



Report to Council

From the Office of Councillor Amy Lubik

Date: February 1, 2020
Subject: Updating our Tree Protection Bylaw

Purpose

Trees are essential to the well-being of our community from due to both societal and ecological/ climate resilience significance. The purpose of this report is to ask that staff be directed to update the tree protection bylaw to include 1) a definition of “significant” trees, meaning protected trees, that is dependent on size and species, 2) definitions of significant and heritage trees, 3) protection of trees on private property in line with other municipalities 4) definition and process for identification of protected “heritage trees, 5) specifications for replacement trees,

Recommendation

THAT staff be directed to update the Tree Protection Bylaw to include the following:

- **Specific definitions of “significant,” meaning protected tree, that relate to size and species including DBH (diameter at breast height) for single and multi-stem trees;**
- **The definitions of a “specimen tree” and “heritage tree”;**
- **Expansion of protections to trees on private property, including a requirement to consider altering development permits to retain trees in non-ESAs;**
- **Guidelines for replacement trees, including height at planting, minimum height at maturity, number of replacement trees such that number of required trees increases with the significance of the tree, and that replacement trees are species that will be resilient in a changing climate;**

AND THAT Port Moody outline a process for suggesting/declaring a specimen or heritage tree as recommended in the report dated Feb 1, 2020 from Councillor Amy Lubik and Councillor Meghan Lahti regarding Updating our Tree Protection Bylaw.

Background

We are in the midst of climate emergency, and as such we need to have every policy we can in place to ensure that our community is resilient. Protecting our urban trees and urban canopy are actions that we can take that have a wide range of benefits to our community. Indeed, a recent study in the top-rated scientific journal “Science” has found that increasing our tree canopy is one of the great opportunities for climate change mitigation

(<https://science.sciencemag.org/content/365/6448/76>).

in a changing and warming climate, having abundant tree canopies in our neighbourhoods can bring down the temperatures of the neighbourhoods by 3-10 degrees, which help keep residents cool, and in fact can save a great deal of money on electricity bills, while helping control rain water runoff. They also help trap air pollution (http://www.bccdc.ca/pop-public-health/Documents/HBE_linkages_toolkit_2018.pdf). Examples of how trees and urban greening play a key role in climate adaptation and mitigation are ample (<https://www.cityoftrees.org.uk/why-trees-climate-change>):

- **Reducing harmful pollutants in the air** – Trees can help to reduce harmful pollutants, which are deposited into the atmosphere by industry and transport. Doubling tree cover could reduce the concentration of fine PM10 particles by 25% (Bradshaw AD, Hunt B & Walmsley T (1995) *Trees in the Urban Landscape*; Principles and Practice, E & F N Spon)
- **Cutting cooling costs and air pollution** – Urban trees reduce heat and air conditioning costs of building, in turn saving as much as 10% on annual energy consumption and cutting down air pollution caused by burning fossil fuels (Heisler GM (1986) *Energy Savings with Trees*, Journal of Arboriculture, 12 (5))
- **Cooling our cities and towns** – Trees lose moisture from their leaves and, coupled with the shade they cast and the heat reflected upwards from their leaves, significantly reduce summer temperature in towns (Huang YJ, Akbari H, Taha H & Rosenfeld AH (1987) *The Potential of Vegetation in Reducing Summer Cooling Loads in Residential Buildings*, Journal of Climate and Applied Meteorology 26 (9) : 1103 – 1116)
- **Reducing the risk of flooding** – Trees reduce surface water runoff, which can overload drainage systems, and lead to flash flooding by around 60% compared with asphalt (*The Effect of Trees and Grass on the Thermal and Hydrological Performance of an Urban Area* (2012) PhD thesis for The University of Manchester; David Armson)
- **Carbon** – CO₂ is released into the air primarily by burning fossil fuels. One of the key ways in which carbon can be ‘locked up’ is by trees and forests, which store up to 25% of the world’s carbon Forestry Commission: *Carbon Trees, and Forests* at <http://www.forestry.gov.uk/forestry/inf-d-7m8fa6>; 18th December 2014). UK forests and woodlands act as a carbon sink and remove about 10 million tonnes of carbon from the atmosphere every year.

Of importance, they also have been shown to inspire environmental stewardship, which our community prides ourselves on. Trees have many benefits in our community. For those areas that have iconic trees, stands, or landscapes, they provide a sense of place that has been shown to increase people’s connection to community. There is also evidence that neighbourhood trees [can increase walking and perceptions of safety](#).

Port Moody residents have great pride in their community and the natural environment that surrounds us; however, as neighbourhoods are redeveloped we lose many of our trees on both public and private property. Metro Vancouver is currently promoting urban forestry strategies, and as our staff work toward such an outcome, it is important that we have a strong tree protection bylaw.

Currently Port Moody currently has protections for trees on public property and in environmentally sensitive areas, but not on other private property; whereas, other municipalities have tree protections for all lands under their jurisdictions and complementary policies to protect and enhance our canopies. We need to be taking a more proactive approach in line with other Metro Vancouver municipalities. This report aims to provide direction to do this.

Discussion

As Port Moody is dedicated to environmental stewardship and climate action, having a strong tree protect bylaw is essential for maintaining tree canopy cover, decreasing urban heat island effect, cleaning the air, and protecting the sense of place that makes Port Moody feel like home. Our current tree bylaws states that Port Moody should have “significant” trees, but the definition leaves that up to council to designate trees; similarly we do not have a way to record where trees of particular significance are. If we do not have a way to identify them, we cannot protect them.

