
Report on Tree Conservation By-Laws in Southern Ontario

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Table of Contents

INTRODUCTION.....	2
PURPOSE.....	2
ONTARIO	3
<i>Legislation.....</i>	3
<i>Municipal Act.....</i>	5
<i>Other Legislation.....</i>	6
OTHER CANADIAN JURISDICTIONS	7
<i>British Columbia</i>	8
THE UNITED STATES	8
SURVEY INTRODUCTION	10
SURVEY PROCESS	10
SURVEY FINDINGS FOR MUNICIPALITIES WITH TREE BY-LAWS	11
<i>General Information.....</i>	12
<i>Reasons for Tree Cutting</i>	14
<i>Tree By-Law Implementation.....</i>	15
<i>Capacity.....</i>	16
<i>Tree By-Law Enforcement.....</i>	20
<i>Other Initiatives.....</i>	30
MUNICIPALITIES WITHOUT TREE BY-LAWS	32
SURVEY CONCLUSION	34
CASE STUDIES.....	36
THE COUNTY OF GREY	37
THE COUNTY OF NORFOLK	40
THE COUNTY OF HALIBURTON	44
THE COUNTY OF PERTH.....	46
THE TOWN OF CALEDON	49
THE REGIONAL MUNICIPALITY OF YORK	52
THE CITY OF LONDON	55
ADDITIONAL CASE STUDY COMMENTARY	58
CONCLUSIONS AND RECOMMENDATIONS.....	59
STRENGTHS	60
WEAKNESSES.....	61
OPPORTUNITIES & RECOMMENDATIONS	61
<i>Municipal Level.....</i>	62
<i>By-Law Development.....</i>	62
<i>Model By- Law Development.....</i>	62
BIBLIOGRAPHY	66
APPENDIX A: SURVEY INSTRUMENT FOR MUNICIPALITIES WITH TREE BY-LAWS.....	67
APPENDIX B: SURVEY INSTRUMENT FOR MUNICIPALITIES WITHOUT TREE BY-LAWS.....	77

Introduction

In recent years, increasing attention has been paid to the destruction of trees on forested land in Southern Ontario. As population pressure and economic demand for land and timber increases, the sustainability of Southern Ontario Woodlots is being threatened. Along with this threat comes concern for the impact upon wildlife, water resources, and air resources. Southern Ontario is relatively unique within Canada with its high population density and vast tracts of arable land. It is also unique in the limited extent of crown land. The majority of forested land in Southern Ontario is privately owned.

For more than 50 years many Ontario Municipalities have had the authority to enact tree conservation by-laws to regulate the cutting or destruction of trees on privately held land. In 1982, *The Response of Ontario Municipalities to Tree Conservation: A Preliminary Evaluation of the Provincial Trees Act* (Puddister, et al.) study was undertaken to examine the impact and effectiveness of these by-laws. This study found that enforcement of tree by-laws was limited, as were penalties for contravening them.

In 2001, this issue was been revisited by researchers from the School of Rural Planning and Development, at the University of Guelph. Funding for the research was provided by the *Federation of Ontario Naturalists*, the *Ontario Chapter of the Soil and Water Conservation Society*, and the *Ministry of Natural Resources*. The project consisted of a survey of municipalities with and without tree by-laws; and an in-depth examination of seven municipalities that are highly active in by-law enforcement and/or municipalities with innovative practices in by-law enforcement.

Purpose

The purpose of the study was to assess the institutional arrangements of tree conservation by-laws in southern Ontario and the utilization of these by-laws in managing forest cutting at the municipal level. The specific study objectives were:

1. To document the experiences of counties, regions, and municipalities in instituting and employing tree conservation by-laws.
2. To identify how the administration of tree conservation by-laws has changed through time.
3. To determine why certain counties have not instituted a tree-cutting by-law.
4. To identify strengths, weaknesses, and opportunities for improvement regarding the use of tree conservation by-laws.

Ontario

In Ontario approximately 15% of productive forests are privately owned representing about 5.76 million hectares of forested land in Ontario. Within Southern Ontario, this percentage increases significantly with approximately 87% (Strobel and Bland, 2000) of the forested land base in private ownership. These woodlots range in size from a few acres to tens of thousands of acres.

Southern Ontario is a highly populated area with a highly developed economy, based upon such activities as manufacturing and agriculture. The role of the forest industry while playing a small role in the overall economic output of the area is still significant with over 75,000 jobs directly related to the industry and an annual revenue of \$3.6 million dollars (OMNR, 2000).

Private forests in Southern Ontario provide economic benefits through the sale of forest products, and through related agroforest industries (e.g. production of maple syrup, mushrooms, and ginseng). These forests also benefit society by providing habitat for wildlife. These private forests contain 82% of the provinces currently listed endangered, threatened or vulnerable species (Strobel and Bland, 2000). In addition to providing wildlife habitat, private forests are an integral part in the provision of clean air, clean surface water, and groundwater in the region.

Legislation

Over the last decade there has been a growing recognition by both government bodies and the general public that sound forest management practices must be undertaken to ensure the continued sustainability of Ontario's forest resources. The provincial government of Ontario, recognizing the need for sustainable forests, enacted enabling legislation that allows various levels of government to pass by-laws that regulate the destruction or injury of trees.

The intent of these legislative Acts is to protect private woodlands from indiscriminate cutting which could impair the future sustainability of the woodland. Tree conservation by-laws help to ensure at least a minimum level of control of forestry practices on private woodlands. These by-laws are a tool that are often used in conjunction with a broader campaign of education and increased awareness of landowners, the forest industry, and the general public of the need for sustainable management practices to ensure the continued health of Southern Ontario forests.

The two pieces of legislation are the Forestry Act and the Municipal Act. Upper tier municipalities such as Counties and Regional Municipalities are able to pass tree conservation by-laws under the Forestry Act. Lower tier municipalities having a population greater than 10,000 can pass a tree conservation by-law under the Municipal Act. Currently, 25 out of 38 upper tier municipalities in Southern Ontario have a tree conservation by-law. There are only a small number of lower tier municipalities (11) in the province that currently have tree conservation by-laws. The following sections will review each Act and its provisions for the institution and enforcement of tree conservation by-laws.

Forestry Act

The purpose of the Forestry Act is to ensure good forestry management of Ontario's forests. Section 11 of the Forestry Act allows for the passing of a by-law by a County, Regional Municipality, District Municipality, or any municipality separated from the County. This by-law restricts and regulates the destruction of trees by cutting, burning or other means in woodlands. The Ontario Ministry of Natural Resources must approve a tree conservation by-law passed under the Forestry Act

Tree conservation by-laws passed under the Forestry Act allow for the specification of the size of woodlot to which the by-law will apply. Currently the size of woodlots specified in Southern Ontario are often greater than 5 or 10 acres in size, with the by-law not applying to any woodlot under the specified size. In addition, the Act allows for the specification of the species of trees under a specified size (usually some form of diameter measure) to be protected. The Act also establishes the density of trees that must be maintained after cutting takes place.

Under the Forestry Act the council that is instituting a tree conservation by-law can either enforce the by-law itself or can appoint by-law enforcement officers to enforce the by-law. Currently in Ontario, municipal councils have delegated the responsibility of enforcement to appointed tree by-law enforcement officers. Under most by-laws, when the destruction of trees is to take place a Notice of Intent to Cut (NOI) must be filed with the municipality.

Exceptions and Minor Exceptions

The Forestry Act permits a number of exceptions that allow for cutting that does not meet the by-law standards. These include:

- The cutting of trees for owners use.
- The powers or rights of the municipality, any board, agency or commission performing for or on behalf of the Crown.
- The removal of trees for road purposes.
- The removal of trees where a building permit has been issued.
- The harvesting of Christmas trees.
- The removal of trees where a license has been issued for a pit or quarry.
- The removal of trees for surveying.
- The removal trees cut in accordance with good forestry practice.

In addition to the specified exceptions in the Act, municipalities have the ability to create a process in the by-law whereby a minor exception from the by-law may be allowed. This exception may be allowed if it is the opinion of the municipality that the proposed use of the land on which the trees are located is desirable and in keeping with the general intent and purpose of the by-law. A common example of a minor exception that is often applied for is the clearing of land for agricultural purposes.

Good Forestry Practice

The Forestry Act recognizes the need to view forests as ecological systems and as such forest management practices need to be undertaken to ensure their ecological sustainability. To this end the Act promotes the use of ‘good forestry practices’ which are defined as:

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, forest productivity and health and the aesthetics and recreational opportunities of the landscape.

Good forestry practices are an exception because they allow cutting of trees below the diameter limit. Good forestry practice is considered to be more ecologically sound than diameter limit cutting, even though some smaller trees are removed. Many by-law officers are promoting good forestry practices as the most sustainable form of cutting.

Powers of Enforcement

The fines that are allowed under the Forestry Act for the contravention of the by-law are a maximum of \$20,000 for an offence. The court may also imprison the offender for a term of not more than three months. The courts also have the right to order the owner to replant the area on which the tree or trees have been destroyed.

Many municipalities passed their by-law under the former Trees Act, and have not revised them since the Forestry Act was passed. Under the Trees act, the maximum fine limit was \$5000 per offence. It should be noted that some by-law officers choose to lay a charge for each individual tree cut, thus greatly increasing the potential fine limit of a conviction.

Municipal Act

The Municipal Act under Section 223.2 allows any municipality with a population greater than 10,000 to pass a by-law restricting the injury or destruction of trees. A by-law passed under the Municipal Act can prohibit the destruction or injury of trees or any class of trees in the area

specified under the by-law. The by-law can be applied to either the entire municipality or specifically designated areas of the municipality, or specific trees.

A tree conservation by-law passed under the Municipal Act requires the submission of an application for a permit to injure or destroy a tree located in an area specified by the by-law. This permit must be obtained prior to the injury or destruction of trees specified in the by-law. All injury or destruction of trees must be done according to good forestry practices. Council may impose conditions on the permit that are in Council's opinion reasonable. The Council may delegate the authority to issue permits and apply conditions to an appointed officer.

As with the Forestry Act there are specified activities under the Municipal Act that a by-law under Section 223.3 does not apply to. A by-law would not apply to the following activities:

- Activities or matters undertaken by the federal or provincial governments.
- Activities authorized by the Crown Forest Sustainability Act, any board, agency or commission performing for or on behalf of the Crown.
- Activities or matters prescribed by regulation.
- The removal of trees within waste disposal areas specified by the Environmental Protection Act.

Municipalities if they so chose may expand upon this list of exemptions.

If a person should wish to appeal the decision for the non-issuance of a permit or a condition that is placed on a permit he/she may appeal to the Ontario Municipal Board within thirty days of receiving the decision or permit.

When a contravention of the by-law takes place the by-law officer can issue a stop work order requiring the person to stop the injury or destruction of trees that is taking place. The individual that receives such an order may within 30 days of receiving the order, file a notice of appeal with the municipal Council. Any decision that the Council reaches during the hearing is final. When a contravention of the by-law takes place the individual guilty of the offence may be charged and prosecuted in court. The Municipal Act stipulates that the fine for the first conviction is no more than \$10,000 for any subsequent convictions there is a maximum \$20,000 fine. In addition, the court may require any individual found guilty of an offence to replant the area in question.

Other Legislation

In addition to the Forestry Act and the Municipal Act the other piece of relevant legislation available to municipalities that wish to protect woodlands and forests in their jurisdictions is the

Planning Act. Like the Municipal Act, the Planning Act is administered by the Ministry of Municipal Affairs and Housing (MMAH). The Planning Act is the regulatory Act that allows municipalities to plan for development and other land based uses in their municipalities.

One of the key features of the Planning Act is Section 16.1 that empowers municipalities to develop official plans. An official plan is one of the principal tools in that it enables municipalities to define their goals, objectives, and policies that are used to shape and manage land use in the municipality. Official plans also recognize and address the economic, social, and environmental impacts of these land uses.

When dealing with the natural environment the Ontario Provincial government has issued a set of Provincial Policy Statements (PPS) which under Section 3 of the Planning Act municipalities ‘shall have regard for’ in their official plans and subsequent zoning by-laws. When looking at the natural environment Section 2.3 of the PPS discusses the need to ensure that natural heritage features are protected from incompatible land uses. Section 2.3 allows for the designation of significant woodlands. This allows municipalities to designate woodlands that are essential to the maintenance and integrity of an ecosystem.

In the last three years the process of municipal restructuring has changed the face of the municipal landscape in Ontario. As part of the municipal restructuring process new municipalities are required to draft a new official plan within five years of amalgamation. This provides many municipalities in the province with the opportunity to assess the natural environment in their new jurisdiction and to determine any natural features that are significant within their boundaries including significant woodlands.

Other Canadian Jurisdictions

During the course of this study representatives of all other provinces and territories in Canada were contacted to determine if their jurisdictions currently had legislation that regulated the destruction or injury of trees on private lands. It was determined that British Columbia was the only other jurisdiction in Canada that currently has such legislation in place. All of the other provinces and territories that were contacted indicated that they have educational programs through their natural resources departments to increase awareness of the need for forest conservation and sustainable harvesting practices among private landowners, but they do not have legislation limiting the cutting of trees on private land.

During the course of discussions with forestry officials from other provinces and territories it was often stated that there was no perceived need for the regulation of cutting or harvesting of trees on private lands. The forestry officials from the territories indicated that there is very little privately owned land outside of settled areas with most of the land being owned by the crown.

British Columbia

The Province of British Columbia has legislation through its Local Government Act that allows a municipality to pass a tree conservation by-law. Section 708 of the Local Government Act provides a wide range of options for municipalities as to the specifications that may be instituted in a by-law. The municipality may make the by-law applicable to all or part of the municipality as well as specifying species, classes, and sizes of trees to which the by-law applies. In addition the by-law may choose to do one or more of the following:

- Prohibit on the cutting and removal of trees; regulate the cutting and removal of trees
- Regulate activities that may damage trees
- Require the replacement of trees that were cut or damaged in contravention to the by-law
- Require specified cash deposits or letters of credit for replacement of trees
- Specify circumstances under which inspections may take place
- Establish exemptions from the by-law
- Specify and protect trees that have been identified as being significant.

The breadth of these powers allows municipalities a great deal of flexibility. To “regulate the cutting and removal of trees”, would allow for diameter limit controls, requirements of good forestry practices, or any other limitations the municipality selected. Even more empowering is the fact that tree cutting can be prohibited altogether under the by-law. This is somewhat similar to the powers in the Ontario Municipal Act, but as with municipalities in Ontario, B.C. municipalities tend to regulate, not prohibit the cutting of trees.

For purposes of administering the by-law, B.C. municipalities may require that permits be issued prior to the cutting or removal of any trees. Prior to the approval of the permit, applicants can be required to submit plans that identify the tree proposed for cutting, the trees to be retained, trees that are proposed as replacements for those that are cut. This by-law does not apply to land that fall under the guidelines of the Forest Land Reserve Act.

The United States

Tree cutting in the United States is legislated at the State level, but is influenced significantly by federal policies on issues of water quality and protection. Legislation varies greatly from state to state, and as in Canada, the more populous jurisdictions tend to have more strict regulations.

Generally speaking, American tree cutting policy tends to focus more in detail upon watershed protection than Canadian regulations. This is largely due to the strong influence of the Clean Water Act upon policy.

A great number of American States function solely upon the concept of Best Management Practices around sustainable forestry based upon the protection of habitat, water resources, and preventing soil erosion. Best Management Practices (BMP's) for a number of activities that influence the environment were developed by the U.S. Environmental Protection Agency in 1975 (McClenahan et al. 1999). While some states, such as New York, Vermont, Maine, or Massachusetts have developed legislative enforcement to allow municipal ordinances to ensure compliance with BMP on private lands, others such as Ohio, Mississippi, or Iowa have adopted a process based upon education, training, and voluntary compliance. BMPs are somewhat akin to the Ontario Concept of Good Forestry Practices.

The primary difference between Policy within the American model and the Ontario Policy is that the American policies and legislation tend to be based upon BMPs, while Ontario's primarily tends to be based upon diameter limit cutting. In many active municipalities in Ontario, the role of Good Forestry Practice based cutting is increasing, but this is largely due to the efforts of by-law officers themselves, not of legislation.

For individuals looking to examine specific state legislation, they are available on-line at www.forestworld.com/forestry/outreach/outreach_home.html

Survey Introduction

The purpose of the survey component of the study was to garner information on the current state of tree by-laws and tree by-law enforcement in Southern Ontario.

The survey instruments were designed in cooperation with the advisory committee. Drafts of the surveys were circulated to a small group of tree by-law enforcement officials for comments for improvement. Written and oral feedback was received from these individuals and appropriate adjustments were made to the final survey instruments. Two separate survey instruments were employed in the study. The first was for those municipalities with tree by-laws and the second was for those municipalities without tree by-laws. Twenty-five surveys were sent to regions/counties that currently have tree by-laws. Seven were sent to lower tier municipalities that have tree by-laws passed under the Municipal Act. Thirteen were sent to regions/counties that do not currently have a tree by-law. The final survey instruments may be seen in Appendix A and B.

Survey Process

The survey involved all regions/counties in Southern Ontario that have by-laws through the Trees or Forestry Act, and selected lower or single tier municipalities with tree by-laws through the Municipal Act. Each municipality was contacted to determine the appropriate individual(s) to interview regarding the survey. In those municipalities with tree by-laws, these individuals were primarily by-law officers, forestry officers, tree commissioners, and in a few cases planners or department managers. In those municipalities without tree by-laws these were planners, clerks, CAO's, public works superintendents, or by-law officers. These individuals were then contacted by telephone, fax, or email and given an introduction to the study. Copies of the survey instrument were faxed or mailed to the individuals and they were given the opportunity to respond by completing the survey themselves and returning it by fax or email, or they could have the survey conducted by telephone at their convenience. Individuals who had not completed the survey or set up an appointment for a telephone interview were contacted two weeks following the survey launch. Up to three more reminders and offers of assistance were made in the three weeks following. The total period of survey data collection was five and a half weeks.

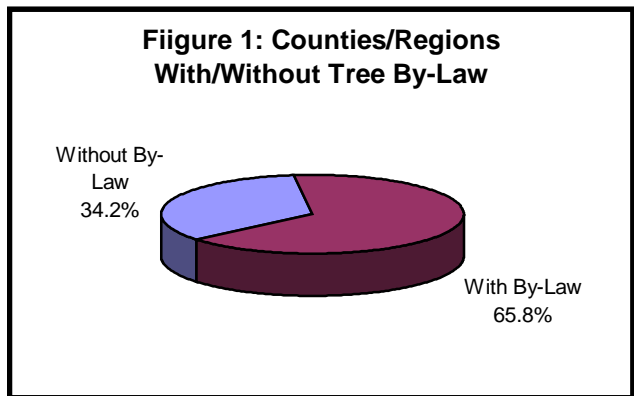
The responses to the survey were quite good with 87.5 % of regions/counties responding, 71.4% of municipalities with tree by-laws through the Municipal Act responding, and 92% of those regions/counties without tree by-laws responding. One response of the municipalities with Municipal Act tree by-laws was received too late to be included in the survey analysis, and one

survey from a region/county with tree by-law was sent by the municipality, but was not received by the research team. It was assumed that this survey was lost in the mailing process.

