



Interim Tree Bylaw Working Group

FINAL REPORT

JUNE 26, 2018


west vancouver

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1. Executive Summary:

Background:

Trees are important to the residents of West Vancouver. There has been an increased awareness of the value that trees bring to the District, including ecological, environmental, and social benefits. With this increased awareness, many residents are concerned that there has been no specific bylaw in West Vancouver for the management of trees on private lands.

This concern has been heightened with the rapid pace of development and redevelopment, and minimal tree regulation on private lots. Many trees, including mature trees, are often removed on redeveloped lots, affecting the character of the neighbourhood. Protecting our trees is important for residents, balanced with access to sunlight, views and safety.

As an interim measure, the District adopted an interim bylaw to protect trees on private land, effective July 25, 2016, and to allow more time to develop a thoughtful and balanced approach to tree management.

Actions:

The District of West Vancouver established the Interim Tree Bylaw Working Group (ITBWG) in February of 2017. The nine citizens appointed by Council to the ITBWG are: Craig Bench, Ernie Bodie, William Cafferata, Ian Ferguson, Mary Gamel, Andrew Gitt, Don Harrison, Lisa Morris, and Nic Tsangarakis. The ITBWG's mandate, as detailed in the Terms of Reference (Appendix D), states: "The purpose of the Tree Bylaw Working Group is to review options, engage the community, and make recommendations regarding the development of a bylaw to regulate trees on private property that balances tree management best practices with community interests."

To meet its assignment the ITBWG engaged in a wide range of activities. ITBWG reviewed relevant tree management documents, bylaws in other jurisdictions, previous tree-related surveys, and sought the opinions and concerns of residents regarding tree management.

The ITBWG reviewed urban tree management practices in various communities in British Columbia, other provinces, the U.S.A., and Europe. The majority of Metro Vancouver jurisdictions have tree bylaws in place, and these bylaws were evaluated for content that could be relevant in West Vancouver. Effort was placed on researching how communities value their trees and the importance they place on both the aesthetic and ecological benefits they provide.

The opinions and concerns of West Vancouver residents were obtained through a variety of methods:

- District of West Vancouver survey conducted in the fall of 2017
- public meetings held by the ITBWG in November 2017, and in April 2018 following the first report to Council.
- analysis of comments made in letters to Council about trees in 2017 and 2018
- previous information collected through District of West Vancouver surveys (2008, 2016) related to tree management, and from letters to Council in 2016.
- through meetings with West Vancouver Council and Staff

Overall, the ITBWG has considered, and been guided by, comments from more than 1,200 West Vancouver residents.

The data analyzed indicates there is broad community support for a tree management bylaw. The concerns expressed most often were regarding:

1. maintaining existing views
2. removal of mature trees and other vegetation from lots under development
3. safety issues regarding large trees damaging property
4. appropriate pruning and maintenance
5. the amount of bureaucracy that a new bylaw may incur on residents and District staff

Public input regarding trees on private property is in alignment with the statement regarding public trees in the West Vancouver Official Community Plan (section 2.6.5), to: ***Balance tree retention, replacement or compensation for their ecological value with consideration to access to sunlight and significant public view.***

Discussion

West Vancouver residents clearly value the presence of trees, and feel that the number of trees in their neighbourhood is about right (based on the 2017 survey). Therefore the ITBWG believes that maintaining the current canopy is a primary goal.

With this goal in mind, the ITBWG debated three options:

1. Maintain the existing bylaw, protecting only trees 75 cm DBH (Diameter at Breast Height) or larger,
2. Develop a bylaw that would apply to all private residential properties, requiring a minimum number of trees per lot based on lot size,
3. Develop a bylaw that would apply only to private residential lots being developed or redeveloped, requiring a minimum number of trees per lot, based on lot size.

Option two was chosen as the basis for our recommendations. In addition to dealing with the immediate concern about lots under development being stripped of vegetation, this option also spreads responsibility for maintaining tree canopy across all private lots. The ITBWG felt that counting trees on a lot was easier to assess and enforce than attempting to measure actual canopy coverage on a lot.

To address concerns regarding safety, views, sunlight, and maintenance of trees, the bylaw recommendations include flexibility to allow residents significant management of their trees, often without requiring a permit.

In addition to the base recommendation for a minimum number of trees per lot, other recommendations support the health and ecological value of existing trees. These additional recommendations include the protection of specific tree species, guidelines for pruning and maintenance, protection of roots systems, replacement tree requirements, as well as a suggested maximum hedge height. The broad application of the bylaw implies a need for educating residents about managing urban trees.

It should be noted that resident's concerns regarding tree management were not limited to trees on private property. While public trees are beyond the scope of the ITBWG, it is recommended that West Vancouver creates an Urban Forest Management Plan (UFMP). An UFMP is a roadmap that includes a tailored plan that guides tree management proactively and effectively on private and public lands for maximum, long-term benefits to the community. This plan would help align bylaws affecting trees on both private and public lands.

Recommendations

Present tree canopy in West Vancouver was most often characterized by 2017 survey respondents as “about right”. Given this perception, and the discussion above, our primary recommendations (grouped into four categories) are:

1. Bylaw Recommendations:

- establish regulations to maintain existing tree canopy
- conduct a survey of tree canopy in West Vancouver on a neighbourhood basis, to serve as a baseline
- establish regulations to control hedge height

2. Supporting Recommendations:

- create an Urban Forest Management Plan for West Vancouver

3. Education Recommendations:

- create and support an education program to facilitate effective implementation of the bylaw

4. Additional Considerations:

- review bylaws regarding public trees, to align with any new private tree bylaw

The complete set of recommendations, with supporting data and findings, are presented in the following report and its appendices.

The ITBWG thanks Mayor and Council for entrusting us with this task.

Respectfully submitted: Interim Tree Bylaw Working Group

2. Recommendations

2.1. Bylaw Recommendations

The Interim Tree Bylaw Working Group (ITBWG) recommends that a new Tree Bylaw with the characteristics below be enacted for private lands within the District of West Vancouver.

Following the significant public engagement, including the recent tree bylaw survey and a comprehensive review of previous tree-related surveys and public input, the working group has attempted to address the specific concerns of the community. We believe a new bylaw with the proposed characteristics will balance protecting neighbourhood character by preserving current levels of tree canopy, with residents' desire for flexibility and autonomy in managing their own trees for safety and to preserve views and sunlight, etc.

The proposed recommendations are intended to replace the Interim Tree Bylaw in effect since 2016, which was implemented largely to address the specific concern of preventing tree loss with new development. It is the ITBWG's view that the core recommendations should be incorporated in their entirety, with adjustments deemed necessary for administration/consistency with other bylaws, if the desired outcomes are to be achieved.

Tree definitions: For the purposes of recommendations 2.1.1 and 2.1.2 below, "existing trees" should be defined as any tree over 10 cm DBH (diameter at 1.3 m height; or when the main stem forks below 1.3 m, 10 cm diameter at the narrowest width below the fork), excluding trees that fall under the hedge definition in recommendation 2.1.11 and excluding trees in repositionable planters. For the purposes of recommendation 2.1.1 and 2.1.2 "new/replacement trees" should be minimum 5 cm at 15 cm above ground, as recommended in Appendix A (4.2) Replacement Trees - Recommended Species and Size.

Basis for tree definitions: 10 cm is being recommended (as opposed to a larger size) to support the desirability of smaller trees in some instances, where larger, taller species may eventually contribute to blocking views or sunlight. The proposed 10 cm size may also encourage retention of smaller, mature species of landscaping trees and large shrubs, including for example large, mature specimens of rhododendrons, camellias, etc. A smaller minimum size (5 cm) is being recommended for "new/replacement trees", which will then be protected until they reach 10 cm under recommendation 2.1.7. Smaller, 5 cm trees may be more readily available and practical for homeowners to plant themselves.

2.1.1. Recommendation: New or Redeveloped Lots

Single family lots under a new or redevelopment permit should be required to have a landscape plan including a minimum number of trees based on lot size (existing trees, or new/replacement trees from a list of recommended species, see Appendix A). If existing trees cannot be retained to meet the requirements, new/replacement trees of a specified size (based on species) should be required as part of the landscape plan. The present requirement to post a bond for the landscape plan with subsequent follow-up should be used to verify compliance without requiring new administrative processes. Retention of mature trees should be encouraged where possible. Incentives to retain existing mature trees could be any, or a combination of the following: Reducing the landscaping bond requirement by a specific amount per retained tree; specific and/or longer-term bond amounts

assigned to replacement trees to verify survival; increasing the replacement tree requirement with new-development to 10 cm DBH; etc.

