habitat, and that habitat is protected by the landowner, the landowner will be exempt from paying taxes for that portion of the property (Ontario 2012a). With the high proportion of private land in

¹ “Good forestry practices”, as defined in the *Ontario Forestry Act*, means the proper implementation of harvest, renewal and maintenance activities known to be appropriate for the forest and environmental conditions under which they are being applied and that minimize detriments to forest values including significant ecosystems, important fish and wildlife habitat, soil and water quality and quantity, forest productivity and health and the aesthetics and recreational opportunities of the landscape.

southern Ontario, much of it under cultivation, this is an important program for conserving remaining fragments of the Carolinian forest and associated flora and fauna.

In sum, Ontario's MFTIP program uses a reduction in property taxes to encourage private landowners to 'manage' their land, requires landowners have an approved management plan that meets "good forestry practices", requires use of the provincial silviculture guides, and includes management for non-timber uses.

Recommendations:

1. Create science-based peer-reviewed silviculture guides for the province.
2. Adapt Simpson's *Restoring the Acadian Forest* into a guide for those woodlot owners interested in forest restoration.
3. Require preparation and approval of forest management plans to gain access to reduced tax rates. Plans should have a prescribed format, and require conservation of wildlife and aquatic habitats.
4. Require that plans for timber extraction follow appropriate silviculture practices for the forest type.
5. Allow plans with conservation and/or restoration objectives.
6. Introduce a program similar to Ontario's Conservation Land Tax program, providing tax relief to landowners protecting significant habitat.

2.2 Prince Edward Island

Prince Edward Island's Forest Enhancement Program is a publicly supported, cost-shared forest management program that encourages land owners to actively manage their woodlots. Landowners are provided with technical advice and information, and are required to register an approved forest management plan with the Department of Agriculture and Forestry. The District Manager reviews plans, and has the right to order their alteration (PEI 2012a). The PEI Forest Management Act states that "Private forest management plans shall...be consistent with the silvics of the species" (author's emphasis).

If a landowner wants to access funding, their forestry practices have to abide by the province's *Ecosystem-based forest management manual* (PEI 2012b). The preamble in

this manual suggests an approach to forest management that values the older age classes and species composition of the early Acadian forests:

“Ecosystem-based forest management systems look at the forest as a whole ecosystem, rather than the more traditional focus of looking only at the trees. Decisions are made based on ecological considerations first, with economic, development and other factors playing important but lesser roles....The objective of any intervention that is carried out under the influence of this document is to improve the quality of the forest (author’s emphasis). At a provincial-scale, the forest is a resource that provides multiple values and should not be exploited in a manner that would promote one value at the expense of the others”.

Treatments eligible for funding include traditional forestry activities like mechanical and chemical site preparation, and pre-commercial thinning. They also include enrichment planting (similar to fill planting under the Forest Sustainability Regulations in Nova Scotia), crop tree pruning and release, commercial thinning in hardwoods and softwoods, as well as ‘select tree’ harvesting.

In addition, the manual has a list of ‘Special Enhancement Techniques’ eligible for funding. These include nest box establishment, invasive species control, artificial brush piles, conservation of plant and animal species of special concern, and seed production orchards.

If landowners do not want government funding for silviculture treatments, there are very few restrictions on what they can do with their land other than the watercourse and wetland protection regulations, which require leaving a 15-m wide buffer strip along streams and wetlands.

In sum, PEI has a volunteer, cost-sharing program for private landowners that requires registering an approved forest management plan. Work conducted under the Forest Enhancement Program is subject to the standards of the *Ecosystem-based Forest Management Manual*. This manual has even-aged and uneven-aged silviculture treatments, as well as a variety of techniques to protect and restore Acadian forest biodiversity.

Recommendations:

7. Require that cost-shared forest management interventions improve the proportion of Acceptable Growing Stock.

8. Nova Scotia already has a cost-sharing, silviculture assistance program, however the vast majority of the resources under this program are allocated to even-aged softwood treatments (Nova Scotia 2012). A modified cost-sharing program with woodlot owners should place far more emphasis on ecologically and silviculturally appropriate silviculture treatments that maintain and restore the Acadian Forest.
9. Extend cost-sharing programs to wildlife conservation and enhancement practices, such as nest box establishment, seed production orchards and brush piles.