In 2017, [the Real Estate Board of Greater Vancouver](https://www.surrey.ca/bylawsandcouncillibrary/BYL_reg_16100.pdf) compared tree protection bylaws of nine Metro Vancouver local governments. Protected Trees were defined differently in each, however, the most protective and specific definition defined protected trees are those 20cm or more in diameter at 1.4 metres from the base (City of Coquitlam). This is similar to the definition for New Westminster and Surrey, which anecdotally have the most robust tree protection bylaws. The protected trees from New Westminster include an additional definition for multi stem trees “has a combined DBH (diameter at breast height, 1.3m) of its two largest trunks or stems of 20 centimetres or greater.” Both Surrey (https://www.surrey.ca/bylawsandcouncillibrary/BYL_reg_16100.pdf) and New Westminster (https://www.newwestcity.ca/database/files/library/7799_Tree_Protection_Regulation.pdf) also define specimen trees as those that should be protected at the discretion of staff: “a tree of any size which an arborist, a landscape architect, or the General Manager deems to be of exceptional value because of its species, condition, form, age or size but which has not been designated by Council to be a significant tree.” Further, most of these bylaws give protections to trees on all properties within local government jurisdiction.

In another example, in Port Coquitlam, a tree wider than 10 cm across of the following locally-rare species is considered a significant tree:

- Pacific Dogwood (*Cornus nuttallii*)
- Arbutus (*Arbutus menziesii*)
- Western Yew (*Taxus brevifolia*)
- Western white pine (*Pinus monticola*)
- Garry oak (*Quercus garryana*)
- Oregon ash (*Fraxinus latifolia*)

Similarly, Port Coquitlam is the most recent Metro Vancouver Municipality to develop criteria for heritage trees and a portal where the community can nominate trees through an online portal. The criteria for heritage resources in general are one or more of the following criteria:

- *cultural significance*
- *compelling formal or aesthetic qualities in its setting, or*

- *link with an historical event or important period in the history of Port Coquitlam.*
- *is a unique asset or presents rare evidence of a cultural aspect or area of Port Coquitlam*
- *has the capacity to contribute to the health of the community, or*
- *has value to the general community.*

This is something that Port Moody would be wise to consider. The city of St. Catharines Ontario recently considered such an action, stating “This requires approval from the land owner [if not the city], however, designation continues even if the property is sold” (<https://www.engagestc.ca/8756/documents/15032>).

Lastly, it must be acknowledged that some significant trees may interfere with structural soundness or may become hazardous. For those situations, Port Moody does have a strong 2:1 replacement bylaw when properties are developed; however, to further strengthen the tree protection bylaw and ensure that trees that are planted have the best chance of thriving and contributing to our urban tree canopy, Port Moody should consider requirements for tree replacement. For example, the City of New Westminster specifies the following criteria:

All replacements must meet the following criteria:

- *Must be 3-5cm caliper "diameter of a tree at 15 cm above the natural grade of the ground, measured from the base of the tree"*
- *Minimum height of 20ft (6.5m) at maturity - approximately 25 years of age*
- *No weeping or dwarf species*
- *No fruit bearing species such as apple, pear, plum, cherry, and peach.*

A replacement criteria for Port Moody may be that a tree species is likely to survive in our changing climate.

To further enhance our replacement bylaw, Port Moody should consider increasing our number of replacement tree necessary depending on the size of the significant tree. For instance, in Burnaby (<https://www.burnaby.ca/City-Services/Building/Burnaby-Tree-Bylaw.html#What+has+changed>):

The number of replacement trees required will be determined by the size of the tree removed, as outlined in the following chart:

<i>Size of Tree to be Cut or Removed</i>	<i>Number of Replacement Trees Required</i>
<i>20.3cm (8") to 30.5cm (12")</i>	<i>1</i>
<i>30.5cm (12") to 61cm (24")</i>	<i>2</i>
<i>61cm (24") or greater</i>	<i>3</i>

The scaled tree replacement ratio acknowledges the increased environmental and community

benefits provided by larger trees, and enables a more rapid recovery of those benefits after a permitted tree cutting or removal.

For Port Moody, because we already have a 2 to 1 replacement, we could consider 2,4, and 6 for sizes deemed appropriate.

In summary, Port Moody's tree protection bylaw should be updated to include those on private property, definite significant/ protected trees by size and species, instead of the current definition which defines a Significant Tree as a *"Tree identified by Council as significant because of its importance to the community, including for heritage or landmark values or as wildlife habitat."* Port Moody should develop criteria and process for designating and registering "heritage trees," from public and staff input. Further, our tree replacements should have specific criteria and increase in number depending on the significant of the tree being replaced. Such changes will strengthen our tree protection bylaw, help retain the trees that connect us to our community, and keep us resilient to climate change.

Other Option(s)

THAT the report dated February 1, 2020 from Councillor Amy Lubik and Councillor Meghan Lahti regarding Updating Our Tree Protection Bylaw be forwarded to the Environmental Protection Committee for review and recommendations.

Or

THAT the report dated February 1, 2020 from Councillor Amy Lubik and Councillor Meghan Lahti regarding Updating Our Tree Protection Bylaw be received for information.

Financial Implications

The financial implications associated with the recommendations in this report would be associated with policy development and bylaw enforcement.

Communications and Civic Engagement Initiatives

Provide information on internal and external communication and civic engagement initiatives.

Council Strategic Plan Objectives

1. Environmental Stewardship
2. Climate Change Resilience
3. Community Cohesion