

NEW LEGISLATIVE WAYS OF PROTECTING TREES IN MUNICIPALITIES: AN OVERVIEW OF THE BRITISH COLUMBIA APPROACH

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Abstract. In 1992 the Municipal Act of British Columbia was amended, allowing municipalities to enact by-laws governing the protection, removal, and replacement of trees on public and private property. The new legislation has the potential to introduce major changes into the way new urban settlements are designed and created. So far, only a few municipalities have passed by-laws under the amended legislation, although many are actively investigating the ramifications. In this paper, the new legislation and progress to date is briefly reviewed. The problems inherent in managing the urban forests of the Lower Mainland of British Columbia are discussed, along with the need for enhanced knowledge in light of some recent court cases involving construction damage and potential negligence issues.

Within the Province of British Columbia, the subject of tree cutting is almost always controversial. This is due in large part to the public's often adverse reactions to the larger scale industrial timber operations that pervade the provincial landscape. In recent years there have been calls for legislation to prevent widespread tree cutting on private lands, especially where this was a part of subdivision development, or redevelopment of an already established neighbourhood.

As with many urban areas, the urban forests in British Columbia are located on a mix of municipal and private property. Trees on municipal land can be dealt with relatively simply by the Parks and Recreation departments or their equivalent (although it does not follow that they will be). However, trees on private property pose a more intractable problem, involving liability issues, personal and property rights, and the degree to which local government should, or can control these.

In 1992, the Municipal Act was amended, and now permits municipalities to draft and enact bylaws:

- regulating and prohibiting cutting and removal of trees on private lands;
- prohibiting tree damage and regulating damag-

ing activities;

- requiring replacement trees and their maintenance;
- requiring security deposits to ensure replacement and maintenance is carried out;
- specifying how tree inspections will be undertaken;
- specifying the penalties for non-compliance;
- specifying those trees considered to be "significant" to the community; for example as heritage trees, or wildlife habitat;
- specifying the need for removal of hazardous trees; and
- clarifying what exemptions will be tolerated.

The new legislation, while granting general regulatory authority, is also quite explicit in that any bylaws enacted cannot be used to prevent development under the aegis of saving trees, unless the developer or landowner is compensated, either financially, with increased densities, or with alternative development options.

Since its introduction in 1992, several municipalities have enacted new bylaws, with varying degrees of success and adroitness. Many more municipalities are currently considering how to enact bylaws that meet their own social and political needs, and several are waiting to see how others react before getting too involved.

Given the state of flux in enacting bylaws under the new legislation, an extensive survey has not been possible. However, several bylaws have been examined to see how they are being implemented. The perspective taken for analysis is that of a practising consulting arborist and environmental policy analyst, with extensive experience working for private developers, individual citizens, and municipalities.

Examples of New By-laws

Of the several municipal authorities now using Tree Cutting bylaws, several merit attention for their strengths and weaknesses.

The **City of Vancouver**, under the Vancouver Charter, has a bylaw in place to require all developments to submit a plan showing the location of all trees greater than 20 cm (8 inches) at a height of 90 cm (3 feet), prior to the start of development. Trees that cannot be saved are to be replaced subject to negotiation with City Hall.

While this initial bylaw is working reasonably well for development sites, it does nothing to prevent removal of trees on sites where development is not taking place. Thus, it appears to be a relatively straightforward tactic to plan ahead, and remove trees two to three years before development is planned, and thus circumvent the bylaw.

In an effort to prevent this continued removal of trees on private property, the City of Vancouver is working on a more extensive bylaw to deal with all trees on all private lands. The new bylaw is not yet available for public comment, and it appears that there are some difficulties in enacting the degree of tree protection required within the existing legislation, and some ambiguity exists about whether such a bylaw would be enforceable under the Canadian Charter of Freedoms and Rights. At present, the City is taking an approach that seeks agreement to retain trees rather than attempting to enforce a requirement to retain trees.

In **Saanich**, on Vancouver Island, a different approach was adopted. Their Tree Preservation By-law (No. 6991, 1992), passed in 1992, specifically sets out to control cutting of certain native tree species on private lands, rather than controlling all cutting. The intent, is to make a better effort to retain those species indigenous to the area, some of which, such as the Garry Oak (*Quercus garryana*), are now becoming regionally stressed, with the entire population showing signs of decline.

The Saanich bylaw provides for restrictions on cutting "Protected Trees" which are defined as Garry oaks, *Arbutus* (*Arbutus menziesii*), Pacific dogwood (*Cornus nuttallii*), over 5 metres high and 10 centimetres in diameter, and Douglas-fir (*Pseudotsuga menziesii*) trees over 80 centimetres in diameter. The bylaw further provides for a listing

of Heritage Trees within the Municipality, lists activities considered to be damaging to trees, and requires a security deposit (cash or letter of credit) for replacement trees equivalent to 120% of the costs of tree replacement and maintenance for the first three years.