2.3 Voluntary programs in other jurisdictions

Versions of the Ontario and PEI programs are found in other jurisdictions. Maine, Minnesota and Quebec all have volunteer, cost-sharing programs that require obtaining a forest management plan to access state or provincial funds. Maine, Minnesota, Quebec and Vermont also have property tax breaks for keeping land under forest management. Most of the jurisdictions require professional foresters to prepare or sign off on a forest management plan (except for Ontario, where non-foresters can also become Managed Forest Plan Approvers). Typically, woodlots have to be at least 10 acres in size to qualify for an incentive program.

Following are some noteworthy aspects of the different programs:

- ❖ Maine landowners have to pledge to be part of the Maine Tree Growth Tax program for at least 10 years, and if they leave before the end of 10 years, there are financial penalties for removing land from the program (Maine 2012).
- ❖ Quebec's silviculture cost share program offers a subsidy of up to 80% of the value of the silviculture investment for a recognized list of woodlot improvement activities.
- ❖ Quebec has 17 regional agencies, offering a variety of services (similar to group ventures in NS), that receive \$33 million from the province each year, as well as \$5 million in industry funding and \$10 million from landowners. Municipal governments participate by implementing (and enforcing) tree cutting bylaws that protect and guarantee the long term financial investment of all partners (V. Brunette pers. comm. 2012).

- ❖ 35,000 of a total of 120,000 Quebecois woodlot owners are registered in the provincial Woodlot Incentives Program.
- ❖ Quebec has a recommended set of Best Management Practices for private woodlot management (“Saine pratiques d’intervention en forêt privées”).
- ❖ 15 million acres are enrolled in Vermont’s Use Value Appraisal (UVA) program (G. Sabourin pers. comm. 2012)
- ❖ The State of Vermont’s Division of Forestry oversees and approves 10-year Forest Management Plans.
- ❖ When land is enrolled in the UVA program, the State attaches a permanent lien to the deed. If enrolled forest land is developed or harvested improperly, a land use change tax is levied (Vermont 2012).
- ❖ Minnesota has 2 million acres of private lands managed under their Forest Stewardship Program (G. Michael pers. comm. 2012)
- ❖ The Minnesota Forestry Association has set up a “Call before you cut” hotline. The intent of this is to help landowners make educated decisions with respect to their woodlots.
- ❖ Incentives for being part of the Minnesota forest stewardship program are not just property tax relief and cost-sharing, but also (1) professional forest management assistance and (2) access to planning advice concerning all aspects of forest ecosystems (plants, wildlife, soils, water, aesthetics, recreation, fish, wetlands, and threatened and endangered species).

Recommendation:

10. Set up a “Call-before-you-cut” hotline.

3.0 Regulatory approaches to maintaining forest health and sustainability

Vermont, Massachusetts and Maine all use state-wide regulatory approaches to prevent, limit or discourage heavy cutting. These programs go hand-in-hand with extension services and voluntary programs that offer professional advice.

3.1 Vermont

Vermont’s “Heavy Cut” law, passed in 1997, is intended to regulate heavy cutting of forest lands. The state requires ‘Intent to Cut Notification’ if a landowner plans to heavily

cut 40 or more acres in one treatment, or heavily cut more than 80 acres within a distance of two miles (Kolonoski *et al.* 2000). Heavy cutting is defined as "...a harvest leaving a residual stocking level of acceptable growing stock below the C-line, as defined by the United States Department of Agriculture silvicultural stocking guides for the applicable timber type." A stand below the c-line is considered severely understocked.

Approved agricultural conversions are an exemption to this law. Also, heavy cuts are considered legitimate under certain conditions according to the USFS silviculture guides. These guides provide the foundation for management decisions, so seed tree cuts, regeneration cuts, and 1st and 2nd stage shelterwood cuts can be prescribed by a forester in a plan approved under the State's Use Value Appraisal Program.

According to forester Gary Sabourin of the Vermont Department of Forests, Lands and Recreation, the heavy cut law has reduced silviculturally inappropriate cutting. Many loggers have sold off large equipment, and are doing better work now. Still, anyone can clearcut up to 39 acres without notifying the State (Sabourin pers. comm. 2012).

Vermont also regulates any logging above 2,500 feet in elevation. These high elevations are exposed and steep, and considered vulnerable to tree removal and road building. 'Act 250,' requires a land use permit be issued by the District Environmental Commission (Kolonoski *et al.* 2000).