The survey data was entered into an ACCESS database. ACCESS was utilized in order to ensure accuracy in data entry. The research team analyzed quantitative data from the survey using SPSS (statistical package for the social sciences) software. Statistical procedures were generally non-parametric and descriptive in nature. The qualitative elements of the survey were recorded and organized into information sheets. These open ended areas of the survey provided respondents with the opportunity to expand upon and qualify their responses to the quantitative questions.

This document is a comprehensive summary of the survey findings with pertinent tables and charts, accompanied by interpretive text. For individuals who want the detailed statistical information from the survey, this can be found in the data report.

As can be seen in Figure 1, at the time of this survey 25 of 38 counties/regions (65.8%) in Southern Ontario have tree by-laws in place (Figure 1).



Survey Findings for Municipalities with Tree By-Laws

The survey findings are summarized within this section. In general, most charts include information from all municipalities with tree by-laws (regardless of whether they are under the Municipal or Forestry Act). Where there is significant difference between these groups, or where there is specific interest in comparing these groups, they have been separated. This survey is in part, a follow up to the 1982 study *'The Response of Ontario Municipalities to Tree Conservation: A Preliminary Evaluation of the Provincial Trees Act'*. The tables comparing 1982 and 2001 data exclude responses from municipalities with by-laws under the Municipal Act. This means that these comparison charts and tables only include information collected from counties or regions that have by-laws under the former Trees Act or Forestry Act. This exclusion was done because the 1982 survey did not include municipalities with by-laws under the Municipal Act. The power to pass a tree conservation by-law under the Municipal Act did not exist at that time. In almost all cases though, the exclusion of municipalities with Municipal Act tree by-laws only makes a difference of less than 2-3%.

General Information

Figure 2 represents the first year in which municipalities with tree by-laws implemented them. Many of the municipalities in the study have had tree by-laws for a long period. Nearly half of respondents (48%) have had tree by-laws for a period of at least 21 years (pre 1980). Almost one third of municipalities (30%) have instituted them within the last decade though. The survey of counties/regions without tree by-laws indicated that many municipalities (4 of 13) are currently considering adopting or are in the process of adopting tree by-laws at the present time.

The regulations governing tree by-laws have changed over the years. The most significant of these changes has been the move of the by-law authority from under the Trees Act into the Forestry Act in 1999. With this change came increased fines to be utilized in tree by-law enforcement. Many municipalities have revised their tree by-laws over the years. The number of revisions is indicated in Table 1 below. As can be expected, those municipalities with older by-laws tend to be those with the most revisions. As can be seen in Figure 3 though, nearly 1/3 of the municipalities (24%) have not updated their by-law for at least 21 years. Three respondents indicated that their municipality has tried to update their tree by-law, but have not been successful due to required changes by the Ministry of Natural Resources or due to public opposition. Four municipalities suggested that they are considering a revision or are actively undertaking a revision process at this time. In general many respondents in both surveys (with and without by-law) indicated that there was growing interest in the protection of trees, and thus tree by-laws, in their region.

The following table gives some basic information for the municipalities with tree by-laws in Southern Ontario. It does not include the three counties/regions that data was not received from.

Figure 2: First Year of Tree By-Law

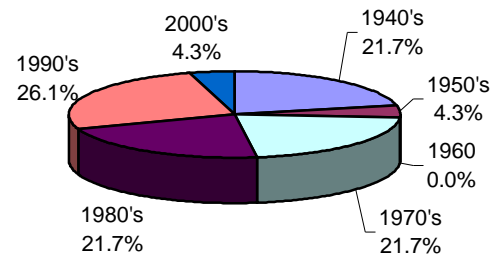
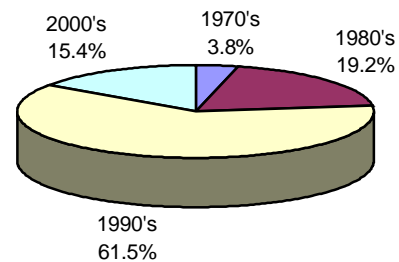


Figure 3: Year of Current Tree by-Law



In the table 'Unknown' indicates that the respondent did not respond or responded that they did not know the information requested

Table 1: General Information From Municipalities

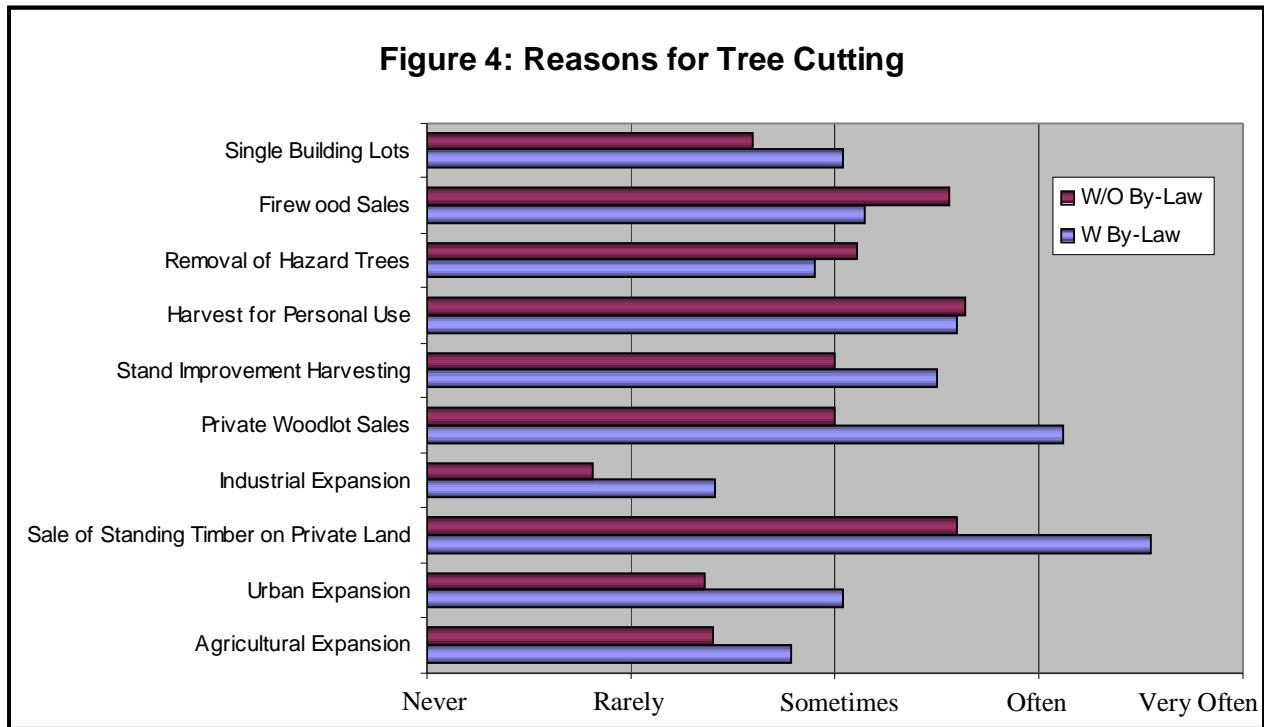
	Level of Municipality	First Year of By-Law	Number of Revisions	Year of Current By-Law	Annual Number of Notices of Intent or Applications	Official Plan	Significant Areas Designated
City of London	Lower T	1996	1	1996	8	Yes	Yes
City of Peterborough	Lower T	1997	2	1997	Unknown	Unknown	Unknown
City of Guelph	Lower T	Unknown	Unknown	1986	0	Yes	Unknown
Town of Caledon	Lower T	2000	0	2000	20	Yes	Yes
Town of Perth	Lower T	Unknown	Unknown	1991	Unknown	Yes	No
City of Ottawa	Upper T	1992	0	1992	0	Yes	Yes
County of Brant	Upper T	1948	10	1997	35	Yes	Yes
County of Bruce	Upper T	1986	1	1996	150	Yes	Yes
County of Dufferin	Upper T	1947	7	1996	70	No	Unknown
County of Elgin	Upper T	1987	2	1993	150	Yes	Unknown
County of Grey	Upper T	1946	3	1996	300	Yes	Yes
County of Haldimand-Norfolk	Upper T	1947	10	2000	350	Yes	No
County of Haliburton	Upper T	1985	1	1999	90	Yes	Yes
County of Huron	Upper T	1979	2	1986	298	Yes	Yes
County of Lambton	Upper T	1979	2	1991	Unknown	Yes	Yes
County of Lanark	Upper T	1973	0	1981	Unknown	No	Unknown
County of Middlesex	Upper T	1986	0	1986	125	Yes	Yes
County of Northumberland	Upper T	1976	1	1976	0	No	Unknown
County of Perth	Upper T	1950	5	2000	75	Yes	Yes
County of Wellington	Upper T	1946	12	1994	40	Yes	Yes
District of Muskoka	Upper T	1999	1	2001	20	Yes	Unknown
Regional Municipality of Durham	Upper T	1991	0	1991	10	Yes	No
Regional Municipality of Halton	Upper T	1983	0	1983	0	Yes	No
Regional Municipality of Niagara	Upper T	1971	2	1996	80	Yes	Yes
Regional Municipality of Waterloo	Upper T	99	3	1999	50	Yes	Unknown
Regional Municipality of York	Upper T	1991	0	1991	0	Yes	Yes

As can be seen in the table there is a vast range in the number of notices of intent or applications for tree cutting that are received by the municipalities involved. The County of Grey and the County of Haldimond/Norfolk deal with more than 300 notices each year. Many of the municipalities involved deal with less than 100. Some of the municipalities that responded zero to this question indicated that this was the case because their by-law either does not require such notices or applications, or that they do not actively enforce their by-law and thus do not receive

notices or applications. As will be seen throughout the study, some municipalities that have by-laws in place do not actively enforce them.

Reasons for Tree Cutting

Respondents in both surveys were asked to indicate the primary reasons that tree cutting took place in their municipality. The question utilized a Likert scale ranging from never to very often. Figure 4 is a composite of those responses that was developed utilizing the mean averages of the responses. While mean averages are not often utilized in displaying Likert scale responses, it is effective here as the distributions of all of the responses was relatively normal. Detailed histograms are available in the data report.



In the above chart, it can be seen that the most common reason trees are cut in municipalities with tree by-laws is for the sale of timber (either for *Private Woodlot Sales* or *Sale of Standing Timber*). The next most common reasons are *Harvesting for Personal Use* and *Stand Improvement Harvesting*. When examining the data for the municipalities without tree by-laws *Harvesting for Personal Use*, the *Sale of Standing Timber*, and *Firewood Sales* are the most common reasons. The chart shows that woodcutting for timber sales is less of an issue in the

municipalities without tree by-laws. It may be that the greater presence of loggers looking to harvest and sell timber may in fact have encouraged some municipalities to adopt tree by-laws.

Tree By-Law Implementation

It was found throughout the study that tree by-law enforcement appears to have three primary components, the first of these is education of the public, the second is assisting residents to comply with the by-law, and the third of these is prosecution of those who are unwilling to comply. Many of the respondents in the survey suggested that the effectiveness of tree by-laws depends in large part on local people being informed of the by-law and conforming to the regulations. By-law effectiveness and enforcement will be discussed further in following sections. As public compliance with the law largely depends upon awareness, the survey asked a few questions regarding public awareness. The first of these related to how the public was informed of the current by-law when it was adopted. Respondents were given five choices and were asked to respond either yes, no, or don't know to each. The results are shown in Table 2. As many of the by-laws have been in place for quite some time, it is not surprising that up to one third of respondents did not know what forms of public notices were utilized. The two most common methods of making the public aware of the by-law was through open discussion in council meetings and through articles in the local newspaper. In addition to the pre-determined choices, respondents were given the opportunity to 'write in' additional responses. Many (5) respondents suggested that draft by-laws and reports were circulated or presented to NGO's and interested parties prior to the adoption of the by-law. This was a method of informing those affected by the by-law and for getting feedback from involved and interested parties.

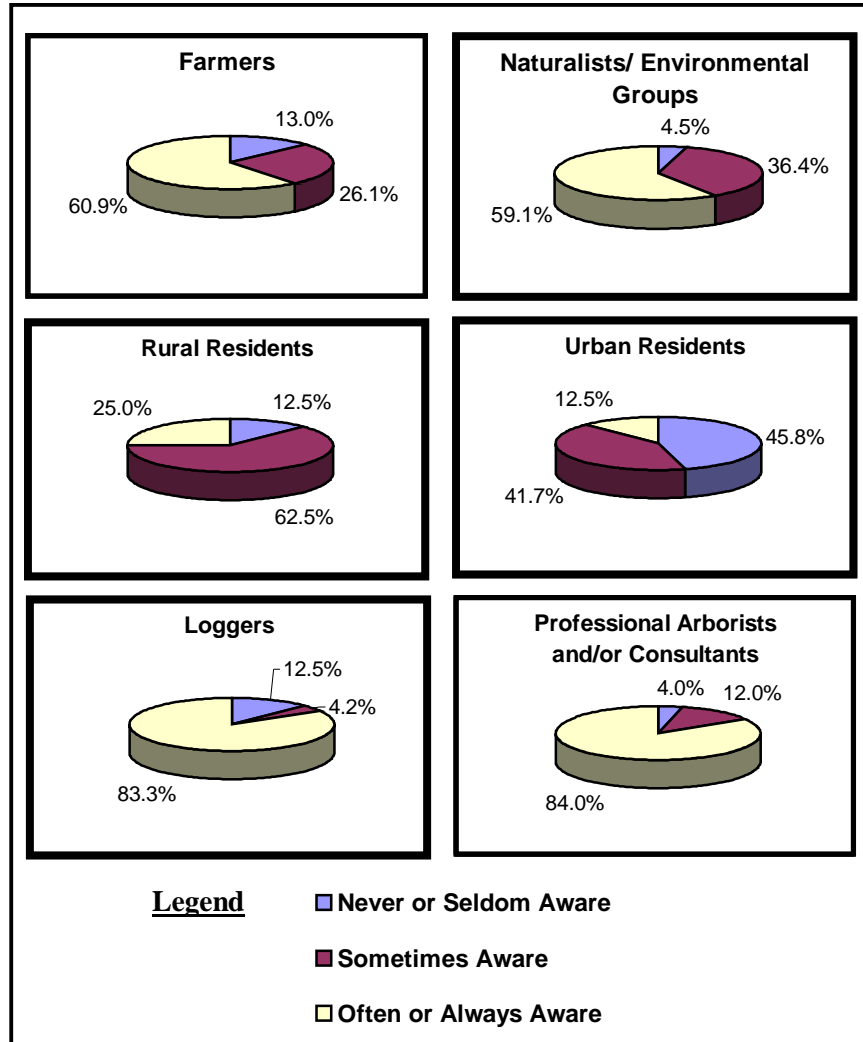
Table 2: Responses given regarding forms of public notice given when current tree by-law was adopted.

	Yes	No	Don't Know
Council Meeting	68.0%	12.0%	20.0%
Notice in Local Paper	45.8%	20.8%	33.3%
Article in Local Paper	58.3%	4.2%	37.5%
Public Open House	37.5%	33.3%	29.2%
Mail Out	47.8%	17.4%	34.8%

Respondents were then asked to indicate their opinion as to the level of awareness that different groups had of the by-law. The findings are thus based upon the respondents' observations and experience in their role as a tree by-law enforcement official. The results of this question are presented in Figure 5.

Respondents indicated that *Loggers* and *Professional Arborists and/or Consultants* were almost always aware of the tree by-law. More than 80% of respondents suggested those groups were often or always aware. *Farmers* and *Naturalists/Environmental Groups* were shown to be aware of the by-laws quite often as well. *Rural Residents* were seen to be sometimes aware of the by-law, while *Urban Residents* were less so. Only 12.5% of respondents suggested urban residents were often or always aware of the tree by-law.

Figure 5: Frequency of Tree By-Law Awareness by Different Groups



Capacity

The 1982 study of tree by-laws addressed concerns of the capacity of municipalities to effectively enforce tree by-laws. Some of the questions from that survey were repeated in this current tree by-law survey to both inform upon the current state of capacity, as well as compare the current status to that of 19 years prior.

One question that was asked on both surveys regarded the number of years experience that tree by-law officers have in the forest conservation. The results can be seen in Table 3. It can be seen in the table that there has been a decline in the average number of years of experience.

Table 3: Years of Experience of Tree By-Law Officers

Years of Experience	1982	2001
0	2	1
1-5	7	13
6-10	6	4
11-20	2	9
21-30	4	4
31-40	3	0
41-50	3	0
51-60	2	0

Respondents were also asked in both surveys (1982 & 2001) to indicate their experience in various activities that are related to the enforcement of tree by-laws. The following pie charts demonstrates that data. It can be seen in the charts that the tree by-law officers consider themselves more experienced in nearly all aspects of tree by-law enforcement relative to those individuals in 1982. The one exception is in the field of agriculture where present day tree by-law officers generally considered themselves less experienced than those in 1982 did. In the past many tree by-law officers were local residents (often farmers) who worked part time for the municipality. In recent years, greater specialization and focus upon the issue has led to increased standards and training requirements for officers. It is important to note here that in both the 1982 and 2001 surveys, respondents ranked themselves on their experience and that no actual testing of experience or knowledge was undertaken.