Basis for recommendation: *Tree loss with property development was the primary motivation for implementing the Interim Tree Bylaw in 2016. It was identified as a major cause for concern in public engagement/survey results regarding tree loss and preserving neighbourhood character. There may be some preference for retention of existing, mature vegetation as opposed to planting of replacement trees. Retention of existing vegetation could also help reduce the negative visual impact and improve neighbour's privacy during construction.*

2.1.2. Recommendation 2.1.2A: Existing Lots

Except where protected under recommendations 2.1.5, 2.1.6 and 2.1.7 below, **no permit should be required** for tree removal on single family lots **as long as a minimum number of trees is maintained based on lot size** (existing trees, or new/replacement trees from a list of recommended species, see Appendix A (4.2) Replacement Trees). **Nor should a permit be required** to remove one additional “exemption” tree per each subsequent three-year period once the minimum number of trees is reached.

Should removal of a tree below the minimum number be desired, a permit will be required along with a replacement tree, except when the “exemption” (for one tree every three years) is still available. The permit should be granted for any reason, except where protected under recommendations 2.1.5, 2.1.6 and 2.1.7 below.

See Appendix A (4.1) Tree Density Schedule for proposed tree requirements for various lot sizes, and Appendix A (4.2) for examples of minimum requirements for “new/replacement trees” under 2.1.1 and 2.1.2 above. The ITBWG recommends these lists be reviewed by municipal staff to determine the suitability of the specific tree species, and further adapted to the West Vancouver context if necessary. The specific tree requirements should be harmonized with those existing for other multi-family developments, as recommended in 2.2.3 Standardize Definitions and Terms below.

Basis for recommendation: *Concern within the ITBWG that tree removal impacting overall canopy and neighborhood character might also occur on non-development lots if left largely unregulated. Recommendation 2.1.2 is made as a possible safeguard against bulk removal of trees (i.e. “clear-cutting”) on single family lots **not** under development. **An important element of this recommendation is that no permit will be required except as indicated. The ITBWG feels this balances the desire of many residents to have autonomy and flexibility in managing their own trees, with the overall goal of maintaining current tree canopy levels.** The recommended tree numbers per lot are estimates based on precedent from other jurisdictions, which after review by the ITBWG were determined likely to meet the goal of maintaining present tree canopy levels over the long term. The “one tree per three-year period” exemption is relatively conservative in this context, at least two local municipalities allow a one or two tree **per year** exemption. An important consideration is that from incorporation up until 2016, West Vancouver had no tree bylaw concerning trees on private lands, and since 2016, only limited tree protection under the interim bylaw. Despite this historic lack of tree protection, it appears bulk tree removal on non-development property has not been identified as a significant area of concern, either by residents or by the ITBWG.*

Recommendation 2.1.2B: Mandatory Self-Reporting

The bylaw should include a mandatory self-reporting requirement, where residents removing trees without a permit would be required to report tree removal in advance (address, date, work to be done, reason for removal, basis for permit exemption, etc.). This information, along with information regarding district-issued tree removal permits (when required), should be accessible to the public (with personal identifying information removed as required for privacy considerations).

Since reporting would be a requirement, some penalty for non-reporting would encourage compliance by residents (and tree contractors). Enforcement could be phased-in, or progressively applied (i.e. as an initial warning).

Basis for recommendation: *This self-reporting requirement would provide a transparent way for nearby residents to be informed of both permitted and permit-exempt upcoming or ongoing tree work. Requiring residents (and/or tree contractors) to report any upcoming tree removal may also serve to encourage voluntary bylaw compliance. It is intended to reduce bylaw compliance-related inquiries and associated enforcement and/or verification costs. Detailed tracking of tree removal over time would be a valuable supplement to tree canopy surveys for follow-up on the effectiveness of the proposed bylaw. Residents without online access should be able to report in-person or by telephone.*

2.1.3. Recommendation: Tree Canopy Survey

A Tree survey (iTree or Lidar) should be done as soon as possible to establish a tree canopy baseline and as a prerequisite for and component of supporting recommendation 2.2.1 (UFM recommendation, below). The survey should include an analysis on a neighbourhood-by-neighbourhood basis. Subsequent surveys should be done at regular intervals (ITBWG recommendation: at least once every three years, to be determined by municipal staff) to verify the ongoing efficacy of the new Tree Bylaw in maintaining tree canopy cover, and to provide a future basis for any adjustments to the bylaw as required to maintain canopy cover.

Basis for recommendation: *Present neighbourhood tree cover was most often characterized as “about right” by residents in the 2017 tree survey, so this survey could provide an appropriate baseline for maintaining tree canopy at current levels.*

2.1.4. Recommendation: Cash-in-Lieu

In circumstances where the specified minimum number of trees cannot be maintained due to insufficient space or unsuitable topography/terrain, “cash-in-lieu” may be paid to the municipality to facilitate tree planting on municipal lands or other tree-related projects or initiatives. The amount paid to the District should be an amount less than the fine for unauthorized tree removal.

Basis for recommendation: *Support in 2017 survey. Cash-in-lieu provides an option for lots where the specified number of trees cannot be maintained for the reasons listed. Cash-in-lieu could help fund some of tree-related education initiatives suggested under “Education”.*

2.1.5. Recommendation: Native Species

Certain native species: arbutus (*Arbutus menziesii*), Pacific yew (*Taxus brevifolia*), Garry oak (*Quercus garryana*), Pacific dogwood (*Cornus nuttallii*), and Yellow cedar (*Cupressus nootkatensis*) should be protected over 10 cm DBH and require a permit for removal on **all private lands**. Any removal permit for a protected species should require a replacement tree of the same species.

Basis for recommendation: Carry-over from existing interim bylaw, with addition of Pacific yew, Pacific dogwood and Yellow cedar. Other local municipalities protect these less common native species with the goal of maintaining native species diversity and wildlife habitat. Yellow cedar is included as a characteristic species of the old growth forests on the Upper Lands. Some private lots on the Upper Lands have remaining old growth forest cover. As West Vancouver's Official Community Plan indicates intent to acquire ecologically significant properties from private owners, it would be prudent to protect these old growth stands in advance of any future acquisition. See also 2.1.7.5 below regarding specific protection of old-growth trees.

2.1.6. Recommendation: Shoreline Protection Area

Trees within the unique coastal shoreline area of West Vancouver should be given protection to preserve the natural character of the rocky shore environment, including specifically the large trees required as perching or nesting habitat for certain birds such as eagle, osprey, heron, etc. In addition to the species protected under recommendation 2.1.5, large trees potentially used for perching or nesting should be protected, along with the characteristic Shore pine (*Pinus contorta var contorta*). Permits should be required for all trees over 75 cm DBH and Shore pine over 10 cm DBH that lie within the shoreline area. The protected shoreline area can be defined using the existing province of BC coastal ecosystem zone mapping, or as an area with boundaries defined by the municipality, encompassing the characteristic rocky shoreline area and adjacent areas likely to include large perching or nesting trees. Tree removal permits should only be issued for trees identified as a safety hazard by a certified arborist, or trees within an approved building envelope.

Basis for recommendation: The rocky ocean shoreline with nesting habitat for eagle, osprey and other birds, and the associated characteristic Coastal Douglas fir ecosystem was identified as an attribute largely unique to West Vancouver within the lower mainland. Shore pine should be protected as a characteristic species within this zone, along with arbutus and Garry oak protected under 2.1.5 above.

2.1.7. Recommendation: Protected Trees requiring a Permit

Trees within the categories below should be protected, and **require a permit** to remove on all private lands. Tree removal permits should only be issued for trees within an approved building envelope, or for reasons of safety as identified by an ISA-certified arborist specifically for hazard tree assessment, and/or in compliance with applicable province of BC regulations:

1. Trees within riparian areas (near streams and watercourses) as defined by existing municipal and provincial regulations.

Basis for recommendation: Consistent with existing protection. Under West Vancouver's Watercourse Protection Bylaw 4364, 2005, an Environmental

Development Permit is required to apply for any landscaping work within 15 metres of the top of watercourse bank. Under the provincial Riparian Area Regulations (contained in the Riparian Areas Protection Act February, 2016) West Vancouver is responsible for protecting riparian areas within its jurisdiction.

2. All trees planted or retained as part of a landscape plan under 2.1.1, and new/replacement trees under 2.1.1 and 2.1.2 until they reach 10 cm DBH.