In sum, Vermont uses regulation to discourage heavy cutting, as well as property tax relief to encourage voluntary participation in private woodlot management. The United States Forest Service silvicultural guides provide the foundation for approval of forest management plans or of heavy cutting.

3.2 Massachusetts

Under the Massachusetts Forest Cutting Practices Act, forests are considered a matter of public interest, regardless of ownership. Forests are recognised for their role in conserving water, preventing floods and soil erosion, improving conditions for wildlife and recreation, and protecting air and water quality. The Act acknowledges the role of restoring and maintaining forests to provide a continuing and increasing supply of forest products for public consumption and for the forest industry, and embraces a cooperative

approach with landowners and other agencies interested in forestry practices.

Thus, notice of commercial harvesting by woodlot owners has to be provided to (1) the regional office of the Department of Conservation and Recreation, (2) the local conservation commission, and (3) owners of properties within 200 feet of the cutting area (Massachusetts 2004). The landowner also has to paint or blaze any boundaries located within fifty feet of the cutting area, and provide the regional office and conservation commission with the proposed cutting plan and other pertinent information in advance of any operations. A license has to be issued by the Bureau of Forestry before any harvesting can commence. Failure to provide notice or to follow the cutting plan can result in fines of \$100/acre and/or revocation of the cutting license.

Landowners have the right to choose between long term management or short term harvest. There are no rules or regulations stopping a landowner from clearcutting the native forest though there are requirements for establishment of adequate natural regeneration. If a cutting plan is submitted under a long-term objective, state foresters determine if the marking or prescription meets the requirement of maintaining or improving the Acceptable/Unacceptable Growing Stock ratio. In general, the state takes an educational approach to encourage long-term forest management planning, with about 80% of landowners adopting this approach (J. Fish pers. comm. 2012). The *Massachusetts Forestry Best Management Practices Manual* is made available from the Department of Conservation and Recreation, and is used to determine required and suggested best management practices for forestry operations. The cutting of trees in filter strips, for example, is restricted by regulation.

Commercial harvesting operations are also subject to the *Massachusetts Wetlands Protection Act* and the *Massachusetts Endangered Species Act*. The wetland regulations restrict harvesting in wetlands to no more than 50% of the existing basal area (Massachusetts 2004). The residual basal area must be composed of healthy trees well distributed over the area.

When forest cutting plans are submitted to the Department of Conservation and Recreation, they are checked for occurrences of estimated habitats of rare wetlands wildlife or high priority sites of rare species habitat. Plans falling within these habitats are sent to the Division of Fisheries and Wildlife's Natural Heritage and Endangered

Species Program (NHESP) for review. Plans proposing activities that could damage these habitats or result in the taking of rare species are amended to add protection for the habitat or species of concern (Massachusetts 2004).

In sum, Massachusetts sees forest management, regardless of land ownership, as a matter of significant public interest. The state has to be provided with forest cutting plans for all commercial operations, and uses this opportunity to educate, as well as to protect water resources and biodiversity.

Recommendations:

11. Require landowners provide notice of commercial harvesting to the NSDNR and NSDOE regional offices, along with the proposed cutting plan and other pertinent information in advance of any operations. A license should be issued by the regional office before any harvesting commences. Failure to provide notice or to follow the cutting plan should result in fines and/or revocation of the cutting license.
12. Decisions to allow heavy cuts should be based on sound silvicultural practices for the forest type and condition.
13. Notice of commercial harvesting by woodlot owners should be provided to all owners of properties within 50-70 metres of the cutting area.
14. The landowner should paint or blaze any boundaries located within 10-15 metres of the cutting area.
15. Landowners should have the right to choose between long term management or short term harvest. If a cutting plan is submitted under a long-term objective, it should be reviewed to determine if the marking or prescription meets the requirement of maintaining or improving the Acceptable/Unacceptable Growing Stock ratio. The province should take an educational approach to encourage long-term forest management planning.
16. When forest cutting plans are submitted to the regional offices of NSDNR and NSDOE, they should be checked for occurrences of rare species and communities, and significant habitat features (such as raptor nests, blue heron colonies, vernal pools, mast and cavity trees). Plans proposing activities that could damage these habitats or result in the taking of rare species should be

amended to add protection for the habitat or species of concern.

3.3 Maine

Maine has a variety of laws and regulations pertaining to forest harvesting, though their impact on forest health and sustainability is not clear.