Figure 6: Experience of Tree By-Law Officers in Various Activities

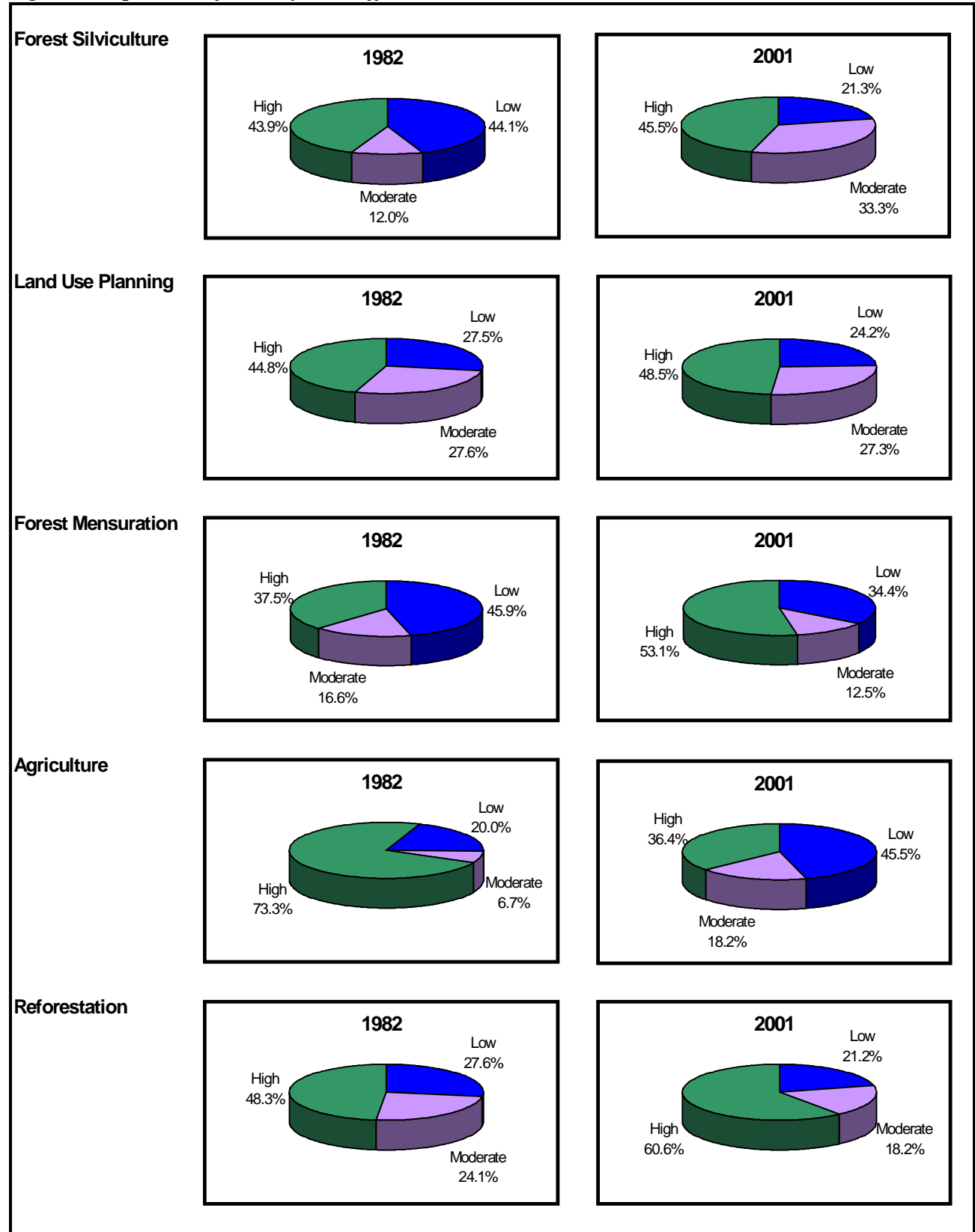
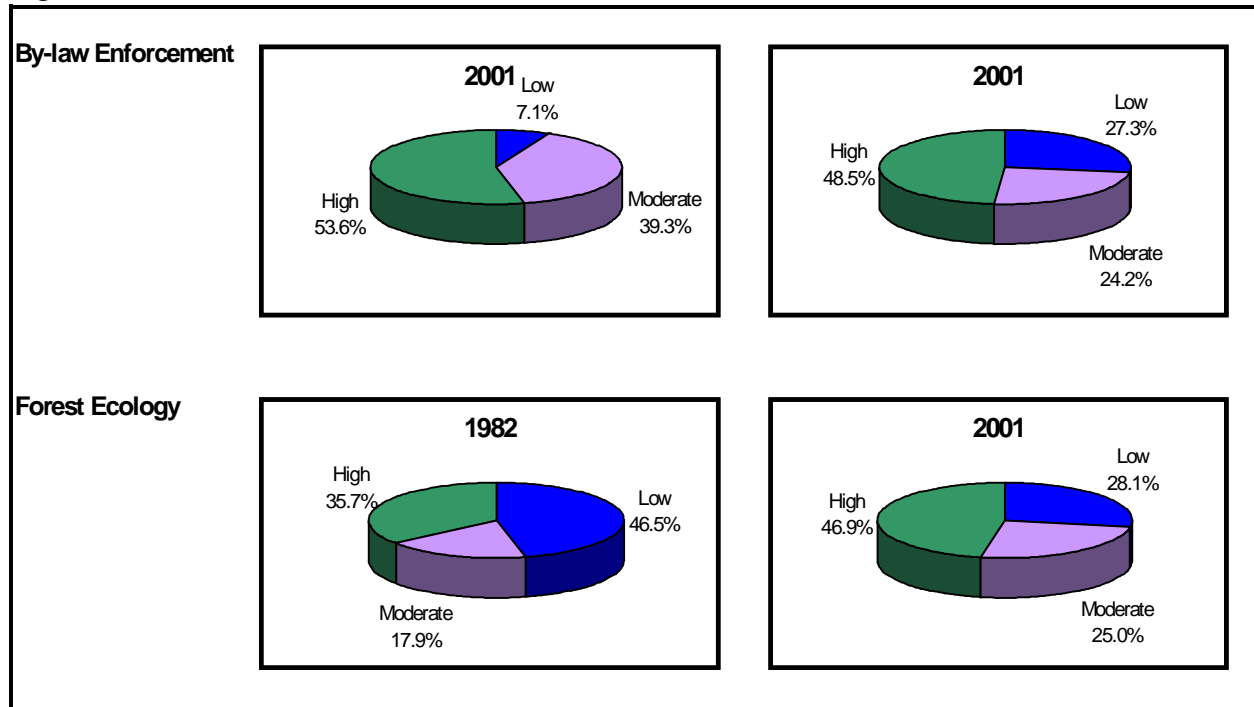
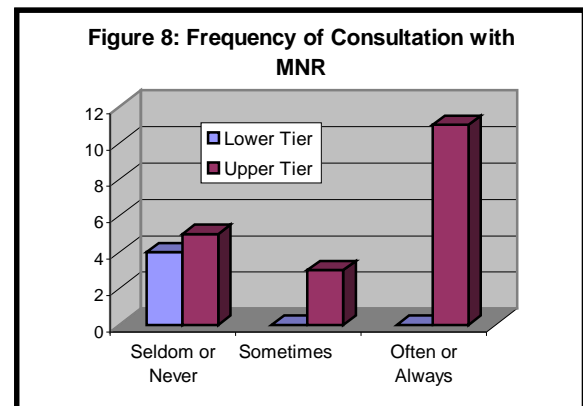
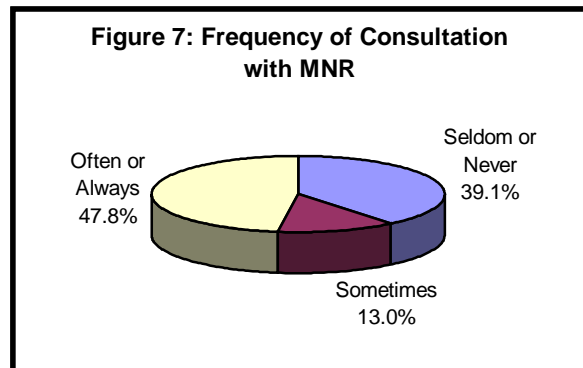


Figure 6: Continued.



Respondents were also asked about their consultation with other agencies and private consultants. It can be seen in Figure 7 that over 60% of municipalities consult at least sometimes with the MNR. There was a wide diversity of reasons given for consulting with the MNR. These can be classified as technical assistance (10 respondents), assistance in prosecuting violators (3 respondents), assistance in making decisions on minor exceptions (2 respondents), and the development or re-development of the municipal tree by-law (2 respondents). One of the few significant differences between municipalities with by-laws under the Forestry Act (counties and regions) and those with by-laws under the Municipal Act (generally lower tier or single tier municipalities) was in this question. All of those municipalities with by-



laws under the Municipal Act suggested that they never use the MNR for consultation, while the majority of those with Forestry Act by-laws utilize MNR consultation often or always. Such differences did not exist when examining consultation with Conservation Authorities (CA's) or Private Consultants.

Half of all respondents consult at least sometimes with local conservation authorities. Consultation with CA's is used at times for support during the prosecution of violators (2 respondents), for working in areas where the CA is active such as near watercourses (5 respondents), input on minor exceptions (4 respondents), for other technical assistance (4 respondents), for assistance or shared effort in prosecuting violators (3 respondents).

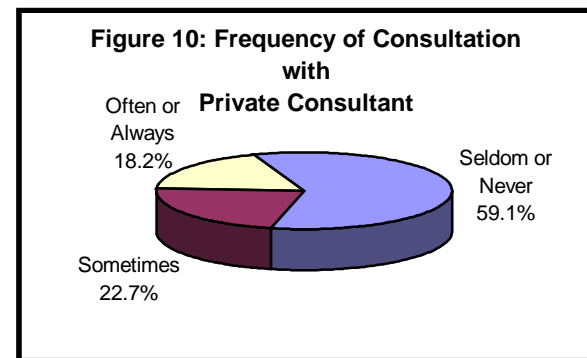
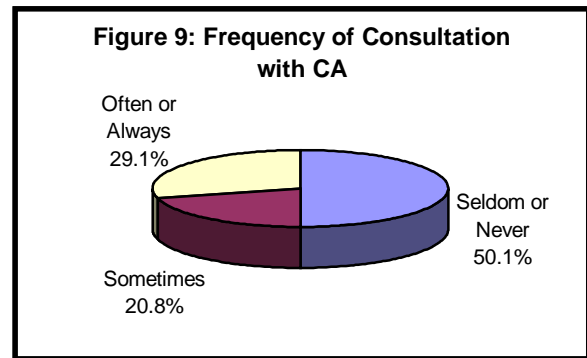
Just over 40% of respondents suggested that they consult with Private Consultants at times. Consultants have been consulted for a number of purposes including assistance in prosecuting violators (4 respondents), in marking woodlots for cutting or surveying lot status (5 respondents) and other technical assistance (5 respondents). In other areas of the survey and in telephone interviews many individuals extolled the value in using consultants as expert witnesses in tree by-law court cases.

Other groups/individuals consulted include the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), by-law officers in other jurisdictions, other municipal staff, and lawyers.

Tree By-Law Enforcement

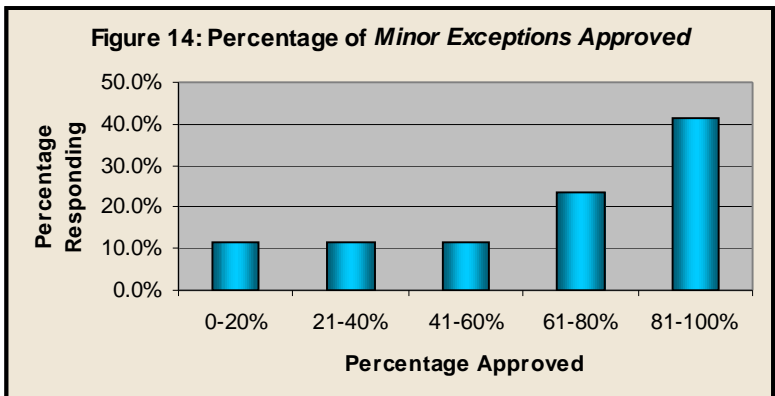
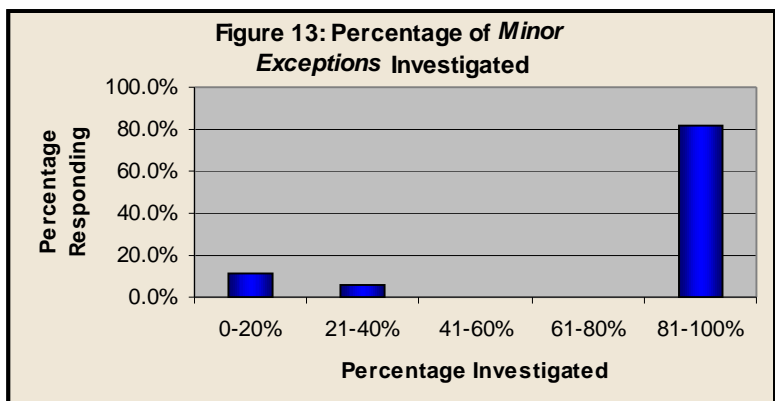
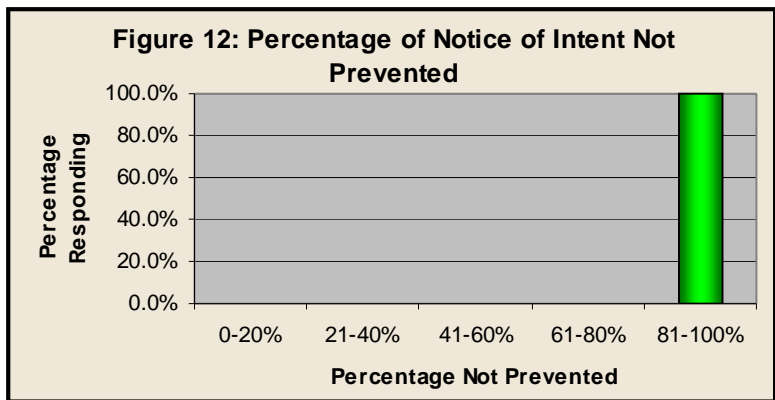
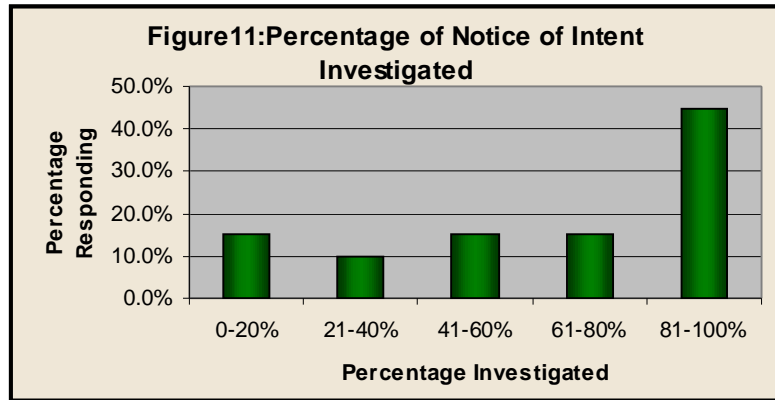
How tree bylaws are employed varies greatly from municipality to municipality. This section of the report deals with the roles and responsibilities that tree by-law officers have in different municipalities.

Under many of the tree by-laws, residents are required to submit a notice of intent detailing their intent to cut trees that are allowed under diameter limit regulations or within the accepted exceptions. If an individual wishes to cut trees that are forbidden in the by-law, they must apply for a minor exception based upon any number of stated criteria. For municipalities having a tree by-law under the Municipal Act residents are required to apply for a permit to cut. There is



though a wide range of by-laws and a wide range of enforcement practices between the various municipalities and each has their own processes.

Respondents were asked as to what percentage of notices of intent or applications were investigated. This question, and the written follow up that respondents provided, began to provide a picture of the differences in enforcement from municipality to municipality. As can be seen in Figure 11, about 45% of all municipalities with tree by-laws noted that they investigate the majority of notices of intent. Many of these wrote in that they investigated every notice of intent with a site visit. Another 45% noted that they investigated between 21% and 80% of notices of intent/applications, and some of these suggested that they investigated those companies and individuals who were either unfamiliar or who were known to practice poor forestry management practices. Foresters who were known to use proper techniques were thus investigated less often. 15% of respondents indicated that they investigated



less than 20% of all notices of intent/applications. In the written portion of this question these respondents indicated that their municipality did not actively enforce the by-law and thus did not investigate notices/applications. Some respondents indicated that they did not utilize notice of intents/applications in their by-law and the question was therefore not applicable to their situation.

As can be seen in Figure 12 very few *Notices of Intent* are actively prevented by the municipalities involved. In discussing their response to this question, respondents indicated that tree by-laws under the Forestry Act do not give the authority to prevent an individual from cutting trees. Tree by-laws under the Municipal Act have the authority to deny an application for a permit to cut if the application is deemed to be not following good forestry practice. Respondents with by-laws under both Acts indicated that in most cases, they work with residents to assist them in complying with the tree by-law. Thus, residents often make adjustments to their planned cutting practices so that they are in compliance.

In many municipalities, individuals who wish to cut trees that are not permitted under diameter limit regulations or any of the official by-law exceptions, can apply for a minor exception to cut trees. Not all municipalities have provisions for minor exceptions within their by-law. None of the by-laws under the Municipal Act had minor exceptions, as well as four of those under the Forestry (or Trees) Acts. The data given for this question is for the remaining 17 municipalities that do have applications for minor exceptions. Figure 13 demonstrates that in most cases (82.4%) applications for minor exceptions are investigated. In three of the municipalities (17.7%) such applications are seldom or rarely investigated. Two of those cases are municipalities who do not actively enforce the by-law. Figure 14 indicates that the bulk of minor exceptions are approved in most municipalities, but in some cases very few are. One of the respondents who suggested that very few were approved noted that this was largely because their municipality has very few woodlots left and if they allowed many minor exceptions through, they would soon have none.

Respondents were asked to rate how strongly various issues were considered when approving a minor exception. Figure 15 demonstrates that most communities take all of the concerns raised into consideration when making decisions. The protection of treed corridors and of rare and endangered species were the most widely considered though with less than 6% of respondents suggesting that they did not consider them at all when making approvals (in each of these issues this represents only one survey respondent).

Figure 15: Strength of Consideration Given to Various Issues When Making Approvals for Minor Revisions

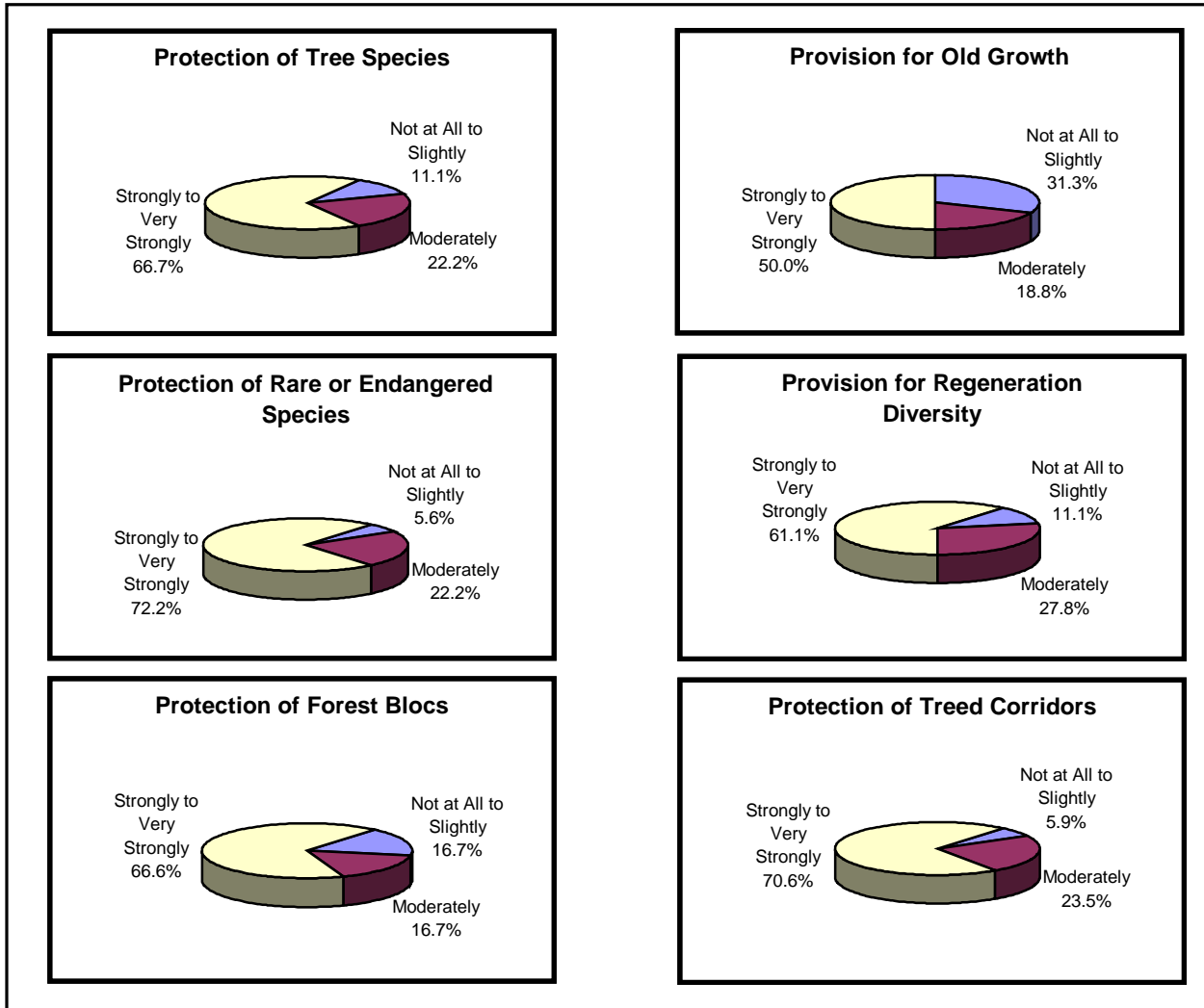


Table 4 gives a basic summary of information collected from respondents regarding numbers of notice's of intent, numbers of minor exceptions, numbers of violations. It also indicated the estimated number of hours each of these takes to address. A code of n/a means that the specific issue was not relevant to the responding community. This is used primarily in situations where municipalities do not have minor exceptions or in cases where municipalities have never prosecuted violators of the by-law.