Basis for recommendation: *A safeguard to prevent removal of smaller (<10 cm) replacement trees.*

3. All trees growing on slopes greater than 35% (The slope currently requiring special consideration under Development Permit Guidelines). Removal of trees on slopes should be permitted but require an approved mitigation plan as with new development.

Basis for recommendation: *To address concerns identified by residents regarding drainage and erosion, consistent with lot planning requirements for new development. West Vancouver's Development Permit Guidelines define slopes over 35% where construction might occur as "difficult terrain". These guidelines to alleviate steep site conditions, include preserving existing site landscape features.*

4. All trees, when containing an active nest of any bird, or any nest of an eagle or osprey, or any tree specifically identified as a nesting or perching tree.

Basis for recommendation: *To assure compliance with existing Province of British Columbia legislation. "It is an offense to possess, take, injure, molest, or destroy a bird or its eggs, or the nests of birds when occupied by a bird or egg (B.C. Wildlife Act, Section 34). Osprey and eagle nests are protected year-round, whether or not the nest is in use. Permission and a written permit from the province are required to remove or modify a tree or snag containing an active nest of these species."*

West Vancouver should maintain a public list of identified nesting/perching trees for species of concern (eagles, heron, osprey, etc.).

5. Trees within stands of old growth trees (first growth trees likely to be >120 years old, or **any** trees within or adjacent to a forested area composed of trees likely to be >120 years old).

Basis for recommendation: *To protect the few remaining old growth stands on private lots (i.e. certain lots in the Upper Lands near Cypress Provincial Park / Old-Growth Conservancy). This is consistent with the intention stated in the Official Community Plan to publically acquire lots of special ecological significance for preservation.*

See: <https://westvancouver.ca/home-building-property/major-projects/official-community-plan-review> and <https://westvancouver.ca/environment/tree-protection>

6. Heritage Trees (trees listed on the West Vancouver Heritage Register)

Basis for recommendation: *Consistent with existing protection within West Vancouver. See: <https://westvancouver.ca/environment/tree-protection>*

2.1.8. Recommendation: Protection Barrier

With property development, the protection barrier requirement for trees on surrounding properties and public lands should be expanded to include root systems encroaching on the property under development to avoid damaging or destabilizing trees on surrounding properties. This should apply to the extent possible without impacting proposed building plans. This is an expansion of current tree barrier requirements for development on private lands.

***Basis for recommendation:** Strong support in 2017 survey, identified as a concern in public engagement.*

2.1.9. Recommendation: Solar Installation Considerations

Protection should be given for access to sunlight for homes with existing solar energy installations (or passive solar requirements) against being shaded by trees or hedges subsequently planted or seeded on adjoining properties. Specific parameters should be defined, such as not allowing trees or shrubs to shade more than 10 per cent of a solar panel between the hours of 10 a.m. and 2 p.m. (example from California state law). Facilitating and/or maintaining access to sunlight should be considered valid reasons for tree pruning, removal or replacement.

***Basis for recommendation:** Strong support in 2017 survey, input from the public and at least one local architect supports solar energy provisions in a tree bylaw. Examples exist from other localities where solar installations have been more common (California, Oregon), and this is likely to become increasingly prevalent in the future. The Official Community Plan also highlights the use of solar panels.*

2.1.10. Recommendation: Pruning and Maintenance

That terms for common pruning and maintenance techniques for trees be defined (e.g. “windowing”, “spiral pruning”, “topping”, “re-topping” etc.) and guidance be issued for which techniques are allowable or prohibited, and in which situations (for example, re-topping might only be permitted for previously topped trees).

***Basis for recommendation:** Residents and arborists may have different opinions as to which techniques are best suited to various situations. Certain techniques or past-practices such as “topping” may lead to undesirable aesthetics or unanticipated hazards. Community knowledge of the allowable techniques will provide residents with the ability to appropriately prune and maintain their trees without a permit.*

2.1.11. Recommendation: Hedges

That hedges be defined as: **“Hedge means four or more trees or shrubs that form a continuous, linear screen of vegetation that provides privacy, fencing, wind breaking, and/or boundary definition”** and limited in height to 4.5 m (approx. 15’). Existing hedges should not be grandfathered. The hedge definition differs from the current WV Boulevard Bylaw hedge definition. These definitions could be brought into alignment retaining the generality of the proposed definition, or remain distinct if necessary.

The ITBWG recognizes that this height restriction will bring a large number of existing hedges into non-compliance, and recommends that a “grace” or “phase-in”

period of up to two years may be appropriate to allow residents to resolve issues and bring hedges into compliance prior to any enforcement. Subsequent enforcement should be complaint-based, not proactive. The district arborist would have final discretion over what would constitute a hedge vs. a “row of trees” in specific cases.

Basis for recommendation: *Hedges should be regulated in a bylaw rather than just within recommendations or guidelines, as unmaintained hedges were identified as a major item of concern in public engagement, especially where overgrown hedges cause loss of existing views and sunlight. A bylaw would likely carry more “weight” for conflict resolution between neighbours. Height and tree spacing have been specifically excluded from the hedge definition to allow inclusion of overgrown/abandoned hedges, and to exclude hedge trees from minimum tree retention requirements. A maximum height of 4.5 m is being recommended to accommodate hedges intended for privacy, while at the same time addressing problems identified by residents with overgrown and abandoned hedges blocking sunlight and views. This recommendation is intended to provide an unambiguous basis for neighbour conflict resolution, rather than being generally enforced by municipal staff where no issues exist.*

2.2. Supporting Recommendations

2.2.1. Recommendation: Urban Forest Management Plan

The municipality should develop a comprehensive Urban Forest Management Plan (UFMP), of which the recommended bylaw is one component. The overall goal of a UFMP is to ensure a healthy, aesthetic, safe and diversified tree cover that can provide a sustained supply of environmental and social benefits to residents. This plan would include establishing best practices for tree management across multiple bylaws affecting trees on private and public lands. Examples of other local municipalities adopting an UFM plan/strategy are the City of Vancouver and City of New Westminster.

Basis for recommendation: *The ITBWG feels that tree canopy protection will be best accomplished over the long term with an integrated urban forest management approach that draws on industry best practices and experience from other jurisdictions with similar goals. A comprehensive UFMP can also address areas of particular concern to West Vancouver such as hydrology, storm runoff and slope stabilization. An UFMP should help standardize terms and understanding across all tree-related bylaws. Finally, an UFMP will help citizens of West Vancouver better understand the rationale and benefits of trees and tree bylaws in West Vancouver.*

2.2.2. Recommendation: Periodic Review of Tree Bylaw Effectiveness

If the current (2018) level tree canopy cannot be maintained by implementing recommendations 2.1.1 and 2.1.2 above, as determined by subsequent tree canopy surveys as recommended in 2.1.3, then the tree bylaw should be reviewed and adjusted if necessary. As it is recommended that tree canopy surveys are executed every three years, it would be prudent to review the bylaw effectiveness every three years, once the canopy survey information is available.

Basis for recommendation: A major objective of the ITBWG bylaw recommendations is to protect neighbourhood tree canopy at current levels, thereby helping to protect neighbourhood character. The bylaw should be subject to necessary adjustment if these intended goals are not being achieved.

2.2.3. Recommendation: Standardize Definitions and Terms

For clarity and consistency, the definitions regarding trees, hedges, recommended species (and those not recommended), invasive species, pruning terms/categories, pruning limitations, etc. should be harmonized across all of the tree-related bylaws pertaining to private and public lands, parks, boulevards, etc.

Basis for recommendation: Current tree definitions, terminology, recommended species etc. are not always consistent across the various bylaws.

2.2.4. Recommendation: Good Neighbour Guidelines

The municipality should create "Good Neighbour Guidelines" to help residents understand a reasonable community approach to trees and hedges on their property.

Basis for recommendation: Many residents have concerns about issues and disputes they are experiencing in lack of tree and hedge maintenance, blocking views, and neighbours being unresponsive to concerns. While residents are seeking intervention measures that can better support them in these situation, the District is unlikely to intervene in private matters. This approach could help reduce contention between neighbours, and could also reduce potential calls to the municipality. The guidelines could include steps for residents to take to resolve contention between neighbours.

2.3. Education Recommendations

Education is an important tool for sustainable tree protection and management.

Over the past year, the ITBWG heard from many residents that education is a critical component of successful tree protection and management on private property. In addition to providing information on the specifics of the tree bylaw, education should increase the awareness of the value of trees and give residents the knowledge to do their part in maintaining the tree canopy.

Education will underpin the successful implementation of the bylaw and over time may have the potential to reduce administration costs of regulation.