Under the provisions of the new bylaw, Saanich has already had several successful prosecutions of people cutting down or severely pruning protected trees.

Further north on Vancouver Island, the **City of Nanaimo** also has a new bylaw (Bylaw NO.4570). A different approach is seen here. The main bylaw is brief and simply requires an "approved tree management plan" to indicate the location and type of trees likely to be removed if development proceeds, and lays out the permit process for removal and replacement. A point of controversy in the Nanaimo bylaw, is the ability of any landowner to remove up to 10 trees each year from any parcel of land, as long as they are not deemed to be "significant". In some cases, all the trees will be removed within a few years and the bylaw will have had no effect. An appendix to the Bylaw then lists the identified Heritage Trees which are considered to be significant and therefore protected, unless a qualified person certifies them as hazardous.

In the Lower Mainland of British Columbia the Districts of **Matsqui and Surrey** have both passed tree protection bylaws. Although similar in intent, the detailed requirements for plan submission, approval, and tree replacement differs somewhat between them. One of the interesting results of introducing bylaws, has been a panic reaction from the development community, many of whom rush out to get their land cleared before the bylaws prohibit this. In the case of Surrey, the rate of land cleared increased very dramatically in the weeks preceding the passage of the bylaw.

Many other municipalities are examining the implications of the changes in the Municipal Act, and the Cities of Burnaby, Port Moody, Coquitlam, and Prince George, for example, are all actively examining how they might implement a tree protection bylaw. The differences in approach and timing reflect several important nuances in the urban forests of the province, discussed in more

detail below.

Managing the Urban Forest

Unlike many areas of North America, the Province of British Columbia's urban forests are often dominated by coniferous trees. This dominance is less pronounced in the established urban areas where land clearing and residential development took place many decades ago. Such areas more typically include a diverse mix of native and exotic species (conifer and broadleaved) in various stages of health and development.

However, the fringes of many urban areas are now experiencing very rapid development; for example Surrey to the south of Vancouver, and Maple Ridge to the east, are two of the fastest growing regions in Canada. Much of the land slated for residential development was previously used for agriculture, or was land under forest cover that was logged once at the turn of the century and then abandoned. Such lands are typically under a coniferous cover of western hemlock (*Tsuga heterophylla*), western red cedar (*Thuja plicata*), and Douglas-fir (*Pseudotsuga menziesii*), with patches of red alder (*Alnus rubra*) bigleaf maple (*Acer macrophyllum*), and vine maple (*Acer circinatum*) interspersed.

Much of this forest land has evolved as a closed canopy forest system; the trees developing as mainly codominant, with the occasional dominant tree, and patches of regenerating forest below. The intent to retain areas of such forest, and have them amalgamated into new developments is fraught with problems, not the least of which is the response of edge trees that were previously growing in a closed canopy system. Many of these edge trees are not windfirm and are removed early on in the development. Others, especially the dominant trees are reasonably windfirm, but their very size - characteristic of a dominant tree - often tends to dwarf the new developments, and many of these larger trees are subsequently removed to appease the disquiet of new residents. Moreover, many of the coniferous tree species suffer a range of decays, especially in the roots and butts of the trees.

In British Columbia, the concept that trees in the urban landscape form an important part of the

broader urban forest, is new and not well understood by the public, the politicians, or many of the design professions. There are strong public pressures on the politicians to enact strong tree preservation bylaws. But all too often, technical understanding among the public and political forces is lacking about what makes a tree suitable for retention, and what makes an urban forest function well.

Liability Issues

The lack of technical understanding is problematic, and it is predicted that the issues of liability will almost certainly force bylaw revisions in the future. One of the problems in most of the bylaws reviewed, is that the municipalities define people qualified to assess trees to include landscape architects, professional foresters, engineers, and certified arborists. While all of these professions have a role to play in designing and maintaining an urban forest, only the certified arborist has the technical skills to undertake hazard tree assessments. This is not reflected in the bylaws examined.

The urban forests now being created, and the bylaws now being used to preserve trees, include many of the conifer species noted above - often as edge trees - and often in ecosystems that have been drastically altered by developments. There have been several recent court cases launched which will almost certainly impinge on these issues. One involves a group of citizens suing the developer, the city, and the arborist involved for negligence. The case will be interesting since it involves a City requirement of the developer to retain trees, the developer's requirement to have these assessed by an arborist, and the arborist's recommendations to undertake protective measures. Quite who may end up being liable is not yet known, but it highlights the need for municipalities to ensure that all tree assessments are undertaken by properly qualified people (that is, by certified arborists) and then to act on the recommendations made.

Another recent court case involved a developer retaining hemlock trees on site without any protection measures. One of the trees subsequently fell down and damaged some utility lines. The

utility company sued the developer, but the court found that the developer had no obligation to ensure tree safety beyond a casual inspection by the land clearing contractor. In this case, no tree bylaw was in existence at the time, but even so, it is doubtful that such a bylaw would make much difference.