Under Chapter 20 - Forest Regeneration & Clearcutting Standards - of the *Forest Practices Act*, landowners must notify the

Department of Conservation's Bureau of Forestry before commencing harvesting (Maine 1999). If the landowner creates a clearcut, they must maintain separation zones between clearcuts (the larger the clearcut, the larger the separation zone), meet regeneration standards, and have a licensed forester prepare harvest plans for clearcuts greater than 20 acres. The harvest plan must be kept on file by the landowner and be available for

inspection by the Bureau of Forestry until adequate regeneration is established. No clearcut can exceed 1 km² in size.

Under the *Forest Practices Act*, clearcuts must meet one of the following purposes:

- a) Removal of poor quality, intolerant, understocked, short lived or mature overstories where the retention of the residual overstory trees is not justified for further increase in value, as a source of seed, or for protection of the new stand;
- b) Creation of wildlife habitat, with accompanying prescription and justification from a certified wildlife professional;
- c) Removal of timber stands that, if partially harvested, are at high risk for windthrow; or,
- d) Harvesting of a plantation or pre-commercially thinned stand (Maine 1999).

Definition of a "Clearcut" in Maine:

Any timber harvesting on a forested site greater than 2 ha in size that results in a residual basal area of trees over 11.4 cm in diameter measured at 1.4 m above the ground of less than 6.9 m²/ha, unless, after harvesting, the site has a well-distributed stand of acceptable growing stock, as defined by rule, of at least 0.9 m in height for softwood trees and 1.5 m feet in height for hardwood trees that meets the regeneration standards defined under section 8869, subsection 1.

In Maine, towns and cities can enact laws that do not run counter to a state law and/or which the state has not prohibited (Maine 2004). Ordinances have included banning of herbicide spraying and the regulation of local timber harvesting. One municipality has applied their shoreland zoning ordinance to the whole municipality, prohibiting cutting within 75 feet of rivers, major streams, and ponds and wetlands greater than 10 acres, and no more than 40% basal area removal in any 10 year period (A. Shultz pers. comm. 2012).

Maine also has a rule (Chapter 23 of the *Forest Practices Act*) to “Substantially Eliminate Liquidation Harvesting”. This rule only applies to land that is purchased, cut heavily (removing most or all commercial value in the standing timber without regard for long-term forest management principles), and resold within 5 years (Maine 2005).

The Natural Resources Protection Act regulates work done next to waterbodies, sand dunes, marshes and other wetlands, high mountain areas, and areas of designated significant wildlife habitat. Regulated activities include soil disturbance by logging equipment, stream or wetland crossings and use of fill.

In sum, Maine has regulations that limit large-scale clearcutting or clearcutting for rapid profit without long-term planning. The regulations also limit the conditions under which clearcuts are allowed, and require preparation of forest management plans for clearcuts over 20 acres in size. Maine allows municipalities to create their own forest harvesting ordinances provided they do not undermine state law.

Recommendations:

17. Establish a maximum clearcut size.
18. As an alternative to (11), require notice be given to the provincial government for clearcuts over a certain size, along with harvest plans prepared by a professional forester.

4.0 Regulation through municipal bylaws

In addition to encouraging participation in volunteer programs that offer financial incentives to woodlot owners involved in forest management, Quebec and Ontario have given municipal governments the power to pass tree cutting bylaws. Following is some background information on forest harvesting bylaws.

4.1 Quebec

In 2002, the Quebec government passed Bill 77, giving regional governments the power to pass tree cutting regulations (V. Brunette pers.comm. 2012). This Bill allows county boards to enact minimal temporary regulations (“Règlement de contrôle intérimaire”) until the municipalities within the county implement their own bylaws. Municipal bylaws have to be equal or more restrictive than the county’s interim regulations.

There are 90 counties and 2500 municipalities in Quebec, and considerable variability in the approaches adopted by municipalities. According to Victor Brunette, the Directeur Général of the L'Agence des Forêts Privées Outaouais (one of the 17 agencies noted in section 2.3), some municipalities have no tree cutting bylaws while others are restrictive. The further from urban areas and cottage communities, and the further north, the fewer the restrictions. In the Outaouais region (located in southern Quebec along the Ottawa River), half of the 125 municipalities have forest cutting by-laws.