Table 4: Information on Tree Cutting Notification and Violations

	Number of Notices of Intent /Applications	Average Number of Hours Spent per NOI or App.	Number of Minor Exceptions Applications	Average Number of Hours Spent per ME.	Average Number of Violations	Average Number of Hours Spent per Violation
City of London	8	7	n/a	n/a	2	9
City of Peterborough	Unknown	Unknown	n/a	n/a	Unknown	Unknown
City of Guelph	0	0	n/a	n/a	0	n/a
Town of Caledon	20	4	n/a	n/a	2	20
Town of Perth	n/a	n/a	n/a	n/a	0	n/a
City of Ottawa	0	n/a	0	n/a	0	n/a
County of Brant	35	2	3	2	0	n/a
County of Bruce	150	3	2	4	2	4
County of Dufferin	70	2	0	n/a	0	n/a
County of Elgin	150	1	6	8	6	5
County of Grey	300	2	1	3	1	40
County of Haldimand-Norfolk	350	3	17	7	8	28
County of Haliburton	90	16	4	4	1	120
County of Huron	298	Unknown	5	12	0	n/a
County of Lambton	Unknown	Unknown	20	5	Unknown	Unknown
County of Lanark	n/a	n/a	0	n/a	0	n/a
County of Middlesex	125	3	10	Unknown	<1	20
County of Northumberland	0	n/a	0	n/a	0	n/a
County of Perth	75	4	10	6	3	25
County of Wellington	40	3	1	30	1	5
District of Muskoka	20	1	Unknown	Unknown	0	n/a
Regional Municipality of Durham	10	1	1	20	1	60
Regional Municipality of Halton	0	Unknown	1	13	2	13
Regional Municipality of Niagara	80	Unknown	0	n/a	6	Unknown
Regional Municipality of Waterloo	50	2	5	7	4	50
Regional Municipality of York	n/a	n/a	10	Unknown	1	Unknown

It can be seen that there is a great diversity between municipalities regarding the number of tree cutting events occurring and the hours spent by the by-law officer in dealing with them. The number of hours spent on each violation is a particularly interesting issue, this will be discussed following the information on convictions within municipalities.

Questions pertaining to convictions of tree by-law violators provided some useful in-sight into tree by-law enforcement. It was discovered here that prosecuting offenders is done quite differently from one municipality to another. Respondents were specifically asked for the average number of convictions annually under the tree by-law. They were also asked for the average fine amount and the average number of acres ordered to be replanted per conviction. Respondents were also given space to further explain their answer and it is this information which is most informative. Thirteen respondents indicated that this question was not relevant to their situation because they do not actively prosecute offences against the by-law or have not been successful in their attempts to prosecute. Many of these indicated the local courts did not take the by-law seriously, thus thwarting efforts at convictions. Two more respondents were unable to complete this question because they are currently in the process of their first prosecution of tree by-law offenders (i.e. have no previous successful prosecutions). Six others responded that they did not know the information requested. Five respondents responded with the averages shown in the table below.

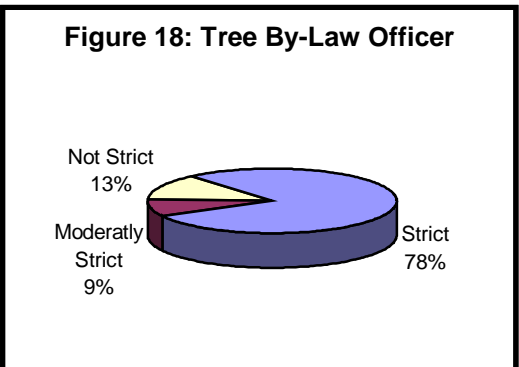
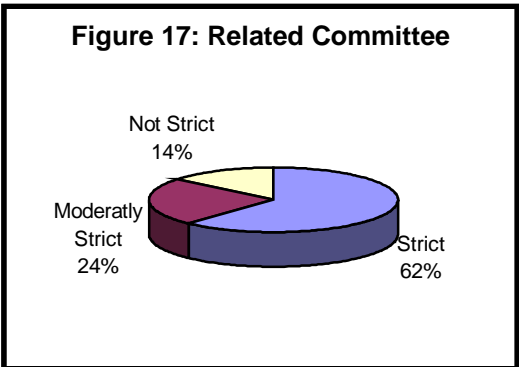
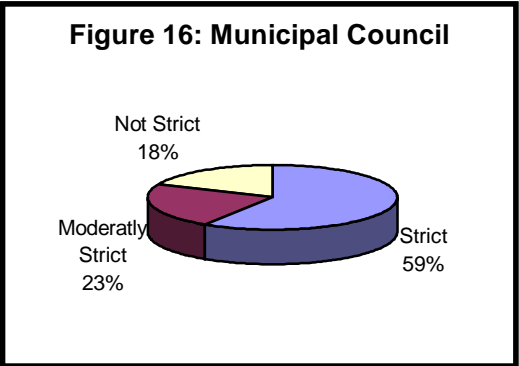
Table 5: Convictions, Fines, and Replants

	Respondent #1	Respondent #2	Respondent #3	Respondent #4	Respondent #5
Average Fine per Conviction	\$ 500.00	\$1,000.00	\$ 500.00	\$16,740.00	\$2,000.00
Average number of Convictions a Year	1	3	3	1 to 2	6 to 10
Average number of Acres Replanted Each Year	0	3	5	0	4 to 8

This issue of frustration with successfully convicting offenders and some of the weaknesses respondents see in the by-law will be discussed further later in the document.

A tree by-law officer's ability to uphold the standards of a tree by-law are backed by the authority of the municipal council and in some cases, a local tree by-law committee. In most municipalities, the council has the authority to override decisions of the tree by-law officer, and without council support, successful convictions are highly unlikely. Respondents were asked to indicate the willingness of various parties to enforce the objectives of the by-law. The findings indicate that there is a differential between the enforcement practices of the tree by-law officers and the councils or committees. Nearly 80% of respondents suggested the tree by-law officer was strict in enforcement, while about 60% suggested that municipal councils were strict in enforcement. The difference does not appear to be drastic though. This suggests that in many cases tree by-law officers are supported in their efforts.

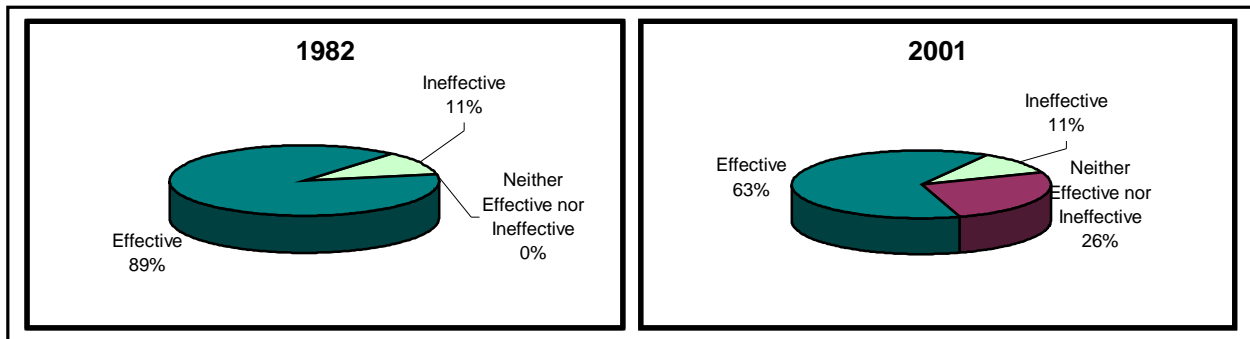
The small number of respondents who indicated that none of the parties are strict in enforcement tend to be from municipalities that are not presently enforcing their by-laws.



Questions directed at determining the effectiveness of the tree by-law were also asked of respondents, many of these were also asked in the 1982 study. For comparison purposes, information from both surveys is included here.

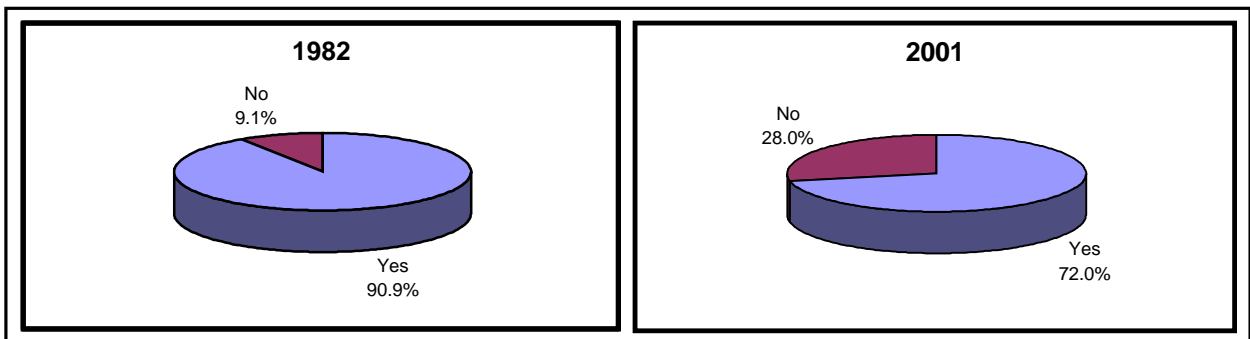
Respondents were first asked to rate their powers of authority. The results of this question can be found in Figure 19. It can be seen here that currently about 63% of respondents found their powers of enforcement effective. This is a decrease from 1982 where 89% of respondents indicated their powers were effective. While this may indicate a reduced authority to enforce the by-law, it more likely indicates raised ambitions for tree protection and thus a desire for more effective enforcement tools.

Figure 19: Rating of Powers of Enforcement 1982 and 2001



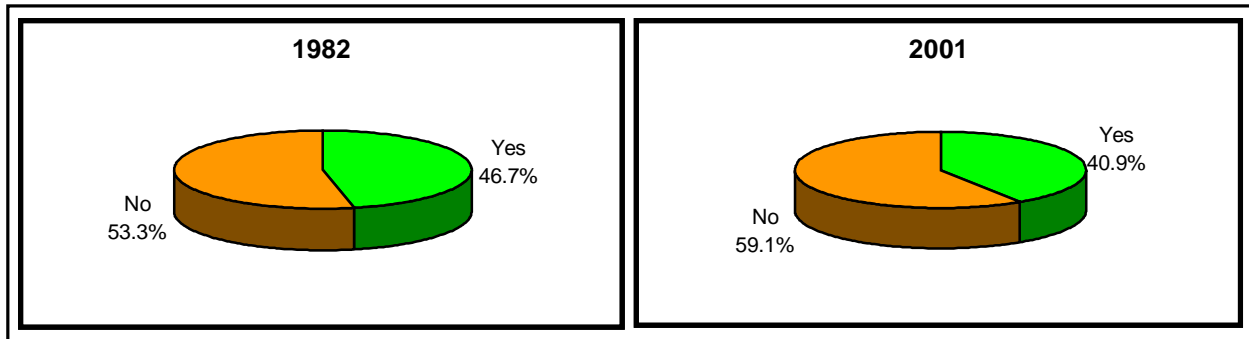
In a follow up question, respondents were asked to indicate if they saw the tree by-law as an effective deterrent to potential offenders. Here again we see a decrease from 1982, although the majority (72%) still perceives the by-law to be effective. Many of the respondents clarified their answer here by noting that the by-law was effective because most people willingly comply with it. The comments suggest that the mere existence of a by-law, and public awareness of it, results in the bulk of people complying with it. Respondents appeared to relate the question to ‘inappropriate cutting’ rather than actual offenders of the by-law.

Figure 20: Response to “Is the By-Law an Effective Deterrent to Potential Offenders?” 1982 and 2001



Respondents were then asked if they had difficulty enforcing the tree by-law. The response indicates a small increase in the number of individuals who do not have difficulty since 1982. Of concern though is that more than 40% of respondents indicated that they did have difficulty enforcing the by-law. Many of those individuals who suggested that they do not have difficulty enforcing the by-law suggest that they rely primarily upon education and relationship building to promote the by-law, thus they have very few or no offenders in their region. Those who responded that they did have difficulty tended to suggest that they faced various problems obtaining a conviction in the past.

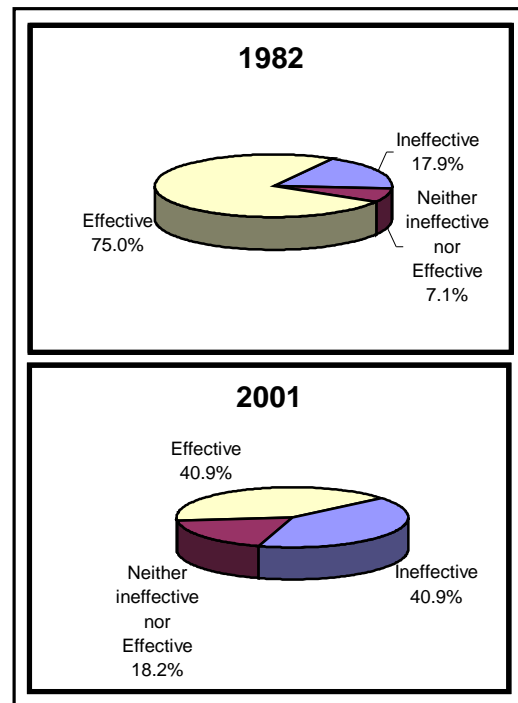
Figure 20: Response to “Is the By-Law an Effective Deterrent to Potential Offenders?” 1982 and 2001



One of the important elements of by-law enforcement lies in the ability of officers to charge offenders with a violation and obtain a conviction that includes a fine. Respondents were asked if the fines currently allowed were effective in deterring tree cutting. This response has changed a great deal since 1982, with a change from 75% of respondents in 1982 indicating that the fines were effective, to just over 40% of respondents at present.

Figure 21: Effectiveness of Allowable Fines

Many who considered the fines ineffective suggested that developers and the forestry industry simply see the fines as ‘a cost of doing business’ like a permit. The profit from logging or developing in many areas greatly outweighs the fines. When considering these responses, it is important to note that with the movement of tree by-law authority from the Trees Act and into the Forestry Act, the fines have increased significantly. Many of these municipalities have not amended their by-law since this time and remain subject to past limits. Two respondents indicated that

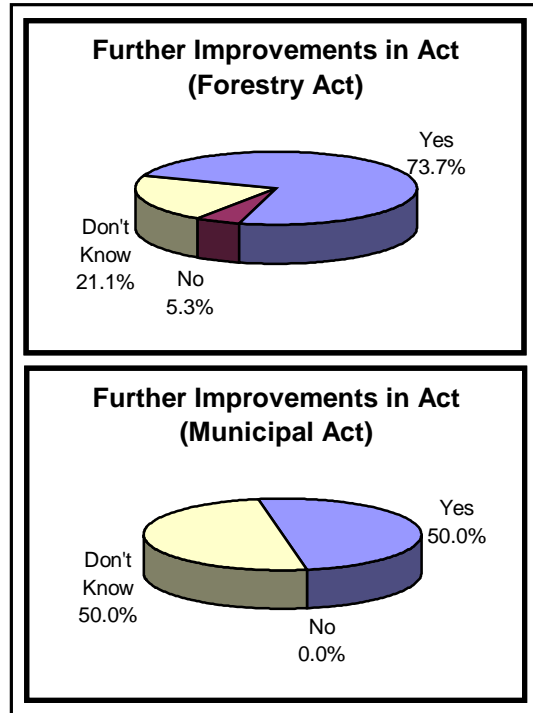


they utilize the by-law fine limit on a per tree rather than per case basis, thus greatly increasing the effectiveness of it as a deterrent. This is discussed further in the case studies.

The last question on this topic asked respondents as to whether they felt that further improvements were required to the Municipal or Forestry Act. Overwhelmingly respondents indicated that further changes were needed in both Acts. While some respondents indicated they did not know, 73.7% of respondents under the Forestry Act noted improvements were needed, as compared with 5.3% (1 respondent) who suggested they were not needed. None of the respondents under the Municipal Act suggested changes were not needed. Half did not know, and the other half suggested improvements were needed.

Rather than summarize the responses to this question; individual responses have been included below.

Figure 21: Need For Improvements?



Comments by Respondents:

- Protection for large old forest areas.
- At this time we have a functional tree conservation by-law. Of course further improvements could always be made to the "ACTS" but caution should be used as these improvements tend to confuse & or delay the understanding of the operators of the meanings of changes. Proper forest management depends on many variables, one of which is a highly competitive market; 'and use' is another. Many people do not understand and or perhaps refuse to accept the reality of tree harvesting. Trees are a crop, and they have been harvest here for over 200 years. Personally, I have NEVER entered ANY woodlot where cutting has not occurred.
- Want the ability to write tickets (this would prevent having to go to court).
- Stop work order for Forestry Act and the ability to written fines.
- Perhaps a more explicit reference in the Forestry Act regarding injury or damage would assist with successful prosecutions.