To enable awareness, understanding, and compliance, the following steps are recommended:

- Inform
- Educate
- Partner

2.3.1. Inform

It is recommended that the District of West Vancouver:

1. Communicate evidence behind the bylaw recommendations and how they will meet the needs of the residents today and in the future.
2. Develop a communications plan, identify tools and timeline of implementation to ensure that all residents have a thorough understanding of the new bylaw and when it takes effect.
3. Provide information and support to all departments impacted by the bylaw (for example: planning, parks, enforcement and administration) to ensure successful implementation.

2.3.2. Educate

It is recommended that the District of West Vancouver:

- 1) Develop guidelines outlining the requirements and application process for tree removal permits:
 - (i) on new or redeveloped lots
 - (ii) on existing lots

Develop guidelines outlining the process for mandatory self-reporting of tree removal on private property, when a permit is not required.

- 2) Develop material outlining best practices for tree management including protection, removal, replacement and pruning.

Possible tools include:

- a) A webpage for a "one stop" shop on tree management. (See cities of Surrey and New Westminster for examples)
- b) The West Vancouver Tree book, in forms readily available to residents
- c) Mailed house-holder outlining the bylaw and the value of trees, and providing a basic information source for tree management. This brochure could also be a resource for assisting in resolving conflicts about trees between neighbours. (Possibly distributed in different languages.)

2.3.3. Partner

It is recommended that the District of West Vancouver:

Develop partnerships in the community for ongoing education.

Partnership examples may include:

- a) A District employee/consultant to oversee education
- b) A volunteer committee to provide education to the community by way of lectures, community involvement (tree planting) and participation in Community Day and National Tree Day
- c) Education in schools
- d) Local nurseries
- e) Establish a tree fund through West Vancouver Foundation
- f) Tree Keepers

2.4. Additional Considerations: Trees on Public Lands

2.4.1. Recommendation: Pruning or Removal of Public Trees

Protection should be given to preserve/maintain view corridors and for access to sunlight for gardens, solar energy requirements, etc., against being shaded by trees or hedges on adjoining public or private lands: **Permission for tree/hedge pruning and/or removal on municipal lands for maintenance of pre-existing views/sunlight should be granted with a lower threshold of neighbour approval than is currently required.** Also, it is recommended that the current requirement to acquire a permit to trim any foliage be modified to allow for annual pruning of municipal hedges adjoining private property without a permit. Safety, maintenance of pre-existing views, and access to sunlight should all be considered valid reasons to approve tree pruning, removal or replacement on municipal lands.

***Basis for recommendation:** Strong support for maintaining views/sunlight in the 2017 survey, significant input in public engagement and comments, including a high level of concern about trees that pose a safety hazard. There is a perception that increasing absentee ownership in West Vancouver may present an unanticipated barrier to contacting/obtaining the required approval from neighbours, and that permission is not always granted, despite sufficient neighbour approval.*

2.4.2. Recommendation: Solar Installation Considerations (Public Trees)

Protection should be given for access to sunlight for homes with existing solar energy installations (or passive solar requirements) against being shaded by subsequently planted or seeded trees or hedges on adjoining municipal lands. These practices should mirror the solar installation considerations recommended for private properties in 2.1.8. In practice this will require the municipality to authorize pruning/removal/replacement of trees on public lands as required so as not impede access to sunlight. Facilitating and/or maintaining access to sunlight should be considered valid reasons to authorize tree pruning, removal, or replacement on both private and municipal lands.

***Basis for recommendation:** Strong support in 2017 survey, input from the public and at least one local architect supports solar energy provisions in a tree bylaw. Protection for access to sunlight should apply to private and public trees similarly.*

3. Recommendations for Implementation Priorities

The ITBWG understands that the proposed tree bylaw is a significant change from the interim bylaw and that resource limitations may require recommendations to be introduced incrementally under an implementation plan. The ITBWG has formulated the table below as a suggestion for implementation prioritization, with time frames, and approximate costs (expressed as fractional FTEs). These are estimates only, based on our limited understanding of current resource allocation within the district, and anticipating the additional resources the recommendations may require.

The “Estimated Resources” below represent ongoing staff requirements in addition to current staff requirements for the interim bylaw, unless noted (e.g. for one-time staff requirements).

Report Ref.	Bylaw Recommendations	Priority	Phasing	Estimated Resource and Costs
2.1.1	New or Redeveloped Lots	High	Short (<1 year)	0.1 FTE
2.1.2A	Existing Lots	High	Short	0.1 FTE
2.1.2B	Mandatory Self-Reporting (for tree work on existing lots)	High	Short	0.05FTE + Capital
2.1.3	Tree Canopy Survey	High	Short	contract with outside survey company ~\$20K every 3 years
2.1.4	Cash-in-Lieu	High	Short	0.05 FTE
2.1.5	Native Species protection	Current Bylaw	Short	No additional
2.1.6	Shoreline Protection Area	Medium	Long (>2 years)	Initial work to setup = 0.2 FTE
2.1.7	Protected Trees requiring a Permit:	Existing Bylaw	Short	No additional
	1. Trees within riparian areas			
	Track new/replacement trees until 10 cm	High	Short	0.1 FTE
	Trees on slopes greater than 35%	High	Short	0.05 FTE
	Trees containing nests, and perching trees	High	Short	Prov Regs, except perching 0.02 FTE
	5. Old Growth Trees	Medium	Medium (1-2 years)	0.02 FTE
	6. Heritage Trees	Exists	Short	No Additional
2.1.8	Protection Barriers	High	Short	0.1 FTE
2.1.9	Solar Installation Considerations	Low	Medium	0.05 FTE
2.1.10	Pruning and Maintenance	High	Short	0.05 FTE
2.1.11	Hedges	High	Medium	0.2 FTE (Higher initial impact)

Report Ref.	Supporting Recommendations	Priority	Phasing	Estimated Relative Cost
2.2.1	Urban Forest Management Plan (UFMP)	Medium	Long	contract with outside engineering firm.one time expense~\$100K
2.2.2	Periodic Review of Bylaw Effectiveness	High	Long	0.1 FTE in future years
2.2.3	Standardize Definitions and Terms	Medium	Medium	0.05FTE One-time
2.2.4	Good Neighbour Guidelines	Medium	Medium	0.05FTE One-time

Report Ref.	Education Recommendations	Priority	Phasing	Relative Cost
2.3.1	1. Inform: Communicate evidence behind the bylaw recommendation	Medium	Short	0.05 FTE One-Time
	2. Inform: Develop a communications plan	High	Short	0.3 FTE One-Time
	3. Inform: Support other affected departments	High	Short	0.05 FTE One-Time
2.3.2	1. Educate: Develop guidelines for tree removal permits, and for self-reporting	High	Short	0.1 FTE One-Time
	2. Educate: Develop material outlining best practices for tree management 2a. One-Stop Webpage	Medium	Short	0.2 FTE One-Time
	2b. Updated West Vancouver Tree Book	Medium	Medium	0.1 FTE One-Time
	2c. Mailed house holder	Medium	Short	0.05 FTE One-Time + Postage
2.3.3	Develop partnerships in the community	Low	Medium	0.1 FTE

Report Ref.	Additional Considerations	Priority	Phasing	Estimated Relative Cost
2.4.1	Pruning or Removal of Public trees	Medium	Medium	0.05 FTE
2.4.2	Solar Installation Considerations (Public Trees)	Low	Medium	0.05 FTE

Phasing: Short = less than 1 year
Medium = 1 - 2 years
Long = more than 2 years

In summary, the above table suggests that very roughly, 1.0 additional FTEs would be required to administer the new bylaw recommendations. This would bring the required staff, including current staff (Est 1.7 FTE which includes 1.0 FTE for the Arborist, 0.5 FTE for bylaw enforcement and 0.2 FTE for technical review for development) to 2.7 FTE. In addition, the Education Recommendations would add roughly 1.0 FTEs for one year.

It should be noted that some of the bylaw recommendations were specifically intended to reduce the administrative overhead for the municipality, as well as the costs to residents. Some of those recommendations are:

- Permit not required for pruning and maintenance
- Permit not required for tree removal above the minimum tree count for the lot
- Permit not required for the one in three year exemption
- Mandatory self-reporting for allowed non-permitted tree activity

For comparison purposes, the following table shows the number of dedicated tree bylaw staff resources in selected municipalities. A quick comparison of the numbers suggests that a range of 2 to 3 FTEs to administer all of the proposed bylaw recommendations in West Vancouver is a reasonable estimate.