Some examples of bylaws are as follows:

- (A) The municipality of Val des Monts has many administrative requirements, including a management plan signed by a professional forester, an operations plan, a forest engineer who has to supervise the harvest and provide a final report on conformity, a permit that costs \$500 and a caution/bail/security deposit of \$1000 (V. Brunette pers. comm. 2012).
- (B) The municipality of l'Ange Gardien requires a management plan as soon as cutting exceeds 100 m³ (roughly 3 truckloads).
- (C) The municipality of Chelsea’s tree cutting Bylaw 636-05 applies to all cutting of trees greater than 10 cm DBH, for personal or commercial reasons, carried out on properties greater than 10 hectares. For all stands, selection harvesting is required, and harvesting in wetlands can only be done when the ground is frozen. For tolerant and mid-tolerant hardwood and softwood stands, basal area cannot be reduced below 20 m²/ha, and 2/3 of the residual trees must be

healthy². For shade-intolerant stands, only trees greater than 16 cm DBH may be felled; the harvest area must be no closer than 100 m from the property line and have a 100-m buffer with a basal area no lower than 20 m²/ha. No harvesting is allowed on grades greater than 30%, and harvesting on hilltops must comply with standards for tolerant stands (Chelsea 2005).

In sum, since 2002, Quebec municipalities have had the power to pass their own tree cutting bylaws. Some have acted on this, and are using their bylaws to protect their forest resources from short-term exploitation and highgrading.

Recommendation:

19. As an alternative to (15), require maintaining a minimum post harvest basal area comprised primarily of Acceptable Growing Stock.
20. Maintain a minimum basal area in buffer areas along property lines. Thus landowners are better protected from erosion and windthrow resulting from destructive logging practices on neighbouring properties.

4.2 Ontario

Of Ontario's 71.3 million hectares of forested land, 7.6 million hectares are privately owned. About half of the privately owned forests are in the southern part of Ontario. In the southwestern part of the province, where most land is either cultivated or part of a town or subdivision, there is less than 5% forest cover and nearly all remnant woodlands are both privately owned and ecologically significant (Ontario 2012b).

The Ontario government fosters ecologically sound forest management on private lands through the MFTIP program, and by granting municipalities authority to regulate tree cutting on privately-owned forestland (Ontario Urban Forest Council 2011). Today, many southern Ontario municipalities have forest harvesting bylaws in place, though

² For the purposes of this by-law, a healthy tree has been living for a long period of time, i.e. more than 25 years, and does not exhibit any obvious major defects. A tree considered healthy must not, as a minimum, exhibit the following:

- a. more than two thirds (2/3) of the crown is damaged;
- b. presence of a hollow (rotten wood) or fungus on the trunk;
- c. mechanical injury extending horizontally over more than one third (1/3) of the circumference or vertically over more than three (3) times the diameter of the trunk.

there remain many in central Ontario without bylaws (and at least one that has repealed its bylaw). A map showing municipalities with forest conservation or tree by-laws is included in Appendix I.

Most tree cutting bylaws have two main options available for commercial harvesting:

1. The landowner may choose to cut trees in accordance with *good forestry practices*. Typically this involves development of a silvicultural prescription, and marking of trees prior to harvesting by someone qualified to do so. The guidelines for good forestry practices are outlined in the provincial silviculture guides³.
2. The landowner may cut any trees over a certain diameter listed in the tree bylaw⁴.

Some tree bylaws have an additional requirement that the landowner must not cut the forest below a certain density (e.g., 15m²/ha).

Haliburton County, in central Ontario, has a tree cutting bylaw that has all the above. It promotes good forestry practices first and foremost, while allowing landowners to choose more aggressive harvesting techniques like "circumference limit harvesting". At a minimum, basal area cannot be reduced below 15 m²/ha (Haliburton 2008).

In sum, since 1946, the province of Ontario has allowed municipalities to pass their own by-laws regulating forest harvesting on private lands. Many counties prevent destructive harvesting practices with by-laws that require *good forestry practices* or no cutting of trees below specified diameters.

Recommendation:

³ Several documents exist to provide guidance for the term "good forestry practices", including the Ontario Ministry of Natural Resources' *Tree Marking Guide* as well as silvicultural guides to managing southern Ontario forests, and the tolerant hardwood and conifer forests of the Great Lakes – St. Lawrence region in central Ontario.