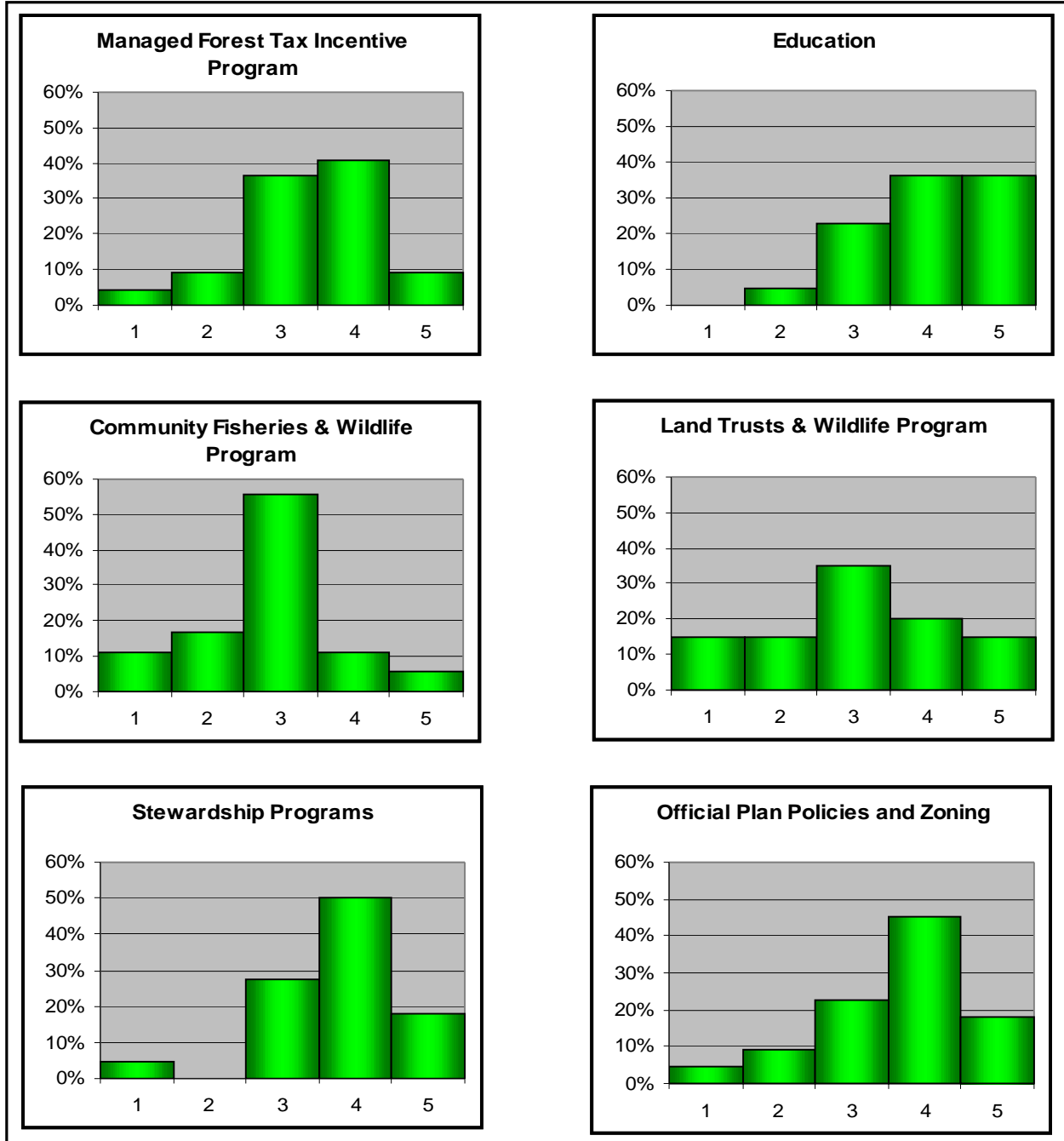
- Increase statute of limitations for prosecutions to 9 months. Define area of a woodland as the treed area regardless of property boundaries. Require all upper tiers to enact a tree by-law. Prohibit dumping fill in woodlands. Tighten up 'own use' to limit potential abuses. Put restrictions on building permit exemptions as [Specific Municipality] has done to curtail potential abuses.
- Changes to some of the exceptions - especially changed extractive exceptions from licensed to extractive zone. Stop people from building in good forests. Require a site plan for every development that addresses the trees.
- Require use of forestry professionals and reference to silviculture guide, authority to issue stop work orders and write tickets.
- Stiffer fines (Forestry Act)
- Ability to issue stop work orders as is possible under the Municipal Act.
- Powers of Municipal Act be copied into the Forestry Act
- Authority to issue stop work orders; authority to require permits and forest management plans under Forestry Act; Authority to 'prohibit' not just regulate tree cutting in certain areas/classes of lands etc. Right now, can't outright prohibit all tree cutting in an area, like an ESA.
- Greater rate of fine
- Amend the act to allow an order to be issued to replant and make the costs incurred recoverable through taxes.
- Section 223.2 is well written as is.
- Replace notices of intent with permit/license system for both loggers & forestry consultants (tree markers); all short forming.
- Right to stop work
- Issue stop work order; issuing of a ticket on the spot; bonding of cutters; ability to issue replant order without having the court do it.

Other Initiatives

While tree by-laws are an important element of tree protection, there are other initiatives which may also enhance the protection of treed lands. Respondents were asked to rate other programs on a five point Likert scale ranging from *no enhancement (1)* to *strongly enhance (5)*. Figure 22 demonstrates the responses as they were given.

It appears as though all of the initiatives enhance the protection of treed lands in most areas, but education, stewardship programs, and official plans and zoning are those that tree by-law officers feel are most effective.

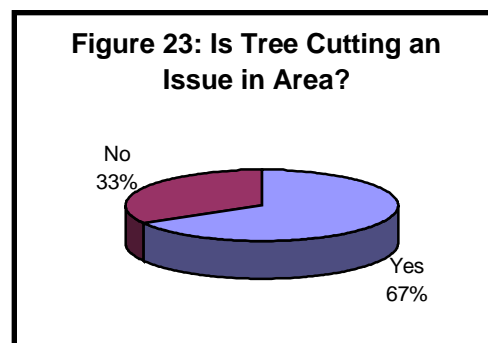
Figure 22: Ranking of Enhancement for the Protection of Treed Lands by Various Programs of Various Programs (Note 1=No Enhancement and 5=Strongly Enhance)



Municipalities Without Tree By-Laws

As discussed earlier, municipalities without tree by-laws were also surveyed regarding tree cutting within their boundaries. The purpose of the survey was to gain some basic insight into tree cutting and related issues in regions and counties without tree cutting by-laws. As noted previously, thirteen municipalities were contacted for this portion of the study and twelve participated.

The initial question of the survey asked respondents “*Is tree cutting in your area an issue?*” Two thirds of respondents suggested that tree cutting was an issue in their area. The comments provided by respondents on this question are given below.



Comments by Respondents:

- *Slow growth Area - we don't have massive tree cutting going on. MNR in the past has overseen lumbering activity in the Northern forests. Industry will supposedly be overseeing itself in future through Forest Management Plans.*
- *Brought to council's attention recently - property owners are having their woodlots high graded. Currently looking into a by-law. Spearheaded by [specific individual] in the Planning Department. [Local] land and water stewardship council sent in a request for public process to look at a tree by-law.*
- *Not a lot of tree cutting in the municipality*
- *Logs are hauled in full loads in the spring when load limits are in place*
- *Yes, it is a concern, which is addressed by each individual municipality with the region.*
- *This is an issue that has come up at county council for consideration in our initial official land use plan currently being prepared. Eastern Ontario Water resources study has also created an awareness of the effect of forests on water resources.*
- *Timer harvesting is economically important in county. The county's attempt to upgrade the old tree-cutting by-law met with much resistance*
- *There are very few woodlots left in [Specific] county and currently there is a controversy in [County], whereby the owner of a woodlot wishes to develop a golf course and has cleared fairways prior to approval of a zoning change.*
- *In this part of Eastern Ontario, forested lands are GENERALLY perceived as not under threat of significant real reduction: forested lands are not seen as unlimited but of sufficient extent to meet timber/fuelwood/wildlife habitat demand etc.*
- *Traditional land use is primarily farming. People don't seem too concerned about forest*

development/preservation.

- *There is a plentiful supply of trees. Large tracts of forested land in crown ownership.*
- *Word of mouth only and via enquires to our office: a) farmers and rural landowners believe they should be able to manage their woodlots/properties without interference, as they are a rural community b) some citizens fear woodlots are being over harvested c) some citizens fear urban century old trees are not being replaced.*

When asked if they had any mechanisms in place at the municipal level to regulate tree cutting, **all** respondents (100%) answered no. One respondent indicated that they had previously had a by-law and that it had been repealed recently.

Respondents were queried regarding the reasons for tree cutting within their area. The responses given are presented in Figure 4 above, and contrasted with those municipalities with tree by-laws. In written commentary, respondents indicated a wide range of practices. Some municipalities without tree by-laws have very limited cutting, while others have a great deal of commercial cutting in their area.

When asked about how they deal with issues such as woodlot management or habitat protection in the absence of a tree by-law, responses were similar to that found in other regions of Canada and the U.S. without tree by-laws. These included municipal zoning laws, support for woodlot stewardship, education programs, and designation of environmentally significant areas for protection. Some municipalities noted that they do nothing to address such issues.

Lastly, respondents were asked if, in their opinion, a tree by-law would be effective within their region. The following responses were given:

Comments by Respondents:

- *Could be but politically would not be successful. Local municipalities and county have clear division of responsibilities and locals would be unlikely to support tree by-law by county (we had one once and it was repealed.)*
- *Definitely think a by-law would be effective. But have to be aware of private property rights. Using good forestry management. Have to take into consideration that forestry management plans can be expensive. Thinks tree by-law should be the same (wording, enforcement) throughout Ontario. Counties need to provide expertise or provide names of reputable loggers. Need to educate the public.*
- *Currently looking at instituting a by-law. Report being brought to council with tree planning policy. In past 15-20 years greater public awareness about tree conservation needs.*
- *No - no resources to monitor or enforce no political will to implement restrictions.*

-
- *It would be a duplication to have a regional by-law when each of our municipalities have one in place.*
 - *This will certainly fall out of public consultation and community round tables on official plan policies. A proactive approach is recommended.*
 - *Could be effective in controlling worst-case logging practices.*
 - *The [Specific Municipality] looked into passing tree cutting by-laws in the 1980's but there was no political will to pass one. I don't think there would be an political will to pass a by-law of this nature still today.*
 - *Currently, a tree by-law would have little effect except to bring penalties to bare on commercial loggers who do not practice sound forest management according to forest management plans and marked woodlots. We anticipate that introducing the possibility of a tree by-law to the community for public discussion/input would result in strong opposition/emotional reaction. It would initially be seen as intruding on citizens rights on their lands.*
 - *Might have some benefits. I think that we would be better off to encourage (subsidize?) forest management and private tree planting than to get into a surveillance and enforcement scenario*
 - *No. Regulation is a problem. Resource is too abundant to be considered a topic of issue by local councils & landowners.*
 - *Difficult to say - I suspect not in the rural areas given our agricultural/rural history. Possibly effective in urban areas in terms of maintaining character. Public generally feels over-regulated by government now, even where public health and safety is involved. A tree cutting by-law would likely be perceived as intrusion on private landowners rights.*

Survey Conclusion

The surveys to the various municipalities suggest that there is a great variety of situations within Ontario, and a variety of ways of addressing them. Municipalities face different levels of forest cover and of pressure upon that forest cover. It appears generally that those areas where forest cover is limited and located mostly on private land, that tree by-laws and enforcement efforts are most developed. Areas with large tracts of forest, and where publicly held land predominates, have little interest in instituting by-laws to restrict cutting on private lands. Also evident though, was an interest by many respondents to re-visit their current tree by-laws and their enforcement practices. This is also true of municipalities without tree by-laws, as some are planning on adopting such by-laws in the near future.

Three levels of enforcement appear to exist with tree bylaws. The first is a situation where there is no tree by-law and/or no enforcement of an existing tree by-law. The second is where there is a tree by-law and it is supported through education and voluntary compliance. The third is where there is a tree by-law and there is support both through education and assistance, as well as prosecution for those who do not comply. It appears that in many municipalities there is interest in moving up a level. Many municipalities without tree by-laws are considering implementing them, and many with unsupported tree by-laws are considering increasing the impact and effectiveness of those by-laws through education and/or enforcement. Some of those who have traditionally relied upon voluntary compliance are beginning to prosecute and are interested in learning how such prosecutions can be successful. Two of the municipalities surveyed were in the process of their first prosecutions at the time of the survey. This increased intensity of enforcement and support of tree by-laws will require increased willingness of councils to support the costs of increased enforcement. How some of the more vigilant municipalities enforce by-laws is discussed in the case studies to follow. Following these case studies some potential improvements to tree by-laws are also discussed.

Case Studies

In addition to the survey portion of the study, seven case studies were undertaken to obtain a more in-depth view of the issues of tree by-laws. Five case studies were from regional/county governments with by-laws under the former Trees Act or Forestry Act, one separated city with a by-law under the Municipal Act, and one lower tier municipality with a by-law under the Municipal Act. The focus of the case studies were upon those municipalities that were undertaking high levels of tree by-law enforcement and/or were utilizing innovative practices. Within that criteria, case studies were chosen to maximize diversity of locations within Southern Ontario, population size, and tree density. The case studies provide a more in-depth understanding of how some municipalities are actively enforcing the tree by-law. Active cases were chosen, as compared to areas where by-law enforcement is minimal, because it provides insights to other municipalities upon potential enforcement methodologies that may be effective to adopt within their area. While there would also be use in examining non-active municipalities, or municipalities who have had limited success in tree by-law enforcement, it was decided that examining active examples with innovative practices would provide a useful tool for sharing potential solutions to issues faced by by-law officers elsewhere.

A list of potential case studies was developed by the research team, and then submitted to the research committee for further consideration and commentary. Upon receiving comments on the case study selection the research team revised the case study list and again submitted it back to the team. The finalized list included, the County of Haliburton, the County of Grey, the Regional Municipality of York, the County of Perth, the County of Norfolk, the Town of Caledon, and the City of London.

The individual survey respondents were then sent a letter providing information on the case studies, and were subsequently contacted in person to ask if they would be willing to participate. All of the selected municipalities agreed to participate. The case study process involved telephone interviews with the initial survey respondent, as well two or three interviews with local foresters, woodlot association representatives, members of local stewardship councils, forestry consultants, loggers association representatives, and council members. In total 21 interviews were conducted. In addition to the interviews, case studies involved reviews of documentation pertaining to the local by-law or other forest management. Documents were collected from interviewees, municipal clerks, and off of the Internet.

Case study interviews were semi-structured, allowing the interviewer to focus upon the unique situations within each case. Interviews with by-law enforcement officers lasted between 40

minutes and 140 minutes. Interviews with other informants lasted between 15 minutes and 60 minutes.

During the semi-structured interviews involving the tree by-law official, the interviewer took notes. Immediately following interviews the interviewer wrote up the case studies from the notes. The case studies were then updated following interviews with other key informants (i.e. woodlot association representatives, etc.).

The County of Grey

Introduction

The County of Grey currently has a population of 82,860 and covers an area of 454,040 hectares. The County is bound by the County of Bruce to the west, the Counties of Simcoe and Dufferin to the east, the County of Wellington to the south, and the Georgian Bay to the north. The County's current tree conservation by-law was passed under the Forestry Act in 1996 and applies to all woodlots greater than two acres. A new tree by-law is currently in the process of being developed.

The focus of this case study will be on the current activities and issues faced in the administration and enforcement of the tree conservation by-law in the County of Grey. The tree conservation by-law is administered and enforced by the County's Planning Department. To enforce the by-law the County currently employs one full-time tree commissioner.

Forest Coverage and Tree Cutting

With approximately 50% of the area forested, the County of Grey has a variety of forest types within its boundaries. Approximately 65% of the forested area is mainly composed of upland hardwood. Approximately 20% is coniferous, and the remaining 15% is composed primarily of low land hardwood and cedars. Approximately 90% of the cutting of trees that takes place in the county is for the commercial sale of timber. The remaining 10% is done by private landowners for their own personal use.

The County of Grey currently manages 8340 acres of county forest. Prior to 1996 there was an agreement between the County and the Ministry of Natural Resources (MNR) whereby the MNR had the responsibility of managing these forests. In 1996 the Forest Management Program was eliminated and the management of these forests reverted back to the County.

To ensure the long-term sustainability of these forests, the County is currently in the process of developing a forest management plan. To ensure that all interest parties have the opportunity to voice their concerns regarding the development of this plan the county has formed the Grey County Forestry Advisory Committee. The forest advisory committee is composed of members representing such groups as the local conservation authorities, members of the local logging industry, members of the Grey County Council, the Ministry of Natural Resources, the Grey County Woodlot Association, the Grey Forest Stewardship Network, the Niagara Escarpment Commission, the Federation of Agriculture, the Bruce Grey Trail Network, the Owen Sound Field Naturalists, and the Fish & Wildlife Sydenham Sportsmen. Part of the mandate for this forest advisory committee is to develop a new tree conservation by-law for Grey County.

Public Awareness & Education

The County of Grey has had a tree conservation by-law since 1946. As the general public has become aware of the need for forest conservation and environmental sustainability, so has the need for the tree conservation by-law been recognized. Within Grey County this awareness can be in part attributed to the efforts of such groups as the local Forest Stewardship Committee, the local Conservation Authority, the Ministry of Natural Resources, and the County's tree commissioner.

Every spring the Grey Bruce Woodlot Conference is held to offer interested individuals the opportunity to learn about woodlots. Each year a specific forest conservation theme is highlighted at the event. This is done to inform the general public about the issues concerning the need for forest conservation. During the course of these seminars the purpose and need for tree conservation by-laws is discussed. This conference is organized as a partnership between the Grey County Forest Stewardship Network, the Bruce Resource Network, Saugeen Valley Conservation Authority, Ontario Ministry of Agriculture Food and Rural Affairs, the Grey Sauble Conservation Authority, and the Ministry of Natural Resources.

Efforts to increase public awareness are also being undertaken by the local woodlot association. The association tries to increase awareness among its members and the general public by holding meetings. These meetings are advertised in the local papers and encourage those that are interested to come and participate. In addition, the association organizes woodlot and mill tours for its members to keep them informed of the latest issues and techniques for woodlot management.

The tree commissioner takes proactive steps in the education of woodlot owners. The County of Grey's approach to enforcing the tree conservation by-law is built upon the concept that it is

more effective to work with woodlot owners and the forestry industry before an offense occurs, than prosecuting after the fact. When the tree commissioner is contacted by a woodlot owner, interested in harvesting his/her woodlot, the tree commissioner will provide information regarding the tree by-law. Upon the request he will do a walking tour of the woodlot with the landowner.

The tree commissioner provides information to woodlot owners on the selling of their timber and basic knowledge (e.g. determining board footage) that the owner needs to determine what is an appropriate price for the timber. When speaking to woodlot owners the tree commissioner will recommend that the woodlot should be properly marked prior to cutting. The marking should be done by a consultant or if the woodlot owner does the marking the tree commissioner will verify that the marking has been done correctly.

With an emphasis on education, the County of Grey and other organizations in the county have increased public awareness of the need for forest conservation. The local by-law officer suggests that this emphasis on education has been integral for the success of tree by-law effectiveness.

Administration and Enforcement

The current administrative process for the tree conservation by-law is enforced and carried out principally by the tree commissioner. The County of Grey has a large number of cuts that take place each year. In the last year the County received approximately 300 notices of intent. When the tree commissioner receives these notices of intent, inspections will usually take place at the start of the harvesting process. At the request of the landowner, the tree commissioner will do an inspection prior to harvesting. During the process of harvesting the tree commissioner will visit the site at least once. Dependent upon the size of the harvest, another inspection of the site may occur after the harvest has been completed. By conducting an on site inspection at least once during the course of the harvesting process, and in some cases a number of times, the tree commissioner is able to ensure that the harvesting process is being carried out in a proper manner. This also helps to reinforce the fact that the county is monitoring its by-law.