Selected Municipal Tree Bylaw Staff Resources			
Municipality	Population (2016, Rounded)	Area (Sq km)	Dedicated Staff
City of Abbotsford	141,000	376	4 FTE ¹
City of Courtenay	26,000	27	.35 FTE ²
City of Richmond	198,000	198	3 FTE ³
City of Vancouver	631,000	115	13 FTE ¹
District of North Vancouver	85,000	161	4 FTE ¹
District of West Vancouver	42,000	87	
¹ Includes Enforcement Staff			
² Does not include Shared Arborist			
³ Does not include Enforcement Staff			

Potential Phasing Considerations

If it is desirable to implement the recommendations in phases for budget, resource, or other considerations, these are examples of potential phases:

- Implement the bylaw for Development Lots only
- Implement the bylaw for Existing Lots
- Implement hedge height restrictions
- Develop an Urban Forest Management Plan

4. Appendix A: Tree Density Schedule & Replacement Tree List

4.1. Tree Density Schedule

One tree is required for each 150 m² (1,615 sq. ft.) of lot size, starting at two trees on lots up to 300 m² (3,229 sq. ft.).

Lot Size (Square Metres)	Lot Size (Square Feet)	Trees Required
0 - 300	0 - 3229	2
301 - 450	3230 - 4844	3
451 - 600	4845 - 6458	4
601 - 750	6459 - 8073	5
751 - 900	8074 - 9688	6
901 - 1050	9689 - 11302	7
Each additional 150 m ²	Each additional 1615 sq. ft.	1 additional tree

Comparison of selected other local communities with a trees-per-lot approach, showing tree requirements per lot size, normalized to ITBWG lot size recommendations for West Vancouver.

The numbers in the table below represent trees required based on lot size.

Sq. Metres	Vancouver	Courtenay	Coquitlam	West Van
300	2	2	1	2
400	3	2	1	2
500	4	2	1	4
600	5	3	2	4
700	5	3	2	5
800	6	4	3	6
900	6	4	3	6
1,000	6	5	3	7
1,100	7	5	4	8
1,200	7	6	4	8
1,300	8	6	5	9
1,400	8	7	5	10
1,500	8	7	5	10
1,600	8	8	6	11

Notes:

- Vancouver, Coquitlam tree diameter = 20 cm for retained trees
- Courtenay = 2 cm for retained trees
- Proposed West Vancouver = 10 cm for retained trees
- Courtenay, Coquitlam tree canopy target = 40%
- City of Vancouver canopy target = 22%
- Proposed West Vancouver canopy target = TBD (baseline target is current 2018 canopy, requires survey)

4.2. Replacement Trees - Recommended Species

Replacement trees should be chosen to meet the minimum requirements from the table below, or be otherwise approved at the municipal arborist’s discretion. Height at maturity should be taken into account when views or sunlight may be an issue for neighbouring properties, in addition to suitability for planting on slopes, etc.

Interim to verification by DWV arborists, the following table is provided for reference.

The table is created from three information sources:

1. City of Coquitlam - Tree Resource Book - specifies replacement trees by species and diameter/height
2. City of Vancouver - Bylaw Schedule D - specifies replacement trees by species and diameter/height
3. West Vancouver Tree Book (1980 Version) - specifies replacement trees by species and height at maturity. This source also defines species not recommended ("Do Not Plant" = DNP).
 - For minimum diameter, it is recommended to take the smaller of the diameters/heights on the table, if there is a difference in the two measurements.
 - Fruit trees are included, based on the City of Vancouver list.

Notes:

- Coquitlam: 2 Class A trees = 3 Class B trees = 4 Class C trees
- Vancouver: 1 Part 1 tree = 2 Part 2 trees. Part 1 or part 3 trees should be used for sloping sites.
- West Vancouver Tree Book: DNP = "Do Not Plant"

Botanical Name	Common Name	Type	Coq Size	Coq Cls	COV Size	COV Part	COV Slope	WV Tree Bk: Mature Height	Spread
<i>Abies grandis</i>	Grand fir	Conif	3 m	A	3.5 m	1		40 m	12 m
<i>Abies procera</i>	Noble fir	Conif	3 m	A	3.5 m	1		30 m	12 m
<i>Acer campestre</i>	Hedge maple	Decid	5 cm	C	6 cm	1	3	9 m	8 m
<i>Acer cappadocicum</i>	Coliseum maple	Decid	5 cm	B				9 m	6 m
<i>Acer circinatum</i>	Vine maple	Decid	2 m	C	3.5 m	2	3	5 m	3 m
<i>Acer Fremanii</i>	Freman maple							15 m	10 m

Botanical Name	Common Name	Type	Coq Size	Coq Cls	COV Size	COV Part	COV Slope	WV Tree Bk: Mature Height	Spread
Acer ginnala	Amur maple	Decid	5 cm	C	4 cm	2		6 m	6 m
Acer griseum	Paperbark maple	Decid	5 cm	C	5 cm	1		8 m	6 m
Acer macrophyllum	Bigleaf maple	Decid	6 cm	A	3.5 m	1		DNP: 25m	15 m
Acer palmatum	Japanese maple	Decid	5 cm	C	3 m	2	3	6 m	5 m
Acer platanoides	Norway maple	Decid	6 cm	A	6 cm	1		12 m	10 m
Acer pseudoplatanus	Sycamore maple	Decid	6 cm	A	6 cm	1		12 m	10 m
Acer rubrum 'Armstrong'	Armstrong maple	Decid	5 cm	B	6 cm	1		12 m	4 m
Acer rubrum 'Autumn Flame'	Autumn Flame maple	Decid	5 cm	B				10 m	10 m
Acer rubrum 'Scarlet Sentinel'	Scarlet Sentinel maple	Decid	5 cm	B	6 cm	1		12 m	6 m
Acer saccharinum	Silver maple	Decid	6 cm	A	6 cm	1		15	12 m
Acer truncatum	Shantung maple	Decid	5 cm	B				10	7 m
Aesculus hippocastanum	Horsechestnut	Decid	6 cm	A	6 cm	1		DNP: 15m	12 m
Aesculus x carnea	Red Horsechestnut	Decid	5 cm	B	6 cm	1		10	9 m
Albizia julibrissin	Silk tree	Decid	5 cm	B	3 m	2	3	9 m	7 m
Amelanchier grandiflora	Serviceberry	Decid	2 m	C				8 m	5 m
Araucaria araucana Monkey Puzzle Tree 3 m	Monkey Puzzle tree	Conif	3 m	A	3 m	1		15	9 m
Betula jacquemontii	Himalayan birch	Decid	6 cm	B	6 cm	1		12	10 m
Betula nigra	River birch	Decid	6 cm	B	6 cm	1		12	10 m
Calocedrus decurrens Incense Cedar 3 m	Incense cedar	Conif	3 m	A	3.5 m	1	California Incense	15	3 m
Carpinus betulus	European hornbeam	Decid	6 cm	A	6 cm	1		10m	8 m
Catalpa bignonioides	Common catalpa	Decid	6 cm	A	6 cm	1		10	9 m
Catalpa speciosa	Northern catalpa	Decid	6 cm	A				15	10 m
Cedrus atlantica Atlas Cedar 3 m	Atlas cedar	Conif	3 m	A	3.5 m	1		DNP: 18m	12 m
Cedrus deodara	Deodar cedar	Conif	3 m	A	3.5 m	1		DNP: 25m	12 m
Cedrus libani	Cedar of lebanon	Conif	3 m	A	3.5 m	1		18	15 m
Cercidiphyllum japonicum	Katsura tree	Decid	5 cm	B	6 cm	1		12	12 m