⁴ The Ontario Woodlot Association does not recommend this method. The overcutting that often results and the reduced genetic quality from diameter limit cutting degrades the quality of the forest, provides less and less revenue from the forest over time, as well as reduces ecosystem integrity. However OWA recognises that diameter limit cutting prevents the total devastation of a forest, and simplifies enforcement of bylaws.

21. Amend the *Municipal Government Act*, allowing municipalities and counties to enact bylaws regulating forest management on private lands. Municipal and county bylaws should be equal or more restrictive than provincial regulations.

5.0 Conclusion

This report provides examples of laws and programs from jurisdictions across North America that encourage silviculturally appropriate and ecologically sustainable forest management on private woodlands. Ontario's Managed Forest Tax Incentive Program is an excellent, incentive-based program. Massachusetts' state-wide laws and regulations are well worth consideration. Similarly, Quebec's Bill 77 and Ontario's Municipal Government Act put decisions to regulate timber harvesting on private lands in the hands of the local citizenry where the impacts of overcutting are most keenly felt.

6.0 Recommendations

6.2 For voluntary, incentive-based programs

1. Create science-based peer-reviewed silviculture guides for the province
2. Adapt Simpson's *Restoring the Acadian Forest* into a guide for those woodlot owners interested in forest restoration.
3. Require preparation and approval of forest management plans in order to gain access to reduced tax rates. Plans should have a prescribed format, similar to MFTIP plans, and require consideration of wildlife and aquatic habitats.
4. Require plans for timber extraction follow appropriate silviculture practices for the forest type.
5. Allow plans with conservation and/or restoration objectives.
6. Introduce a program similar to Ontario's Conservation Land Tax program, providing tax relief to landowners protecting significant habitat.
7. Require that forest management interventions improve the proportion of acceptable growing stock.
8. Nova Scotia already has a cost-sharing, silviculture assistance program, however the vast majority of the resources under this program are allocated to even-aged softwood treatments (Nova Scotia 2012). A modified cost-sharing program with woodlot owners should place far more emphasis on ecologically and

silviculturally appropriate silviculture treatments that maintain and restore the Acadian Forest.

9. Extend cost-sharing programs to wildlife conservation and enhancement practices, such as nest box establishment, cavity and mast tree retention, seed production orchards and brush piles (similar to PEI's cost-sharing program).
10. Set up a "Call-before-you-cut" hotline.

6.2 For new regulations

11. Require landowners provide notice of commercial harvesting to the NSDNR and NSDOE regional offices, along with the proposed cutting plan and other pertinent information in advance of any operations. A license should be issued by the regional office before any harvesting commences. Failure to provide notice or to follow the cutting plan should result in fines and/or revocation of the cutting license.
12. Decisions to allow heavy cuts should be based on sound silvicultural practices for the forest type and condition.
13. Notice of commercial harvesting by woodlot owners should be provided to all owners of properties within 50-70 metres of the cutting area.
14. The landowner should paint or blaze any boundaries located within 10-15 metres of the cutting area.
15. Landowners should have the right to choose between long term management or short term harvest. If a cutting plan is submitted under a long-term objective, it should be reviewed to determine if the marking or prescription meets the requirement of maintaining or improving the Acceptable/Unacceptable Growing Stock ratio. The province should take an educational approach to encourage long-term forest management planning.
16. When forest cutting plans are submitted to the regional offices of NSDNR and NSDOE, they should be checked for occurrences of rare species and communities, and significant habitat features (such as raptor nests, blue heron colonies, vernal pools, mast and cavity trees, etc). Plans proposing activities that could damage these habitats or result in the taking of rare species should be amended to add protection for the habitat or species of concern.
17. Establish a maximum clearcut size.

18. As an alternative to (11), require notice be given to the provincial government for clearcuts over a certain size, along with harvest plans prepared by a professional forester.
19. As an alternative to (15), require maintaining a minimum post harvest basal area comprised primarily of Acceptable Growing Stock.
20. Maintain a minimum basal area in buffer areas along property lines. Thus landowners are better protected from erosion and windthrow resulting from destructive logging practices on neighbouring properties.
21. Amend the *Municipal Government Act*, allowing municipalities and counties to enact bylaws regulating forest management on private lands. Municipal and county bylaws should be equal or more restrictive than provincial regulations.

7.0 References

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Appendix I: Municipalities with tree by-laws in Ontario