The current tree conservation by-law is based upon diameter limit cutting. There is currently no requirement to determine basal area. When the by-law revision takes place this will change. Currently, 50-60% of tree cutting that takes place in the county is done by diameter limit. The remaining 40-50% is done by marking and by following good forestry practice. Those individuals that are cutting on the basis of good forestry practice are still required to file a notice of intent.

In the County of Grey, minor exception applications are relatively infrequent with only about one a year. The granting or denial of minor exceptions is primarily the responsibility of the tree commissioner using the guidelines specified in the tree conservation by-law. In the case of particularly difficult minor exception the tree commissioner will meet with a committee of County Council to determine whether to accept or deny the application. On average only about half of minor exception applications are granted.

When proactive measures do not work and individuals or companies contravene the by-law, the County will prosecute. Violations of the by-law though, are quite infrequent. In the last year there was only one violation that was prosecuted. Upon an infraction, the County decides whether to lay charges. If prosecution is recommended, charges are laid and private consultants are hired to collect evidence. In the most recent case that was taken to court the fine amount that was received was approximately \$500. While it is often not financially beneficial for the County to prosecute, the County is willing to undertake the expense of this process to ensure that the public is aware that the County is willing to enforce its tree conservation by-law if necessary.

The County of Norfolk

Introduction

The County of Norfolk is a newly amalgamated municipality of 61,000. It was formerly part of the Regional Municipality of Haldimand-Norfolk. On January 1, 2001 the region was divided into the municipalities of the County of Norfolk and the County of Haldimand. Due to the recent nature of the amalgamation process both counties continue to operate under the tree conservation by-law of the former Regional Municipality of Haldimand-Norfolk until such time as they each draft a new by-law. The current tree conservation by-law was passed under the Forestry Act in 2000.

While information regarding the current state of the County of Haldimand may be discussed here, the focus of this case study will be on the current activities and issues faced in the County of Norfolk. Norfolk County's tree conservation by-law is administrated and enforced by the department of Forest and Conservation Services. To enforce the by-law, the county currently employs a full-time forest conservation officer and a part-time deputy forest conservation officer. The County of Haldimand currently, contracts the enforcement of its tree conservation by-law out to the County of Norfolk.

Forest Coverage and Tree Cutting

Currently over 25% of Norfolk County is covered in forests. These forests are primarily Carolinian forests and mixed hardwood forests. In addition, areas of Norfolk contain red and white pine forest plantations.

Approximately, 95% of the cutting of trees in the County of Norfolk is commercial in nature for timber sales. This cutting is principally done using good forestry practices to ensure the continued sustainability of the resource. Approximately 5% of cutting is done by woodlot owners for their own personal use or for agroforestry practices (i.e. the growing of shitake mushrooms, or wild ginseng).

The forest conservation officers encourage the use of good forestry practices and proper marking of trees for forest sustainability. Last year approximately 11% of woodlot owners who filed notices of intent employed good forestry and silviculture practices. This year the number has increased to approximately 50%. This is in part due to the educational efforts made by forest conservation officers, but also by the increasing awareness of landowners and industry of the need to employ practices that ensure the sustainability of the resource. To this end, forest industry in the area has begun to seek training for its own staff regarding good forestry practices and is working with local landowners.

Public Awareness & Education

In Norfolk County there is a high level of public awareness of the tree conservation by-law. There are a number of factors that have contributed to this awareness. These includes the long history of a tree conservation by-law in Norfolk, the active participation and promotion of the by-law by affected parties, and the on going efforts of the Forest and Conservation Services department.

There has been a tree conservation by-law in Norfolk since 1947. Due to the length of time that a by-law has been in place this has allowed for a historical memory of the by-law and thus long-term acceptance of the by-law in the area.

Also increasing the public awareness of the tree conservation by-law, is the active involvement of the loggers association in the community. The local loggers association invites local media to their annual meetings, which increases community awareness of forest conservation issues and the tree conservation by-law.

The County also takes a proactive role in increasing the awareness of the public. The County stresses the role and importance of education. The majority of people will comply with the tree

conservation by-law if they are informed and understand the by-law and its purpose. To this end, every three months the County of Norfolk sends out a community service guide to residents. An insert containing information on forest conservation issues and the tree conservation by-law is included in with the service guides. Through the use of the media and the proactive approach of the county, the level of awareness of the public for the tree conservation by-law is relatively high. There is a general recognition by the public of the importance of forest conservation and the role that the tree conservation by-law plays in this.

Tree Conservation By-law

A tree conservation by-law has been in place in the region since 1947. As legislation and forestry practices have changed the by-law has changed to reflect them with approximately 11 revisions of the by-law occurring from 1947 to present. The most recent by-law was adopted in 2000, one year prior to the amalgamation process the Regional Municipality of Haldimand-Norfolk.

The institution of the new by-law went through a three-year developmental process. To ensure public support of the new by-law, participation in the development process was encouraged for those groups that would be most affected. Groups such as the Southwestern Loggers Association, the Haldimand & Norfolk Woodlot Associations, the local Federation of Agriculture, and various naturalist groups were actively involved in the development of the by-law.

Once it was determined how the by-law development process would take place, an initial draft was sent out to approximately 150 individuals involved in the forest industry. This was a formal process whereby, if these individuals wished to make comments, they were required to do so in writing. Once comments were received, revisions were made in the draft, and the written commentary was included. Meetings were then held with the local woodlot associations. The by-law was again redrafted to reflect their concerns. The draft by-law was then sent to the Ministry of Natural Resources for commentary and approval. Once it had been approved a final draft was put before the committee where it was approved.

The new by-law includes restrictions on the reduction of basal area of prescribed species. During the initial implementation of the by-law and during by-law development, the forest conservation officers provided assistance to any logger who requested assistance in determining basal area. This was done through in the field training.

Several unique innovations were included in the new by-law. The by-law now allows for the regulation of Good Forestry Practice through an inspection and approval process. In addition, a

restoration reserve fund has been established. Monies from minor exception permits and fines are put into the fund, which is used for private land reforestation.

Administrative and Enforcement

The current administrative process for the forest conservation by-law is enforced and carried out principally by the forest conservation officers. Notices of intent are received and verified at the various county offices and then forwarded to the forest conservation officers. A notice of intent (NOI) must be filed within the appropriate time period prior to the commencement of cutting. A forest conservation officer will then do a site inspection and do report verifying that the site has been inspected. This report will be sent to both the woodlot owner and the tree marker.

In the case of a cut based upon the exception of good forestry practice, a Good Forestry Practice Notice must be filed. Applications under good forestry practice are not valid until it has been verified the Forest Conservation Service. In addition, it is required that notice be given 48 hours prior to the completion of the cut so that a final inspection can be completed to ensure the cut has been carried out as specified.

In the case of minor exception applications the forest conservation officer does a formal inspection and public notices are posted. If there is not an objection from either the county or a member of the public, the minor exception is approved. It is normally required that a replant of the same size that is cut due to the minor exception be carried out at a site approved by the county. If the individual does not have the land available upon which to do a replant he/she is required to make the same financial contribution to the reforestation reserve. Grants can then be made from the reserve to other private landowners that wish to reforest areas of their property.

Enforcement

By-law enforcement is a last resort. Since the process of taking an individual or business to court can be expensive, the local by-law officers feel that strong enforcement of the by-law against offenders is necessary for the by-law to be successful. Strict enforcement, and the negative media coverage that comes with charges and prosecution, act as a strong deterrent to potential offenders.

When an offence is committed the guilty party is determined, and evidence is gathered. Evidence is gathered by the by-law enforcement officers while the Ministry of Natural Resources staff check and verify the accuracy of the data. The evidence is then taken to the County's lawyer to determine if it is sufficient to go to court. If there is sufficient evidence a charge is laid. During the last 6 years, 15 of cases have gone to court. In that period only one case has

been lost and it is in the process of being appealed. The case that is currently being appealed involves a developer who cleared a woodlot without first seeking approval. To strengthen their capabilities as by-law enforcement officials both forest conservation officers have received training as provincial offenses.

When individuals are taken to court and it is their first infraction the maximum fine is not usually sought. The fine generally is \$2,000 - \$3,000 dollars. If possible the by-law officers try and come to a resolution to the case prior to the court appearance. As a result, the accused will not contest the case and will plead guilty. This however sets a precedent for that individual or business and should a second infraction occur a charge is laid for each tree cut and the maximum amount possible is sought. Because this is a second infraction the court will often lay stiff fines against the accused. Fines that are received are put into the private land reforestation fund.

The County of Haliburton

Introduction

The County of Haliburton is a municipality that covers an area of 500,000 hectares and has a population of approximately 6,000. As a result of municipal restructuring, the County now has four lower tier municipalities within it's boundaries. Haliburton County is bound by the District of Muskoka to the west, the County of Hastings to the east, the County of Peterborough and the City of Kawartha Lakes to the south and the District of Nipissing to the north. The County's current tree by-law was passed in 2000 under the Forestry Act. The tree by-law applies to woodlands greater than 10 acres.

The focus for of this case study will be on the current activities and issues faced in the administration and enforcement of the tree by-law in the County of Haliburton. The tree by-law is administered and enforced by the County Planning Department. To enforce the by-law the County currently employs one tree by-law officer on a full-time basis.

Forest Coverage and Tree Cutting

The County of Haliburton is a highly forested area with approximately 90% of the County covered by forests. The majority of these forested areas are composed of hardwood. Approximately one third of the County is currently Crown Land.

Throughout the history of the County the forest industry has been a driving economic force in the area. Today the forest industry can employ almost half of the workforce in the County.

Approximately 95% of the harvesting in the County is done for commercial purposes. Since 1999, 14 800 acres have been harvested. There are currently 50 different loggers working in the County.

Public Awareness & Education

The County of Haliburton has had a tree by-law in place since 1985, but this by-law was never actively enforced. In the late 1990's there was a growing awareness of the need to ensure the continued sustainability of the County's forest resources.

With the recognition of the need to ensure the sustainability of Haliburton's forests, the Haliburton Highlands Sustainable Forestry Association (HHFSA) along with the Haliburton Highlands Stewardship Council raised awareness regarding the need for a new County tree by-law. This initiative led to the passing of a new tree by-law in 1999, which is being actively enforced by the County. Today, there is generally a high level of public awareness regarding the tree by-law in the County.

The level of awareness regarding the need for sustainable forestry practices is increased through the educational activities such as the Haliburton County Spring Woodlot Conference. This event is sponsored by the Haliburton Highlands Stewardship Council and focuses on educating and assisting private woodlot owners with regards to tree cutting practices, services available, and woodlot conservation.

An important role of the Haliburton tree by-law officer is communications and promotion. He takes a proactive role in educating both woodlot owners and the forest industry about the tree by-law. In addition, he provides information regarding good forestry practices to help woodlot owners manage their woodlots.

This increased awareness in the need for sustainable forestry practices can be seen in the changes currently taking place in the harvesting of woodlots. A trend towards good forestry practices can be seen in the types of harvesting that have been taking place. From October 1999 – March 2000 a total of 6795 acres were cut using diameter limit cuts and selective marking cuts. Of this total 3638 acres were cut using diameter limit and 3157 acres using selective marking. This has changed significantly in the last year. From March 2000 to March 21 a total of 7292 acres were cut, 2303 acres using diameter limit and the remaining 4989 cut by selective marking. In only the space of one year the number of harvests being made using selective marking, as opposed to the less sustainable diameter limit method, has increased from 46% to 68%.

Administration and Enforcement

The County of Haliburton's tree by-law is enforced and carried out principally by the tree by-law officer. The County requires that prior to cutting a notice of intent be filed with the County Office. Notices of intent are received and verified at the County office and then forwarded to the tree by-law enforcement officer. A notice of intent (NOI) must be filed at least 5 days prior to the commencement of cutting.

Upon receiving the notice the by-law officer will make an inspection of the site. If the site is not marked, the by-law officer will often visit the site and again while the harvest is taking place. Multiple inspections are done to ensure that the harvest is being done in the proper manner.

In the case of minor exception applications, the tree by-law officer does a formal inspection and writes a report. The County Council evaluates the report and the information provided in the minor exception applications, and makes a decision as to whether to accept or reject the application.

Enforcement

When a contravention takes place the first offence usually receives a warning, this is dependent upon the severity of the offence. In the case of another contravention occurring charges are usually laid. In the last year there has only been one contravention of the by-law. The case is currently waiting to go to trial. The individual is being charged with a number of different offenses including cutting under the diameter limit, reduction of basal area below the permitted level, and clear cutting. The County has retained the services of expert witness in the event that the defendant does not plead guilty and the case goes to trial.

As by-law enforcement is relatively new in Haliburton County, the future impacts and success of the approach are difficult to predict. The increase in good forestry practice cutting shows a positive improvement.

The County of Perth

Introduction

The County of Perth covers an area of 541,440 acres and has a population of approximately 36,000. The County has four lower tier municipalities within its boundaries. The County is bounded by the County of Huron to the west and north, the Counties of Wellington and Waterloo

to the east. The County's current tree by-law was passed in 2000 under the Forestry Act. The tree by-law applies to all woodland greater than 0.2 hectares (one-half acre).

The tree by-law is administered and enforced by the County Clerk's Office. To enforce the by-law, the region currently employs one tree by-law enforcement officer on a part-time basis.

Forest Coverage and Tree Cutting

Presently, only about 7% of the land in the County of Perth is forested. The County of Perth is a highly developed agricultural area of class one farmland. The remaining forest cover is composed primarily of private woodlots. These woodlots tend to be relatively small, averaging between 10 to 15 acres in size. The forest cover in the area is composed of approximately 60% lowland forests and 40% of upland forests.

Cutting has been rapid in the County for approximately the last 4 years due to high timber prices. The majority of cutting that takes place in the County is for commercial logging purposes, and is being done on land owned by agriculturalists. As crop prices decrease and the value of timber rises, farmers are using woodlot harvesting to supplement their incomes. In the last year the County received over 75 notices of intent to cut, this is an increase over past years. Cutting for agricultural expansion also represents a threat to the current level of forest cover. With land in the area selling at approximately \$5000 dollars per acre for agriculture purposes there is strong financial incentive to clear land for agriculture. The County has received 10 minor exception applications in the last year; the majority of which have been for agricultural expansion.

Public Awareness & Education

In the County of Perth there is relatively high level of public awareness of the tree by-law. In addition, there is a generally a good level of acceptance of the by-law by both the forest industry and woodlot owners. This respect for the by-law can be linked to the increasing level of awareness over the last twenty years regarding the need to protect and ensure the sustainability of the environment.

The forest industry over the last twenty years has moved from a position of resentment of the by-law to that of general acceptance. There are a number of forward thinking industry members that see further improvements that could be made to the by-law that could be made to ensure the sustainability of the forests in the County.

Recognizing the current pressures on woodlots in the County, the County Council has taken the position that the current level of forest cover in the county must be protected. To increase awareness about the need to conserve the County's remaining forests, the tree by-law officer has

worked with the local media through radio, television, and newspaper interviews. In addition, the tree by-law officer works with landowners and the forestry industry on an individual basis to increase awareness about forest conservation and the role of the tree by-law.

Administration & Enforcement

The County of Perth's tree by-law is enforced and carried out principally by the tree by-law enforcement officer. The County requires that prior to cutting a notice of intent be filed with the County Clerk-Treasurers Office. Notices of intent are received and verified at the county office and then forwarded to the tree by-law enforcement officer. In addition, a copy of the notice of intent will be date stamped and returned as proof that the notice has been filed. A notice of intent (NOI) must be filed at least 5 days prior to the commencement of cutting. Upon receiving the notice the by-law officer will make an inspection of the site and will then file a report. All reports are presented to the Community Services Committee on a monthly basis for review. In the case of a cut based upon the exception of good forestry practice, a notice of intent is not required. However, many landowners will call the tree enforcement officer to notify him that the cut is taking place.

In the case of a minor exception application, the tree by-law enforcement officer completes a formal inspection of the site and would complete a report. The application and the report would then be reviewed by the Community Services Committee who would pass or reject the application. If the application were to be approved it would then go to County Council for final approval. In the last four years no minor exceptions have been approved. The County Council has taken the position that forest cover must be protected.

Enforcement

When the enforcement of the tree by-law becomes necessary the County of Perth supports prosecution. It is felt that through the strict enforcement of the by-law and the media coverage that court cases receive, sends a strong message to individuals who would contravene the by-law. In addition, media coverage also acts as an informational tool informing the general public about the by-law.

When an offence is committed, the tree by-law officer completes an on site inspection, gathers evidence and determines who the guilty party or parties are. He then writes a report outlining the situation, which is reviewed by the Committee of Community Services to determine whether charges are to be laid. When a case goes to trial expert witnesses (forestry consultants) are

brought in to testify on the County's behalf. The use of an expert witness greatly increases the likelihood of receiving a conviction.

In the last four years, nine cases have gone to court. Of these nine cases, only two were due to undersize cutting, the remaining seven were due to clear cutting for agricultural purposes. In the cases involving clear cutting for agriculture the contractors were charged as well as the landowners. It is the County's position that as professionals, contractors should be ensuring that the cut has received county approval. In most cases the accused will plead guilty to the offense to reduce court costs. As a result of these charges being laid, contractors now regularly call the county to confirm that any cutting that they have been contracted to undertake has been approved.

Often when taking a case to court the costs of prosecuting can be greater than the fines that are handed down. The local by-law officers suggest though that this initial prosecution is of importance as it sets precedent. If the accused should be charged for another offence, the court is likely to apply a much greater fine. In addition, it sends a message that the County has a low tolerance regarding the contravention of the by-law. Without a system of meaningful prosecution, by-law officers feel that they would be unable to prevent or reduce by-law infractions.

The Town of Caledon

Introduction

The Town of Caledon is a lower tier municipality located in the Regional Municipality of Peel. The Town of Caledon is home to 45,000 residents and covers an area of 686 square miles. As a lower tier municipality, the Town of Caledon passed a tree by-law under the Municipal Act in July 2000. The Woodlands Conservation By-law applies to all woodlots greater than 0.5 hectares (1.2 acres) in the municipality.

The focus for of this case study will be on the current activities and issues faced in the administration and enforcement of the Woodlands Conservation By-law in the Town of Caledon. The by-law is administered and enforced by the Property Standards section of the Planning & Development Department. To enforce the by-law the town currently employs one environmental enforcement officer who enforces the by-law on a part-time basis in addition to other duties.

Forest Cover and Tree Cutting

Currently over 25% of the Town of Caledon is forested. These forests are made up primarily of upland hardwood. The majority of the cutting that takes place in the municipality is for the commercial sale of standing timber. The cutting of trees for personal use is limited by the by-law. Under the by-law landowners are not allowed to cut more than twenty trees in a twelve month period for their own personal use. The trees that are cut must be cut according to good forestry practice.

Public Awareness & Education

The Woodlands Conservation By-law is well accepted by the general public, in part because it was a by-law that was brought into place due to the efforts of the general public. The by-law originated as an initiative put forth by the Caledon Environmental Advisory Committee (CEAC). The CEAC is composed of private citizens that are appointed by the Town Council, to assist both council and citizens in the protection and management of Caledon's natural heritage. As the by-law has only been in place for less than a year the general public's awareness of the by-law continues to increase through the educational efforts made by the Town of Caledon.