Botanical Name	Common Name	Type	Coq Size	Coq Cls	COV Size	COV Part	COV Slope	WV Tree Bk: Mature Height	Spread
<i>Cercis canadensis</i>	Eastern redbud	Decid	5 cm	B	5 cm	2	3	9 m	8 m
<i>Celtis occidentalis</i>	Hackberry	Decid	5 cm	B	5 cm			13	10 m
<i>Chamaecyparis nootkatensis</i>	Nootka cypress	Conif	3 m	A	3.5 m	1,2		10	4 m
<i>Chamaecyparis obtusa</i>	Hinoki False cypress	Conif	2 m	B	3 m	1	3	12 m	6 m
<i>Chamaecyparis pisifera</i>	Sawara False cypress	Conif	2 m	B	3 m	2	3	DNP: 15m	6 m
<i>Cornus 'Eddie's White Wonder'</i>	Eddie's White wonder	Decid	5 cm	C				7 m	6 m
<i>Cornus kousa</i>	Kousa dogwood	Decid	5 cm	C	3.5 m	1		6 m	6 m
<i>Cornus mas</i>	Cornelian cherry	Decid	3 m	B	3 m	2	3	7 m	5 m
<i>Cornus nuttallii</i>	Pacific dogwood	Decid	6 cm	B	5 cm	1		12 m	8 m
<i>Crataegus lavalleyi</i>	Lavalle hawthorne	Decid	5 cm	B	6 cm	2		9 m	6 m
<i>Davidia involucrata</i>	Dove tree	Decid	6 cm	B	5 cm	1		12 m	9 m
<i>Fagus sylvatica 'Aspenfolia'</i>	Fern Leaf beech							15 m	12 m
<i>Fagus sylvatica</i>	European beech	Decid	6 cm	A	6 cm	1		15 m	12 m
<i>Fraxinus americana</i>	American ash	Decid	6 cm	A	6 cm	1		13 m	10 m
<i>Fraxinus ornus</i>	Flowering ash	Decid	6 cm	A	6 cm	1		12 m	12 m
<i>Fraxinus oxycarpa</i>	Raywood ash	Decid	6 cm	A	6 cm	1	Raywood Ash	13 m	9 m
<i>Ginkgo biloba</i>	Ginkgo	Decid	6 cm	A	6 cm	1		15 m	9 m
<i>Gleditsia triacanthos inermis</i>	Thornless Honey locust	Decid	6 cm	B	6 cm	1		13 m	9 m
<i>Halesia carolina</i>	Carolina silverbell	Decid	5 cm	C				9 m	6 m
<i>Larix decidua</i>	European larch	Conif	3 m	A	3.5 m	1		18 m	9 m
<i>Liquidambar styraciflua</i>	American sweetgum	Decid	6 cm	A	6 cm	1		12 m	7 m
<i>Liriodendron tulipifera</i>	Tulip tree	Decid	6 cm	A	6 cm	1		18 m	10 m
<i>Magnolia 'Elizabeth'</i>	Elizabeth magnolia	Decid	5 cm	C				10 m	6 m
<i>Magnolia kobus</i>	Forest Pink magnolia	Decid	5 cm	C				9 m	6 m
<i>Magnolia 'Galaxy'</i>	Galaxy magnolia	Decid	5 cm	C				9 m	6 m
<i>Magnolia acuminata</i>	Cucumber tree	Decid	5 cm	B	3 m	2	3	12 m	8 m
<i>Magnolia grandiflora</i>	Southern magnolia	Decid	5 cm	B	5 cm	2		10 m	6 m
<i>Malus Species</i>	Apple	Decid			6 cm	2		6-9 m	3-6 m

Botanical Name	Common Name	Type	Coq Size	Coq Cls	COV Size	COV Part	COV Slope	WV Tree Bk: Mature Height	Spread
Malus species	Crabapple	Decid	5 cm	C	6 cm	2	3	6-9 m	3-6m
Metasequoia glyptostroboides	Dawn redwood	Conif	3 m	A	3 m	1		21 m	7 m
Nyssa sylvatica	Sour Gum tree	Decid	5 cm	C				9 m	6 m
Ostrya carpinifolia	Hop hornbeam	Decid	5cm					12 m	7 m
Oxydendron arboreum	Sorrel tree	Decid	5 cm	C				9 m	4 m
Parrotia persica	Persian parrotia	Decid	5 cm	C	6 cm	2	3	9 m	6 m
Paulownia tomentosa	Empress tree	Decid	6 cm	A	6 cm	1		12 m	9 m
Picea abies	Norway spruce	Conif	3 m	A	3.5 m	1		12 m	8 m
Picea omorika	Serbian spruce	Conif	3 m	A	3.5 m	1		12 m	5 m
Picea sitchensis	Sitka spruce	Conif	3 m	A	3.5 m	1		30 m	7 m
Pinus contorta	Shore pine	Conif	2 m	B	3.5 m	2		10 m	8 m
Pinus monticola	Western White pine	Conif	3 m	A	3.5 m	1		21 m	8 m
Pinus ponderosa	Ponderosa pine	Conif	3 m	A	3.5 m	1		DNP: 35m	8 m
Pinus radiata	Monterey pine	Conif	3 m	A	3.5 m	1		15-30 m	9 m
Pinus wallichiana	Himalayan White pine	Conif	3 m	A	3.5 m	1		10 m	6 m
Platanus x acerfolia	London Plane tree	Decid	6 cm	A	6 cm	1		15 m	12 m
Prunus sargentii	Sargent Flowering Cherry	Decid	5 cm	B	6 cm	2	3	9 m	9 m
Prunus serrulata	Japanese Flowering cherry	Decid	5 cm	B	6 cm	2	3	9 m	9 m
Prunus subhirtella	Higan cherry	Decid	5 cm	B	6 cm	2	3	9 m	7 m
Prunus yedoensis	Yoshino cherry	Decid	5 cm	B	6 cm	2	3	9 m	9 m
Pseudotsuga menziesii	Douglas fir	Conif	3 m	A	3.5 m	1		DNP: 60m	9 m
Pyrus calleryana	Callery pear	Decid	5 cm	B				10 m	5 m
Quercus coccinea	Scarlet oak	Decid	6 cm	A	6 cm	1		15 m	12 m
Quercus garryana	Garry oak	Decid	6 cm	A				20 m	10 m
Quercus palustris	Pin oak	Decid	6 cm	A	6 cm	1		16 m	12 m
Quercus robur	English oak	Decid	6 cm	A	6 cm	1		16 m	12 m
Quercus rubra	Red oak	Decid	6 cm	A	6 cm	1		16 m	12 m
Robinia ambigua	Pink locust	Decid	6 cm	A	6 cm	1		12 m	9 m
Salix alba 'Tristis'	Weeping willow	Decid	5 cm	B	8 cm	1		DNP:12	18 m
Sciadopitys verticillata	Umbrella pine	Conif	2 m	B	3 m	1	3	9 m	5 m

Botanical Name	Common Name	Type	Coq Size	Coq Cls	COV Size	COV Part	COV Slope	WV Tree Bk: Mature Height	Spread
<i>Sequoia sempervirens</i>	Redwood	Conif	3 m	A	3 m	1		30 m	9 m
<i>Sequoiadendron giganteum</i>	Giant sequoia	Conif	3 m	A	3 m	1		40 m	10 m
<i>Sophora japonica</i>	Japanese Pagoda tree	Decid	5 cm	B	3 m	2		12 m	12 m
<i>Sorbus aucuparia</i>	European Mountain ash	Decid	5 cm	C	6 cm	1	3	9 m	7 m
<i>Stewartia pseudocamillia</i>	Japanese stewartia	Decid	5 cm	C				9 m	6 m
<i>Styrax japonica</i>	Japanese snowbell	Decid	5 cm	C	6 cm	1	3	9 m	6 m
<i>Syringa reticulate</i>	Lilac tree							6 m	4.5 m
<i>Thuja plicata</i>	Western Red cedar	Conif	3 m	A	3.5 m	1	Small Variety	DNP: 45m	9 m
<i>Tilia cordata</i>	Little Leaf linden	Decid	6 cm	A	6 cm	1		15 m	10 m
<i>Ulmus americana</i>	American elm							18 m	12 m
<i>Zelkova serrata</i>	Japanese zelkova	Decid	6 cm	A	6 cm	1		15 m	12 m

Notes:

- Coquitlam: 2 Class A trees = 3 Class B trees = 4 Class C trees
- Vancouver: One Part 1 tree = two Part 2 trees. Part 1 or part 3 trees should be used for sloping sites.

Additional Trees not recommended by Tree Book: DNP = Do Not Plant):

- Hemlock
- Red alder
- Aspen
- Lombardy poplar
- Cottonwood
- White birch
- Paper birch

5. Appendix B: Consultation Steps and Results

The Interim Tree Bylaw Working Group (ITBWG) feels that input from West Vancouver residents is the most important source of input leading to bylaw recommendations to Council. Targeted communications with residents began in August 2017, leading to public information gathering through three public meetings, the online survey, and four community sessions.

As there had been significant tree management public input to Council prior to the ITBWG being formed (including the 2016 survey, plus numerous letters to Council), the ITBWG was careful to understand and acknowledge prior input. In total since early 2016, there have roughly 1,772 items of input from the public, including 1,209 written comments.