Retaining trees on site is but one small step towards retaining the urban forest. Ensuring that the trees retained are healthy, safe, and suitable for retention is quite a different matter. Even more difficult, is the need to retain trees in a safe and healthy condition before, during, and after the development, so that a long-term maintenance plan can then be designed and implemented. Presently, few if any maintenance plans are utilised, the attitude being that once the project is completed, the problem somehow disappears.

One of the aspects lacking in all of the bylaws examined is the realisation that retention of a landbase suitable for growing trees is of equal importance to actually saving trees. In many cases, the existing trees are simply not suitable for retention, yet political pressures to save trees are overriding technical assessments. In the almost inevitable event of tree failures, some years from now, arborists will find themselves defending these assessments. Just where the municipal liability will lie is not clear.

Another issue, typically ignored right now, is that competent arborists will only issue an assessment valid for one year; a procedure widely accepted by the ISA. This gives developers enough time to obtain development permits and proceed with construction. But it is common for the final landscape to be quite severely disturbed at the end of the project, especially if tree protection measures were not properly enforced. Since most consulting arborists work on the site only when requested (which is typically at the start and not often after that), it is quite likely that some potentially hazardous trees will be retained on sites. If a competent inspection were mandated at the end of the development, it may well show the need for some further removals to avoid the retention of newly created hazard trees.

However, none of the bylaws examined consider these practical aspects, although the Compre-

hensive Urban Forest Policy prepared by the author for the City of Port Moody, does explicitly recommend some of the details needed.

Summary

With the amendments to the Municipal Act, municipalities can now enact tree preservation bylaws. Several municipalities have done so, with varying degrees of success and detail. However, despite the good intentions of these bylaws, there has been a widespread aversion to infringing on private property rights, partly due to uncertainty about the extent to which municipal and provincial governments can enforce such provisions in court. Few if any of the bylaws reviewed seem to be based on a sound technical understanding of what will or will not work well in the field, and the issues of liability are not well addressed.

Although certified arborists are recognised in most of the bylaws as being qualified to undertake tree assessments, most bylaws also include landscape architects, engineers, and foresters. None of these other professions has the technical competence to undertake hazard tree assessments, although simple survey plans, species identification and protection measures are within their capabilities.

Because these bylaws are quite new, there is no established track record by which their effectiveness can be assessed. Undoubtedly, more trees are now being retained during developments, and more trees are being replanted to offset those being lost. Heritage trees and trees considered to be locally significant are now being more clearly identified, and penalties for tree removal are being enforced. From these points of view the new bylaws are successful. However, there are some concerns that the actual retention of urban trees is being considered the endpoint of the process, rather than the start of a new urban forest that will require long-term management. There will be some difficult problems ahead with some of the remnant patches of forest now being retained.

It is also unclear what the long-term implications of retaining potentially unsafe trees will be. For arborists, the need for proficient assessments has never been greater. For developers, municipal staff, the general public, and the politicians,

the need to better understand trees and their requirements must be better recognised and accepted. For all the parties involved, these tree preservation bylaws must be a starting point and not the end of the process.

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Résumé. En 1992, la Loi sur les municipalités de la Colombie-Britannique était amendée, permettant ainsi aux municipalités de régir, par voie réglementaire, la protection, l'abattage et le remplacement des arbres en propriétés publique et privée. La nouvelle législation a le potentiel pour introduire des changements majeurs dans la manière que les nouveaux développements urbains sont créés et dessinés. Dans cet article, la nouvelle législation et les derniers développements sont brièvement revus. Les problèmes inhérents à l'aménagement des forêts urbaines dans les Basses terres de la province canadienne sont discutés, ceci en relation avec la nécessité d'une connaissance accrue à la lumière des récentes causes devant les tribunaux impliquant des dommages lors de la construction et des négligences potentielles.

Zusammenfassung. 1992 wurde das Kommunale Gesetz von British Columbia erweitert, so daß die Stadtverwaltung nun in der Lage ist, Verordnungen bezüglich des Schutzes, der Entfernung und des Ersatzes von Bäumen auf öffentlichen und privaten Grundstücken zu regeln. Die neue Gesetzgebung hat die Kraft, in die Art und Weise, wie neue städtische Anlagen geplant und geschaffen werden, einzugreifen und große Veränderungen herbeizuführen. In dieser Studie wird kurz ein Überblick über die neue Gesetzgebung und deren Fortschritt bis dato gegeben. Die Probleme, verbunden mit dem Management von Stadforsten in Lower Mainland in British Columbia, werden dargestellt, zusammen mit der Bedarf an verstärktem Fachwissen im Lichte von einigen Gerichtsfällen über Bauschäden und möglichen Haftungsfragen.