In addition, the environmental enforcement officer takes a proactive role in increasing the awareness of the public by working with non-profit organizations to increase awareness of the need for forest conservation and the role that the tree by-law plays. The by-law officer also works with landowners to increase their awareness of their woodlots as a sustainable resource. In addition the by-law officer works to raise the awareness of the logging industry for the need to use good forestry practices to promote sustainability.

Administration and Enforcement

The current administrative process for the woodlands conservation by-law is carried out principally by the environmental enforcement officer.

Under the Municipal Act, individuals who wish to cut trees must file an application for a permit allowing for the cutting to take place. This application must be filed at least 45 days prior to the destruction of a tree. Any cutting that is permitted under the by-law must be done according to good forestry practice. A written certificate by a forestry consultant must verify that the cut is in accordance with good forestry practice by a forestry consultant that is filed along with the application. There is no diameter limit cutting under the by-law. A permit is not required for individuals who have their woodlots under a forest management plan. A copy of the plan must be filed at least 30 days prior to cutting taking place and the cutting must be in accordance with

good forestry practice. In the last year the Town of Caledon has received 20 applications for permits.

When an application is received by the environmental enforcement officer an on site inspection is done to determine if the tree marking is appropriate. If there is doubt as to the acceptability of the marking and if it becomes necessary an independent professional will be retained to verify the markings. When the permit is issued, conditions may be attached (e.g. the replanting of trees at another location).

When the cutting process takes place, the logger who is doing the cut is required to mark both the tree and the stump to ensure that only those trees that have been marked are cut. Once cutting has been completed the environmental enforcement officer must be notified and at that time may do an inspection to ensure that cutting was done according to good forestry practice and in accordance to any conditions that may have be included on the permit.

Under the Municipal Act there is no minor exception application. When the destruction of trees is for the expansion or establishment of a use that is permitted by the Official Plan and Zoning – Bylaws and the intent of the Official Plan and the zoning by-law is maintained then a permit will be issued allowing for the cutting to take place. In addition a report must be prepared by a forestry consultant stating that there is no alternative to the destruction of the trees. Once these requirements are satisfied a permit can then be issued allowing the cut to take place.

As part of the Municipal Act any individual who has been refused a permit, objects to a condition that may have been placed on the permit, or has not received a decision within 45 days of filing the application has the right to appeal to the Ontario Municipal Board. The individual must file an appeal within thirty days of either the refusal of the permit or the issuance of the permit with the condition in question. Currently, there is an appeal before the Ontario Municipal Board, because a judgment has not been reached the details of the case are unavailable.

Enforcement

Due to the fact that the Woodlands Conservation By-law has been in place less than a year there has been limited opportunity to test it. Under the Woodlands Conservation By-law the environmental enforcement officer may issue a stop work order if a contravention to the by-law is taking place or cutting is taking place that does not comply with the conditions attached to the permit. The individual who has received the stop work order has the right to file an appeal of the order with the Town Council. The appeal must be filed within 30 days of receiving the order. The appeal is heard by the Town Council and their decision is final.

If a case is prosecuted in the courts the maximum fine that can be issued on the first conviction is \$10,000. Any subsequent conviction may receive a fine up to \$20,000. In addition, to any fine that may be given out the court may order the guilty party to replant the site.

The Regional Municipality of York

Introduction

The Regional Municipality of York is a municipality that covers an area of 680 square kilometers and has a population of approximately 650,000. The region contains nine municipalities that range from rural to urban. The region is bounded by the Region of Peel to the west, the Region of Durham to east, the city of Toronto to the south, and the County of Simcoe to the north. The region's current tree by-law was passed in 1991 under the Forestry Act. This by-law is currently in the process of being revised.

The focus of this case study will be on the current activities and issues faced in the administration and enforcement of the regional tree by-law in the York Region. The regional tree by-law is administered and enforced by the York Regional Forestry Division. To enforce the by-law, the region currently employs one regional forester and two forest technologists. While these individuals are employed full-time by the region, the by-law is enforced on a part time basis.

Forest Coverage and Tree Cutting

The Regional Municipality of York has approximately 18% of its land base forested. Of this 18%, 5000 acres are county forests. From 1924 to 1998 the Ministry of the Natural Resources managed the county forests under agreement with the Region of York. In 1998 the Region of York took over management of the forests. The region has developed a 20-year management plan region that will see York Regional Forest managed as a sustainable forest. In February 2000, the York Regional Forest became the first publicly owned forest to be certified in Canada by the Forest Stewardship Council. This certification ensures the sustainability of the forest by having a third part audit the Region's management of the forest.

Current pressures on private woodlands in the Region come from three sources, logging, development, and agriculture. The region's close proximity to Toronto means that it is facing development pressure and this pressure will continue to increase. Regarding issues of proposed development plans; the regional forester who enforces the regional by-law also has the opportunity to comment on any proposed development. In addition, the soil in the area makes it

ideal for agricultural purposes. While the cutting of trees for logging, if done properly, can be sustainable, the cutting of trees for agricultural purposes or development means the destruction of that forested area.

Public Awareness & Education

The Regional Municipality of York has had a tree by-law in place since 1991. The motto that the Region has regarding the regional tree by-law is ‘education before legislation’. To this end by-law enforcement officers have spoken with such groups as the property owners association, school groups, individual property owners, staff from other departments in the York Region and also politicians. In addition, the enforcement process generates a great deal of public awareness of the tree by-law when cases are taken to court. These cases often receive a great deal of media coverage.

Education about the regional tree by-law is also part of a broader initiative currently being undertaken by the Region of York. When the review of the Regional Tree By-law was undertaken followed by the subsequent Regional Official Plan Report Card in 1998/99 it became apparent that there was a broader need to protect and expand the natural environment in the Region. What was developed was the Greening of York Region Strategy. The Regional council adopted this strategy on May 10, 2001. The purpose of the strategy will be to act as an umbrella to ensure that all regional initiatives in the following areas will be harmonized and rationalized to support each other as well as the Regional Official Plan. These areas are: property acquisitions of greenland areas; land use approval; the Regional Tree By-law; and the Regional Streetscape Policy. In addition, the Regional Official Plan has also set a target of reach 25% forest cover for the Region.

Administration & Enforcement

Currently, the transportation, works, and forestry division administers the Regional Tree By-law. In the current tree by-law there is no requirement to file a notice of intent prior to cutting. This increases the difficulty of enforcing the by-law, as well as making it more difficult to be proactive. This issue will be rectified in the new regional by-law as notices of intent will be required.

In the case of a minor exception application the tree by-law officer does a formal inspection of the site and writes a report recommending whether the proposed application should be granted or denied. This report is then given to the Transportation and Works Committee, which then either grants or denies the application. If the application is granted it then goes before the Regional

Council for ratification. Minor exceptions for agricultural purposes are predominately granted. However, those based on development purposes are less likely to be granted.

Enforcement

When proactive measures are not sufficient to deter an individual or business from committing an infraction of the regional tree by-law charges are laid and the offender is taken to court. The Region of York has taken a position of strict enforcement of the tree by-law thus making available the necessary resources needed to ensure its proper enforcement.

When the forestry division receives notification that an infraction has occurred, an enforcement officer is sent to the site to determine what action is to be taken. If it is determined that an infraction has occurred, the by-law enforcement officer will meet with the landowner prior to collecting potential evidence to discuss the situation. If it is possible to work with the landowner to fix the situation, appropriate measures will be identified and the landowner will take measures to correct the situation.

If it is determined that charges are to be laid, charges are laid against everyone involved in the offence (i.e. landowner, tree marker, logger). The rationale for laying charges against all those involved is that one party may be willing to testify if charges against them are dropped. The data collection is done by foresters who have been retained on contract with the Region. The data is then presented as a report, which the by-law officer then reviews. This report is then given to a lawyer who the council has mandated to look after legal matters pertaining to the enforcement of the regional tree by-law. When the case is taken to court the region hires professional consultants who are experts in the field to testify on the Region's behalf.

Since the regional tree by-law was first passed in 1991 there have been a total of 15 cases that have been prosecuted. The Region has won all of these cases. The Region of York has one of the highest success rates of all municipalities who currently have tree by-laws when it comes to prosecuting. This is in large part because the Region has the necessary resources available to allocate to the enforcement of the tree by-law and is willing to do so.

The following are a few examples of some of the cases that the Region has prosecuted. The region is currently involved in a case in which the individual who has been charged is unable to retain an expert witness who is willing to give testimony counter to the testimony that will be given by the Region's expert witness. The by-law officer feels that this is in large part due to the strength of expertise of the counties expert witness' and of the strong history of excellence in

prosecution the Region has. By contracting the services of a witness who is an expert in his field the Region is able to strengthen the credibility of their case in court.

In another case, a logger cut 96 undersized trees. The Region laid charges for each tree. The court fined the logger \$500 per tree, totaling \$48,000. In addition, an additional 20% of the total fine was added by the court for the victim surcharge that is retained by the court. This was the logger's second offence and during the course of the trial the logger did not show proper respect to the court and was also sentenced to 30 days in jail.

In another case, instead of a fine being issued arrangements were made with the developer prior to going to court to instead restore the site. The requirement to have a restoration plan done and carried out on the site was the sentence that was handed down by the court. The restoration plan would have cost approximately \$15,000 to have done and the restoration itself would have cost the developer approximately \$30,000. As the order to restore the site was handed down as a sentence, the developer would have to comply otherwise he would be found in contempt of court and may be sentenced to jail.

While the Regional Municipality of York has been successful in prosecuting cases, there is the feeling that whenever prosecuting becomes necessary you have already lost because trees have already been damaged or cut. Because of this perspective, the Regions emphasis on cooperation, education, and consultation is held strongly.

The City of London

Introduction

The City of London is a separated municipality located in the County of Middlesex. The City of London covers an area of 403 square kilometers and has a population of 330,000. The City of London has a tree conservation by-law enacted through the Municipal Act. The current tree conservation by-law was passed in 2001 and applies to areas that have been designated as Environmental Protection Areas in the City of London's Official Plan. The Environmental Protection Areas were defined and mapped using watershed studies that were completed by the City in the 1990's. Environmental Protection Areas includes 'Environmental Review' areas and 'Open Space' areas. All identified Environmentally Sensitive Areas and Significant Woodlands are designated as either 'Open Space' or Environmental Review' areas.

The City of London's by-law is administered and enforced by the City Planning Department. The enforcement of the tree conservation by-law is the responsibility of two staff members of the planning department and is only a partial component of their activities for the city.

Forest Coverage and Tree Cutting

Currently, around 80% of the cutting of trees in the city is for commercial purposes, primarily for timber sales. In recent year the city of London has annexed large tracts of rural land area, thus adding significantly to the treed area of the City.

Public Awareness & Education

The City of London's tree conservation by-law is relatively new having first been passed in 1996. The by-law was most recently revised at the beginning of 2001. As the by-law is relatively new there is a general awareness of the existence but not necessarily an understanding of the exact purpose of the by-law and how the by-law functions.

When the by-law was first adopted in 1996 a variety of methods were used in an effort to inform the general public about the by-law. Some of these methods included, notices and articles in the local papers and public open houses where interested citizens could come and ask questions of those individuals who were formulating the by-law. In addition, the City mailed notices to all landowners who might potentially be affected by the by-law informing them about the rationale for the by-law and how the by-law might affect them.

Prior to the adoption of the tree conservation by-law in 1996 the City faced issues of heavy cutting and poor harvesting practices. This unsustainable activity was the impetus for the adoption of the by-law. When the City came to the decision to adopt a tree by-law it had two possible options available. As a separated City, it could pass a tree conservation by-law under the former Trees Act (now the Forestry Act) or pass a by-law under the Municipal Act. The City investigated the two options and it was decided that a tree conservation by-law passed under the Municipal Act allowed the City a greater degree flexibility in the formulation, focus, and requirements of the by-law.

The City Council's vision for the tree conservation by-law is that it is proactive rather than reactive. The tree by-law officers work with both landowners and contractors to raise awareness of the need for good forestry practice as well as the requirements of the by-law. The tree by-law officers recommend the hiring of a qualified forester to complete a prescription for woodlots to ensure their long-term sustainability.

Another tool that the City has put in place in its efforts to preserve woodlots is the Woodlot Acquisition Fund. The purpose of this fund is to acquire upland woodlots that have been identified as being significant and are likely to be developed. The fund specifically focuses on significant woodlots within the identified Urban Growth Boundary.

Administrative and Enforcement

The City of London's tree conservation by-law is enforced by the City Planning Department, specifically the two staff members who have been designated as officers under the tree by-law. Both individuals are planners in the department focusing on environmental issues. One of the officers is also a trained ecologist.

The City requires that prior to cutting, an application for a permit to cut must first be filed with the City Planning Department. Along with the application for a permit, a plan of the affected area must also be included showing significant features such as property boundaries, buildings and structures, hydrological features, existing topography, environmental constraints, biological features, and the location/dimensions of the proposed tree cutting or removal activities. Any cutting that is permitted under the by-law must be done according to good forestry practice. There is no diameter limit cutting under the by-law. In the last year the City of London has received 8 applications for permits.

When an application is received, a tree by-law officer will complete an on site inspection prior to any cutting taking place. This inspection usually takes place after the area has been marked to determine if the tree marking is appropriate. The inspection is usually done in the company of the landowner and if possible with the logger and tree marker as well. The tree by-law officer inspects the site to ensure that the proposed cut will not negatively effect any of the features or functions of the woodlot. If the application is accepted, a letter of approval is drafted and any conditions to the permit are specified. As the City of London's tree conservation by-law is under the Municipal Act there are no minor exception applications.

As part of the Municipal Act, any individual who has been refused a permit, objects to a condition that may have been placed on the permit, or has not received a decision within 45 days of filing the application has the right to appeal to the Ontario Municipal Board. The individual must file an appeal within thirty days of either the refusal of the permit or the issuance of the permit with the condition in question.

Enforcement

The violations that are most common in the City of London consist principally of cutting without a permit. When cutting begins without a permit the by-law officers notify the landowner in writing that he/she is in contravention of the by-law and that cutting must stop immediately until the proper application process can take place. To date the City has not had any cases go to court. Most residents when made aware of the by-law are willing to comply.

Additional Case Study Commentary

While the above cases give examples of how various municipalities have implemented and enforced their by-laws, the portion of the case studies dealing with difficulties and concerns has been left to this summarized section. This is primarily for two reasons. The first is because many participants enunciated similar issues and gave similar recommendations. The second is because some of the difficulties elucidated to by participants could single out individuals or organizations. It was felt that these comments provide informative feedback in an anonymous manner, and that by presenting them in such a manner, personal relationships are not affected.

One of the first relatively common concerns of participants was the limited powers they have in addressing irresponsible tree cutting while it occurs. By-laws under the Forestry Act do not provide for the use of stop work orders. Many by-law officers noted that by-law enforcement for weed control was significantly stronger in this regard. Some also indicated that these powers are available under the Municipal Act. One by-law officer noted that charges after the fact do not help to save the trees that have already been cut, stop work orders would do so.

A second area of fairly common concern was that by-law officers are not able to issue fines under the Forestry Act. Again, participants often compared the powers of tree by-law enforcement to weed enforcement, where fines can be issued. Many indicated that fines are far less difficult to apply than are charges that automatically require a court appearance.

Some by-law officers in the case studies indicated that one of the problems with their success in deterring unsustainable tree cutting in their region was that loggers may be moving into neighboring municipalities with more lax by-laws or that don't have any by-law. While none of the participants suggested that this was of concern within their municipality, they did note that the concern is that the pressure on trees in the neighboring municipalities becomes increased. This suggests that by-laws that are not universally applied and enforced could lead to extreme pressure being placed upon those municipalities with lax or no by-laws.

A more positive impact of these factors was noted by some of the participants from the forestry industry, in that they felt the strong by-laws allowed them to undertake only cutting based upon good forestry practices, without having to compete with companies utilizing more exploitive cutting measures. In essence, the playing field has been leveled in the Counties, but at a higher standard for all.

Some participants indicated weaknesses in their ability to effectively enforce the tree by-law. This was because they felt that the municipal council and/or the local judiciary did not support them in their efforts. One participant noted that he brings serious cases before the local justice and they receive virtually no penalty. Though this individual has been successful in all other measures of the by-law (education, general compliance, etc.), he has been frustrated in trying to charge those who contravene the by-law.

Lastly, many indicated the overall expense of prosecution and that it often costs far more to prosecute than is returned in fines. This challenge also adds to the difficulties faced in enforcement.

Conclusions and Recommendations

The first two purposes of the study involved documentation of the experiences of counties, regions, and municipalities in instituting and employing tree conservation by-laws; and a review of how the administration of tree by-laws has changed over time. These two objectives were dealt with through the survey and case study portion of this document.

The third objective involved building an understanding of why some counties/regions do not have tree by-laws. The survey of these municipalities gave some insight into that issue. There were also similarities between the conditions faced by those municipalities without by-laws and those with. It was discovered that there are primary two reasons that some counties/regions do not have tree by-laws. The first is that these municipalities tend to be those that are facing limited pressure upon their treed lands. They are generally those municipalities that are less densely populated, contain significant tracts of crown land, and are located away from cities. The second reason was concern over public acceptance of such a by-law. Many suggested that a by-law regulating cutting on private property would be highly un-popular. We see though that the increasing pressure on tree stands in Southern Ontario is beginning to encourage more counties/regions to adopt tree by-laws or to enforce them more strictly. One third of the 12

municipalities without tree by-laws in this study are considering or are in the process of adopting tree conservation by-laws.

The last objective was to consider the strengths, weaknesses, and opportunities of the current system of tree by-law enforcement in Southern Ontario. These have been informed from the findings of both the survey and the case study.

Strengths

- One of the primary concerns at the onset of this study was regarding the effectiveness and enforceability of tree-by laws in Southern Ontario. As was seen in the survey and very clearly in some of the case studies, the tree by-law (Forestry Act) can be employed and enforced effectively if adequate efforts are made and adequate support is provided (political, judicial, and financial).
- Ontario is well ahead of other jurisdictions in Canada in its efforts to legislate the cutting of trees on private lands. While this is largely due to the population density, and limited extent of crown land, the existence of the by-law demonstrates the recognition of the problem of declining woodlands.
- The general knowledge base of forestry by-law officers appears to have increased significantly, suggesting that a greater number of by-law officers have had training in the field of forestry protection.
- Many counties/regions have successfully promoted the use of good forestry practices within their municipalities. Many have strong awareness and education programs.
- Perhaps the most significant strengths is that the majority of the public voluntarily complies with the tree by-laws.
- Many non-by-law counties or regions that have not had a tree by-law are now implementing them.
- Many municipalities that have not been actively enforcing tree by-laws are planning to begin enforcing them more strictly.
- The Municipal Act allows for a wide range of enforcement tools.