In addition to public consultations, the ITBWG also met with District Council and staff, as well as District of North Vancouver staff, to understand their views relating to the administration of the current bylaws, and to gather feedback on the initial Report to Council presented in March 2018.

ITBWG Consultations:

- Harmony Arts "pop-up" booth (August, 2017)
- 2017 survey (October/November, 2017)
- Three public meetings (November, 2017)
- Meetings with Community Engagement Committee (July, October, and December 2017)
- Responses to stakeholder request for input (December 2017 and January 2018)
- Meetings with District of West Vancouver and District of North Vancouver staff (2017 and April, May 2018)
- Four community sessions (April 2018)
- Letters to Council and ITBWG (2018)
- Meetings with Council (2018)

Prior public consultations reviewed:

- Letters to Council (2016 and 2017)
- 2016 survey (June, 2016)
- Pre-2016 community input

In addition to the formal consultations, residents attended about half of the biweekly working group meetings. ITBWG provided time for resident input at the end of each meeting.

While any single source of data may be questioned as to being statistically accurate, the number of data sources combine to provide data that is statistically meaningful.

5.1. Harmony Arts "Pop-up" Booth (August, 2017)

ITBWG wanted to increase awareness of the group's work and of future opportunities for residents to provide their feedback through the survey and public meetings. ITBWG members staffed the booth on two full days at Harmony Arts, having conversations with many residents.

5.2. 2017 Survey (October/November, 2017)

The ITBWG (with support from District staff) spent significant time designing this survey, with the intent of making it easy to understand and answer, to encourage as many complete responses as possible. The questions were written to be unbiased, and to collect information which ITBWG did not already have from prior consultations. Pre-survey awareness was arranged through staff and Council, including letters/emails from councillors, newspaper ads, and posters in District facilities.

The survey was held online on westvancouverITE from October 30 through November 30. There were 400 separate responses (after duplicates were removed), with good representation across West Vancouver neighbourhoods. 276 (69%) of the responders added optional comments, totalling 54 pages of comments. ITBWG was pleased with the survey response, both in numbers and in content.

Some of the most meaningful information from the survey questions:

- There is support for "the ability for the District of West Vancouver to protect trees on private property" (55.1% Yes, 24.5% No, 25.5% Not Sure)
- Most residents "feel...the current level of the tree canopy (number of trees) in your neighbourhood" is about right (42% About Right, 35% Too Much, 19% Too Little).
- There is strong support for requiring a minimum number of trees on a newly developed or redeveloped lot (84% Somewhat or Strongly Agree)
- There is support for maintaining pre-existing view corridors (72% Somewhat or Strongly Agree)

In addition to answering the formal questions, 276 responders provided comments. The four most common concerns voiced were:

1. Safety/Hazard (81 mentions; 77 (79-2) net positive)
2. Protecting Views (86 mentions; 70 (78-8) net positive)
3. Tall trees/Tree Height (73 mentions; 65 (69-4) net positive)
4. New/Re-development (57 mentions; 57 (57-0) net positive)

The survey summary and comment analysis summary can be found in Appendix B Section 5.11.

5.3. Three Public Meetings (November, 2017)

During the period that the survey was open for response, three public meetings were held from November 8–18. The purpose of the meetings was to inform attendees of some of the committee's progress to date, and to provide a forum for round-table discussion of some of the alternative approaches and features the ITBWG was considering recommending for a new bylaw.

There were approximately 30 attendees at each meeting. The majority of attendees spent a full two hours first listening to a positioning presentation, and then contributing to roundtable discussions regarding the perceived pros and cons to the various approaches.

Six pages of comments were captured from the three meetings. Many of the attendees voiced the opinion that they felt they were being listened to by the ITBWG.

The most commonly voiced concerns were:

1. Safety/Hazard (especially with large and unmaintained trees) - 27 mentions; 25 net positive.
2. New/Re-development - 17 mentions; 17 net positive
3. Species (Consideration for size, height, drainage) - 16 mentions; 16 net positive
4. Replace/Replacement Trees - 18 mentions; 10 net positive

The analysis summary of the comments can be found in this Appendix B Section 5.11.

5.4. Meetings with Community Engagement Committee

The Community Engagement Committee (CEC) is a Select Committee of Council which oversees the establishment and implementation of new working groups, and revisions as may be necessary to Working Group Guidelines. The committee consists of three councillors and five citizen members.

Members of the ITBWG met with the CEC three times (in July, October, and December, 2017) to provide an update on progress, and to receive feedback to help guide the remaining work.

5.5. Stakeholder Request for Input

After the survey was closed for input, the survey responses and summary remained open to public view. With this in mind, the ITBWG arranged for "Call for Comments/Input" letters to be sent to six stakeholder groups. As of January 27, 2018, responses were received from three groups

- West Vancouver Housing Association - (Response received)
- Altamont Residents Association - (Response received)
- Western Residents Association - (Response Received)
- Ambleside Dundarave Ratepayers Association
- Design Review Committee
- Lower Caulfeild Advisory Committee

The perspectives provided in the feedback varied in areas of concern. While the content was not statistically analyzed, it was read and appreciated by the ITBWG.

In addition to the stakeholders noted above, members of the ITBWG met briefly with the Squamish Nation's Chief Bill Williams in January 2018. Due to the extreme pressure that the Nation is under, they do not have the capacity to get involved with the working group too much at this time. The Nation did express an interest around development of the DFO lands, and any involvement from the District.

5.6. Meetings with Staff

Meetings with District of West Vancouver staff provided the ITBWG with an understanding of the administrative load that the current interim bylaw places on staff. Staff provided the working group with their understanding of resident's concerns or confusion with the existing interim bylaw processes, and provided suggestions to reduce these issues.

Following release of ITBWG's first Report to Council in March 2018, District staff provided further feedback regarding implementation and operational impacts that the proposed bylaw would incur.

Staff also provided the ITBWG with recent information regarding the number of trees removed from single lot development sites. This information allowed the working group to understand how development was affecting the tree canopy.

A presentation from Guy Exley (Urban Forester, District of North Vancouver) provided an excellent perspective from a North Shore community who has had bylaws with tree protection considerations since 1993 (as part of their Environmental Protection and Preservation Bylaw 6515). The District of North Vancouver's Tree Protection Bylaw was significantly revised in 2012, based on feedback from the public and from District of North Vancouver staff. The revisions, and rationale for the revisions, were of significant interest to the ITBWG.

5.7. Four Community Sessions (April 2018)

Following the presentation of ITBWG's initial Report to Council in March 2018, the ITBWG held four community session in April. Three drop-in style information sessions were held in the West Vancouver Community Centre Atrium, and one was held in the Gleneagles Community Centre. The sessions featured display boards summarizing the recommendations contained in the Report to Council, were staffed by ITBWG members, and ran for three hours.

In total, approximately 100 residents engaged ITBWG members in discussion. In general, there feedback was in line with resident feedback received prior to the Report in Council.

Regarding the recommendations, most residents were appreciative of the effort being taken by the ITBWG to listen to the opinions of residents, and ideally to have those opinions reflected in the ITBWG's recommendations. Of course, there were still opinions provided at both ends of the tree protection spectrum.

One recommendation that created significant discussion was the subject of hedges. While many residents felt hedge height restriction of 3 metres (the initial recommendation) was justified, others felt that the hedge height restriction would reduce privacy. (In response to this feedback along with input from District Council and staff, the proposed maximum hedge height was increased to 4.5 m (~15 feet).)

5.8. Letters to Council and ITBWG (2018)

Following the Report to Council, 129 responses were received from residents as of May 2, 2018. As would be expected, there were many more negative comments than positive ones. Some of the key summary points from these letters:

- Over 80% of respondents referred to the content in the Report to Council, showing awareness of the recommendations (“Read”)
- 11% of respondents were in full agreement with the recommendations, while 9% felt we should not have a bylaw.
- 42% of the “Read” responses were regarding hedges only. Many of these responses mentioned the Altamont neighbourhood, where large hedges are common.
- 52% of the responses provided an opinion on the hedge recommendation, with 34% being in favour, and 66% being opposed. It was implied in almost half of the negative responses that there would be no issue if adjoining neighbours could keep a higher hedge with mutual agreement.
- Regarding the key recommendation regarding development lots, 8% felt the recommendation was not strong enough, while others felt the recommendation could reduce the ability to fully develop a lot.
- Regarding the key recommendation regarding existing lots, some felt too many trees were required, while others were concerned that large trees weren’t specifically protected.
- Over 15% of respondents supported replacement trees of limited mature height.
- Over 15% of respondents mentioned the “Additional Considerations” pertaining to public trees. Two thirds supported ITBWG’s recommendations regarding public trees, while one third felt that the ITBWG was over-stepping its mandate and/or felt public trees should remain as protected as they are today.