Weaknesses

- Many municipalities do not have tree by-laws and many others do not actively enforce their tree by-laws. This leaves significant forested areas in Southern Ontario unprotected. This may also result in some foresters who are unwilling to abide by the by-laws to move into those areas of lax enforcement.
- The lack of a stop work order within the tree by-laws passed under the Forestry Act limits the ability of by-law enforcement officers to protect trees during improper cutting. Many trees may be cut during the time of offence awareness and the actual charges being laid.
- The inability of tree by-law officers to issue tickets under the Forestry Act limits their ability to immediately impact upon a situation of illegal cutting, it also forces them to undertake the more arduous task of laying charges involving a court hearing.
- The lack of a replanting order under both the Municipal Act and the Forestry Act forces municipalities to undertake the more arduous task of laying charges and going through the courts.
- While the by-law under the Forestry Act can be effectively enforced, it is not *efficiently* enforced. A great level of effort and finances are required to convict offenders.
- Many councilors or members of the judiciary are unaware of the importance of the tree by-law, thus they do not support stringent enforcement. The influence of politics and economics can take precedence over environmental concerns.
- While the level of expertise of tree by-law officers has increased there is no formalized training for tree by-law officers.

Opportunities & Recommendations

As the opportunities arising out of the study are based primarily upon the information garnered from local experts in the field of tree by-law enforcement, the opportunities also constitute the recommendations for this study. All are opportunities to improve by-law enforcement and it is up to legislators, municipalities, and by-law officers themselves to decide which options they choose to adopt and further. The opportunities and recommendations are organized into two sections, those that could be instituted at the Municipal level and those that would require changes to the legislation itself.

Municipal Level

- Municipalities can improve and intensify their current tree by-law support and/or enforcement. This may involve the adoption of tree by-laws for some; the improvement of education, awareness, and outreach to promote the by-law for others; and improved enforcement for others. This will likely involve increased financial support for tree by-law enforcement positions, for outreach programs, and for support of enforcement actions (e.g.. the use of expert witnesses).
- Efforts could be made to ensure that council members and members of the Judiciary are well informed of the role and importance of tree by-laws.
- Municipalities in Southern Ontario should be aware of the tree by-law practices of neighboring municipalities so that they can synchronize their enforcement efforts to prevent migration of poor forestry practices from one region to another.
- Improved training for by-law officers would ensure a high standard of outreach and enforcement.
- Municipalities can revise their current by-laws to ensure that they are under the Forest Act, thus allowing for more effective enforcement.
- Municipalities that are not doing so, could begin to actively encourage Good Forestry Practices. Many municipalities are requiring that marking be done prior to any cut within their jurisdiction.
- Municipalities and municipal tree by-law enforcement officials could learn from one another about the techniques and practices employed across the province to encourage good forestry practices and to enforce tree by-laws. A wide range of practices were identified in this study. The transfer of successful methodologies from one region to another could lead to significant improvements in effectiveness of the tree by-laws. One example may be the practice some municipalities use of applying fines for each tree cut rather than per incident.

By-Law Development

- The powers of enforcement allowed under the Forestry Act could be improved to make the by-laws less arduous to enforce.. Some potential options may include the authority to ticket offenders, the authority to order replants, and the authority to issue stop work orders. Many suggested that the powers allowed for weed control or within the

Municipal Act were more conducive to efficient enforcement. The Municipal Act, The British Columbian Local Government Act, and some Acts within American States may provide guidance on these issues.

- The Municipal Act could be updated to include the ability to Order replants without needing to go through the courts. Again the Local Government Act of British Columbia may provide insights into this.
- The Forestry Act could be adjusted to better reflect the principals of Good Forestry Practices rather than diameter limit cutting. American Models based upon Best Management Practices and the municipal Act may act as a guideline by which to do this.

Model By-Law Development

Under the Municipal Act. RSO 2003 section 135 (1) a local municipality may prohibit or regulate the destruction or injuring of trees. An upper tier Municipality may prohibit or regulate the destruction or injuring of tree in a woodlot. Thus there are two level so fo regulation which the municipalities may apply to the protection of trees. The Act also refers to the utilization of good forestry practice as was set out in the Forestry Act 2001. There are a number of exemptions to these by-laws and these include activities of the municipality or local boards, crown forests, actions under the surveyors Act, approval under consents or development permits approved under the Planning Act, actions approved under the Electricity Act or Aggregates Act.

Given the shift from the Forestry Act to the Minicipal Act a number of factors should be considered. The scope of the municipal act is broad covering a wide range of powers for the municipality. Thus the development of a Woodland Protection By-Law at the upper tier level and a Trees Protection By-Law at the lower tier should address a range of objectives. These include the following:

Preserve and improve woodlands through good forestry practice

Minimize the destruction or injuring of trees in land management and froest practice

Regulate the removal maintenance and protection of trees

Protect, promote and enhance the aesthetic value of woodlands

Contribute to human health and quality of life through the maintenance of woodland cover

Provide for Wildlife Habitat

Minimize dangerous conditions related to tree falls and potential damage to property and human safety

Clear Definitions are required to cover areas where the woodlands designation applies these should include the nature of significant areas where trees receive special protections such as:

Green-lands Systems

Environmentally Sensitive Areas

Habitat of Vulnerable, Threatened or Endangered Species

Significant Forest cover (see areas size classes)

Natural Heritage Systems

Special Policy Areas

Provincially or Regionally Significant Wetlands

Significant Ground Water Recharge areas

Areas under policies of the Niagara Escarpment Commission or Oak Ridges Moraine

Areas that buffer surface water bodies

Areas of Natural and Scientific Interest

It is in these areas where special reference in the by-law can invoke special protection above and beyond that of good forestry practice. Clear linkages with the official plan policies and the zoning bylaw are necessary so that these documents can reinforce each other in providing protection. In addition the by-laws should be linked to the development standards applied to minor variances consents and part of sub-division applications and approvals.

The by-law should provide a prohibition of tree cutting and set limits to this prohibition eg. number size and species of trees and areas of restrictions. It should then set out a process for

regulated tree cutting, e.g. application requirements, notices of intent, conditions under which cutting can be done and management practices required when cutting. By-Laws also need to identify the processes by which approvals are granted or refused and what avenues there are for appeal. They need to provide for a set of tools for implementation and enforcement including inspection, monitoring and reporting on cutting, actions in the face of non compliance such as stop work orders, and procedures for application of deterrents such as administrative penalties, charges and prosecutions and reparations requirements.

In addition to the By-law structure and content it is important to develop inspection and enforcement protocols. Clear protocols can reduce conflict with the public and increase the effectiveness of inspection. At the same time enforcement should be kept separate from inspection so that prosecutions are not compromised by failure to provide due process.

The development of educational and training programs and materials for both the staff and the general public is an additional element of importance. Staff who are well informed and knowledgeable of the problems of forestry and tree maintenance and management are more likely to gain respect of the public and will be sought for advice rather than ignored. They should also be knowledgeable of the by-law and the protocols for inspection and enforcement. This can reduce the possibility for misunderstanding and conflict with the concerned public.

Public education materials should also be acquired or developed where necessary. The role of public information and public support for trees protection is an essential part of obtaining compliance. Municipal By-laws are most effective when they are widely supported and reflect the values of the community they are intended to regulate. A key component of this is the development of information and education material and programs to inform public opinion and engage the public in support of the regulatory process. The public can become a partner with the municipality in the process of protecting forests through stewardship and through the involvement of local organizations in supporting good forest practice and the protection and management of trees. The role of facilitator in this process of public involvement and public education and awareness building can fall to the by-law enforcement officer, the parks and recreation department or to the works department. It requires the development of a set of skills which are not normally thought of as being part of the position of these departments and personnel. These skills include facilitation, and conflict management, communications and adult education.

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**Appendix A: Survey Instrument for
Municipalities with Tree By-Laws**

Inventory, Assessment, & Evaluation Survey of Tree Cutting By-laws in Southern Ontario

1. The name of your county, region, or municipality is _____

2. What is your position with the county, region, or municipality _____

3. What was the first year a tree by-law was enacted in your county, region or municipality?

4. How many by-law revisions (if any) have occurred since the first tree by-law was adopted (Please state the dates if you are aware of them)

5. What was the year that the current tree by-law was adopted

6. When the *current* by-law was adopted, what forms of public notice or information were provided:

Council Meeting	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't Know <input type="checkbox"/>
Notice in Local Paper	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't Know <input type="checkbox"/>
Article in Local Paper	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't Know <input type="checkbox"/>
Public Open House	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't Know <input type="checkbox"/>
Mail Out	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't Know <input type="checkbox"/>
Other _____			

7. Generally speaking, what level of awareness do the following groups have of the tree by-law? (Please circle the appropriate number)

	Not Aware	Seldom Aware	Sometimes Aware	Often Aware	Always Aware	Don't Know
Farmers	1	2	3	4	5	<input type="checkbox"/>
Rural Residents	1	2	3	4	5	<input type="checkbox"/>
Loggers	1	2	3	4	5	<input type="checkbox"/>
Urban Residents	1	2	3	4	5	<input type="checkbox"/>
Professional Arborists or Forestry Consultant	1	2	3	4	5	<input type="checkbox"/>
Naturalist/Environmental Groups	1	2	3	4	5	<input type="checkbox"/>

8. In your opinion, how strictly do the following groups enforce the objectives of the tree by-law when issues (such as applications for minor exceptions) are brought before them? (Please circle the appropriate number)

	Not Strict		Moderately Strict		Very Strict	Don't Know
Municipal Council	1	2	3	4	5	<input type="checkbox"/>
Related Committee	1	2	3	4	5	<input type="checkbox"/>
Tree By-law Officer	1	2	3	4	5	<input type="checkbox"/>
Other _____	1	2	3	4	5	<input type="checkbox"/>

9. Who enforces the by-law (e.g. By-law Officer, Conservation Authority, etc)? Please indicate each individual involved and their assignment to tree by-law enforcement (i.e. full-time, part-time, other).

10. Approximately how many notices of intent to cut (harvesting) are dealt with each year, and roughly how many hours are spent on each notice?

of Notices of Intent _____ # of Hours per Notice _____

11. Approximately how many applications for minor exceptions are dealt with each year, and how many hours are spent on each application?

of Minor Exception Applications_____ # of Hours per Application_____

12. Approximately how many violations of the tree by-law are dealt with each year, and how many hours are spent on each violation?

of Violation_____ # of Hours per Violation_____

13. How do tree by-law enforcement officer become involved in cases? (Please circle appropriate number)

	Never	Seldom	Sometimes	Often	Always	Don't Know
Through Complaints &/or Violations	1	2	3	4	5	<input type="checkbox"/>
Upon Notice of Intent	1	2	3	4	5	<input type="checkbox"/>
Upon Application for Minor Exceptions	1	2	3	4	5	<input type="checkbox"/>

Please indicate any other way that tree by-law officers become involved in cases.

14. How often do you consult with the following organizations in the administration and/or enforcement of the tree by-law? (Please circle appropriated number)

	Never Consult	Seldom Consult	Sometimes Consult	Often Consult	Always Consult	Don't Know
Ministry of Natural Resources	1	2	3	4	5	<input type="checkbox"/>
Local Conservation Authority	1	2	3	4	5	<input type="checkbox"/>
Private Consultants	1	2	3	4	5	<input type="checkbox"/>

Please state any reasons that consultation takes place.

1.(MNR)_____

2.(CA)_____

3.(Consultant)_____

4. Others_____

15. In your estimation what is the average number of convictions under the by-law per year, the average amount each of fine, and what is the average number of acres ordered to be replanted?

Average Fine Amount Per Conviction _____ Don't Know

Average Number of Convictions Per Year _____ Don't Know

Average Number of Acres Per Year _____ Don't Know

16. In your opinion, how would you rate your powers of enforcement authorized by the Forestry Act (or Municipal Act, as appropriate)? (Please circle the appropriate number)

Very Ineffective	Ineffective	Neither Effective nor Ineffective	Effective	Very Effective	Don't Know
1	2	3	4	5	<input type="checkbox"/>

17. In your opinion, is the tree by-law an effective deterrent to potential offenders?

Yes No Don't Know

If Yes or No, could you comment as to why this is so?

18. Do you find you have difficulty enforcing the tree by-law?

Yes No Don't Know

If Yes or No, could you comment as to why this is so?

19. In your opinion are the fines currently allowed effective in deterring illegal tree cutting?
(Please circle the appropriate number)

Very Ineffective	Ineffective	Neither Effective nor Ineffective	Effective	Very Effective	Don't Know
1	2	3	4	5	<input type="checkbox"/>

If you selected 1, 2, or 3 what in your opinion would be a more effective amount and why?

20. a) In your estimation what is the percentage of *Notices of Intent* to cut that are investigated?

0-20% 21-40% 41-60% 61-80% 81-100%

b) In your estimation what is the percentage of *Notices of Intent* that are approved (i.e. are not prevented by the municipality)?

0-20% 21-40% 41-60% 61-80% 81-100%

21. a) In your estimation what is the percentage of *Notices of Intent* utilizing the exception of *Good Forestry Practice* that are investigated?

0-20% 21-40% 41-60% 61-80% 81-100%

b) In your estimation what is the percentage of *Notices of Intent* utilizing the exception of *Good Forestry Practice* that are approved?

0-20% 21-40% 41-60% 61-80% 81-100%

22. a) In your estimation what is the percentage of *Minor Exception* applications that are investigated?

0-20% 21-40% 41-60% 61-80% 81-100%

b) In your estimation what is the percentage of *Minor Exception* applications that are approved?

0-20% 21-40% 41-60% 61-80% 81-100%

23. How strongly are the following issues taken into consideration when approval of a minor exception is given?

	Not At All	Slightly	Moderately	Strongly	Very Strongly	Don't Know
Protection of Important Tree Species	1	2	3	4	5	<input type="checkbox"/>
Provisions for Old Growth	1	2	3	4	5	<input type="checkbox"/>
Provisions for Diversity of Regeneration	1	2	3	4	5	<input type="checkbox"/>
Protection of Treed Corridors	1	2	3	4	5	<input type="checkbox"/>
Protection for Large Forest Blocs	1	2	3	4	5	<input type="checkbox"/>
Protection Rare or Endangered Species	1	2	3	4	5	<input type="checkbox"/>

Are there other issues that are considered? If yes, please indicate (list).

24. In your opinion, please indicate how often the following activities are reasons for tree-cutting. (Please circle the appropriate number)

	Never	Rarely	Sometimes	Often	Very Often	Don't Know
Agricultural Expansion	1	2	3	4	5	<input type="checkbox"/>
Urban Expansion	1	2	3	4	5	<input type="checkbox"/>
Sale of Standing Timber on Private Land	1	2	3	4	5	<input type="checkbox"/>
Industrial Expansion	1	2	3	4	5	<input type="checkbox"/>
Private Woodlot Sales	1	2	3	4	5	<input type="checkbox"/>
Stand Improvement Harvesting	1	2	3	4	5	<input type="checkbox"/>
Harvest for Personal Use	1	2	3	4	5	<input type="checkbox"/>
Removal of Hazard Trees	1	2	3	4	5	<input type="checkbox"/>
Firewood Sales	1	2	3	4	5	<input type="checkbox"/>
Single Building Lots	1	2	3	4	5	<input type="checkbox"/>
Other_____	1	2	3	4	5	<input type="checkbox"/>

25. Approximately how many years has each tree by-law officer been involved in forest conservation?

1)_____ years 2)_____ years 3)_____ years 4)_____ years

26. In your opinion, how would you rate the experience of your tree by-law officers in each of the following activities? A rating of 1 represents no experience, and a rating of 5 represents considerable experience. (Please circle the appropriate number)

	No Experience		Moderate Experience		Considerable Experience
a) Forest Silviculture	1	2	3	4	5
b) Land Use Planning	1	2	3	4	5
c) Forest Mensuration	1	2	3	4	5
d) Agriculture	1	2	3	4	5
e) Reforestation	1	2	3	4	5
f) Bylaw Enforcement	1	2	3	4	5
g) Forest Ecology	1	2	3	4	5

If there is second officer please write in the appropriate number for each question.

a)_____ b)_____ c)_____ d)_____ e)_____ f)_____ g)_____

If there is a third officer please write in the appropriate number for each question.

a)_____ b)_____ c)_____ d)_____ e)_____ f)_____ g)_____

27. In your opinion how strongly do other initiatives enhance the protection of treed land? (Please circle the appropriate number)

	No Enhancement		Moderately Enhance		Strongly Enhance	Don't Know
Managed Forest Tax Incentive Program	1	2	3	4	5	<input type="checkbox"/>
Community Fisheries & Wildlife Program	1	2	3	4	5	<input type="checkbox"/>
Land Trusts & Conservation Easements	1	2	3	4	5	<input type="checkbox"/>
Education	1	2	3	4	5	<input type="checkbox"/>
Stewardship Programs	1	2	3	4	5	<input type="checkbox"/>
Official Plan Policies & Zoning	1	2	3	4	5	<input type="checkbox"/>
Others_____	1	2	3	4	5	<input type="checkbox"/>

28. a) Does your county, region, or municipality have an official plan?

Yes

No

Don't Know

b) Does the official plan designate any *Significant Woodlands*?

Yes

No

Don't Know

If yes, please comment on how this designation affects tree by-law applications (i.e. notices of intent, and minor exceptions) and enforcement

29. What improvements, if any, would you like to see made in your county, region, or municipalities' tree by-law?

30. Do you feel that further improvements in the Forestry Act (or Municipal Act) are needed?

Yes

No

Don't Know

If yes, what improvements would you suggest?

31. Do you have any comments you would like to make about tree conservation, and/or your tree by-law?

32. Are you aware of any lower tier municipalities in your county or region who have adopted a tree by-law through the Municipal Act? If so please list.

THANK YOU FOR YOUR TIME AND EFFORT IN PROVIDING THIS INFORMATION

**Appendix B: Survey Instrument for
Municipalities without Tree By-Laws**

Inventory, Assessment, & Evaluation Survey of Tree By-laws in Southern Ontario

1. The name of your county or region is _____

2. What is your position with the county or region _____

3. Is tree cutting in your area an issue?

Yes

No

Don't Know

If Yes or No, could you comment as to why this is so?

4. Does your county or region have any mechanisms to regulate tree cutting?

Yes

No

Don't Know

If Yes, could you comment on what these mechanisms are?

5. Please discuss any types of tree cutting in your county or region that you are aware of.

6. In the absence of a tree by-law how does your county or region deal with issues such as habitat protection and woodlot improvement?

7. In your opinion, please indicate how often the following activities are reasons for tree-cutting. (Please circle the appropriate number)

	Never	Rarely	Sometimes	Often	Very Often	Don't Know
Agricultural Expansion	1	2	3	4	5	<input type="checkbox"/>
Urban Expansion	1	2	3	4	5	<input type="checkbox"/>
Sale of Standing Timber on Private Land	1	2	3	4	5	<input type="checkbox"/>
Industrial Expansion	1	2	3	4	5	<input type="checkbox"/>
Private Woodlot Sales	1	2	3	4	5	<input type="checkbox"/>
Stand Improvement Harvesting	1	2	3	4	5	<input type="checkbox"/>
Harvest for Personal Use	1	2	3	4	5	<input type="checkbox"/>
Removal of Hazard Trees	1	2	3	4	5	<input type="checkbox"/>
Firewood Sales	1	2	3	4	5	<input type="checkbox"/>
Single Building Lots	1	2	3	4	5	<input type="checkbox"/>
Other _____	1	2	3	4	5	<input type="checkbox"/>

8. In your opinion would a tree by-law be effective in your county or region? (Please discuss)

9. Are you aware of any lower tier municipalities in your county or region who have adopted a tree by-law through the Municipal Act? If so please list.

THANK YOU FOR YOUR TIME AND EFFORT IN PROVIDING THIS INFORMATION