5.9. Meetings with Council

Subsequent to the presentation of the Report to Council in March 2018, ITBWG met with Council on May 7, 2018, to receive feedback from Council regarding the recommendations. Two areas of concern were the hedge height restriction, and the lack of protection of large trees. It was felt that the initially proposed hedge maximum of 3 metres would immediately cause many residents to be in violation of the bylaw, even if the maximum was not proactively enforced.

5.10. Prior Consultations

There were significant public consultations made prior to the formation of the ITBWG in early 2017. The information gathered in these previous consultations was very relevant.

5.10.1. Letters to Council (2016 and 2017)

Between February 2016 and April 2017, Council received 96 letters regarding tree management. Over half of those letters were received in the month of April 2016, the month the Interim Tree Bylaw was enacted. ITBWG received copies of those letters from staff and analyzed their content.

The four most commonly voiced concerns were:

1. Views (88 mentions; 70 (79-9) net positive)
2. Development (49 mentions; 47 (48-1) net positive)
3. Neighbours - both positive and negative comments (58 mentions)

4. Fines/Penalties - should be meaningful (39 mentions)

The analysis summary is included in Appendix B Section 5.11.

5.10.2. 2016 Survey

From May 15 to June 10, 2016, a westvancouverITE tree survey was open for public input. There were 1,087 responses to this survey. 556 responses were "off-forum", which meant the respondents did not register on westvancouverITE, so some duplications and non-resident input was likely.

One of the most meaningful responses from the formal survey:

- There was support for "regulations to prevent clear cutting, by further regulating the number and location of trees on a lot that can be cut and removed at one time" (64% yes, 36% no).

In total, there were 648 comments, which were all analyzed for content. The four most commonly-voiced concerns were:

1. Views (155 mentions; 121 (138-17) net positive)
2. Clear-cutting (123 mentions; 109 (116-7) net positive)
3. No bylaw wanted (109 mentions; 109 net positive)
4. Development (99 mentions; 87 (93-6) net positive)

The analysis summary is included in Appendix B Section 5.11.

5.10.3. Pre-2016 Public Input

While the ITBWG focussed on public input received from 2016 onward, earlier public input was also read and interpreted, but not analyzed in depth. While public sentiment on subjects can change over time, we found some of the more historic information to be useful.

One such piece of input was from the *2008 Community Dialogue on Neighbourhood Character and Housing*. The associated Synovate Survey received 654 responses. Some of the key observations from the survey results:

1. Residents place a great deal of importance on trees and established vegetation adding character to their neighbourhoods (95% think they are at least somewhat important).
2. Residents are supportive of tree management regulations on private property
 - i. to protect views (71%)
 - ii. to ensure access to sunlight (71%)
 - iii. that contribute to neighbourhood character (63%)
 - iv. that prevent sites from being cleared of all trees and vegetation when being prepared for new construction (62%).

Another much earlier study was the 1975 Report of Task Force on Trees and View. Methods of protecting views was the primary recommendation of this report.

5.11. Results of the Consultations

Significant input from residents has been analyzed to understand the desires and concerns regarding trees. The analysis done by the ITBWG on the various data inputs has been done on a best efforts basis, and may not be 100% statistically accurate. However, there have been enough data points through different surveys and data sources that we have been able to create a Table of Conclusions and Inferences.

For transparency, the analysis summary for each of the data sources is included in this appendix. All of the detailed data which the analysis was based on is available upon request, if not already on the westvanouver.ca website.

The content of this section has been separated into multiple parts to ease access and understanding.

1. Table of Conclusions and Inferences
2. 2017 Survey Questions - Summary
3. 2016 Survey Questions - Summary
4. Comments Analysis: 2016 and 2017
 - a. 2017 Survey Comments
 - b. 2017 Three Public Meetings Comments
 - c. 2016/2017 Letters to Council
 - d. 2016 Survey Comments
5. Methodology used for Analyzing Comments and Letters

5.11.1 Table of Conclusions and Inferences

The following table provides conclusions and inferences based on the combination of data sources referenced earlier in this Appendix B.

Conclusions, Inferences, and Data Points from West Vancouver Residents Regarding Trees:

No.	Inferences / Conclusions	Data points
1	Residents support measures to protect trees, this includes regulations.	<ul style="list-style-type: none"> • Do you support the ability for the District of West Vancouver to protect trees on private property? (55.5% yes, 24.5% no, 20.5% not sure) – 2017 survey • Do you support additional regulations to prevent clear cutting, by further regulating the number and location of trees on a lot that can be cut and removed at one time? (60% yes, 40% no) – 2016 survey.
2	The perception is that we have about the right number of trees currently.	<ul style="list-style-type: none"> • How do you feel about the current level of the tree canopy (number of trees) in your neighbourhood? (42.1% about right, 35.4% too much, 19.3% not enough).

No.	Inferences / Conclusions	Data points
		<ul style="list-style-type: none"> Four Eastern neighbourhoods have a poorer perception of the current level of tree canopy, but overall still have a positive view of tree canopy in their neighbourhoods. Neighbourhoods that had more than 20% of residents responding that they have too few trees are: Ambleside (33%), Dundarave (25%), Altamont (24%), and Glenmore (60% - based on only 5 responses).
3	Support for min # trees per lot size.	<ul style="list-style-type: none"> Removal of trees on private property should be regulated to keep a minimum number of trees based on the lot size (65.7% agree, 29.6 % disagree) – 2017 survey
4	Support for min # trees per lot size on new property development. But again, we don't know how many trees/lot size would be considered reasonable.	<ul style="list-style-type: none"> For new property development, a minimum number of trees should be either maintained or planted based on lot size (new property development is defined as being a newly constructed residence after the original has been demolished or on a previously undeveloped lot). (83.9% agree, 13.5% disagree) – 2017 survey
5	Views are important, and there is support for pre-existing view corridors.	<ul style="list-style-type: none"> Removal of trees on private property should be allowed in order to maintain a pre-existing view corridor. (72.0% agree, 24.4 % disagree) – 2017 survey Ranked 2 - 2017 survey comments Ranked 1 - 2016 survey comments Ranked 1 – 2016/2017 letters Ranked 7 - Roundtable notes
6	Safety is important, including the ability to quickly remove hazard trees or branches.	<ul style="list-style-type: none"> Ranked 1 - 2017 survey comments Ranked 6 - 2016 survey comments Ranked 7 - 2016/2017 letters Ranked 1 – Roundtable notes
7	Concern that clear cutting and new development is resulting in tree loss	<ul style="list-style-type: none"> Ranked 4 - 2017 survey comments Ranked 3 - 2016 survey comments Ranked 3 – 2016/2017 letters Ranked 2 – Roundtable notes
8	Tree replacement is required on the lot from a District-approved suggested species list	<ul style="list-style-type: none"> Where a tree is approved for removal on a single family lot or duplex lot, tree replacement is required on the lot from a District-approved

No.	Inferences / Conclusions	Data points
		<p>suggested species list. (69% agree, 28.2 % disagree) – 2017 survey</p> <ul style="list-style-type: none"> • Ranked 11 - 2017 survey comments (But also asked in the questions) • Ranked 7 - 2016 survey comments • Ranked 7 - 2016/2017 letters • Ranked 7 – Roundtable notes
9	Meaningful security deposit should be collected to ensure removed trees are replaced by an approved species	<ul style="list-style-type: none"> • If tree replacement is required, a meaningful security deposit should be collected to ensure removed trees are replaced by an approved species. (70.8% agree, 25.2 % disagree) – 2017 survey
10	Replacement species should not usually exceed a specific height at maturity.	<ul style="list-style-type: none"> • If tree replacement is required, it should be done using a species that does not usually exceed a specific height at maturity. (70.2% agree, 24% disagree) – 2017 survey • Ranked 3 - 2017 survey comments (comments reflect height concerns only) • Ranked 13 - 2016 survey comments (comments reflect height concerns only) • Ranked 4 – 2016/2017 letters (reflecting height concerns only)
11	Periodic inspections of replacement trees is supported	<ul style="list-style-type: none"> • The District of West Vancouver should perform periodic inspections of replacement trees to ensure the property owner is abiding by the intent of the tree bylaw. (73.5% agree, 22.5% disagree) – 2017 survey
12	Guidelines should be put in place to prevent damage to root systems on trees on neighbouring private and municipal lands	<ul style="list-style-type: none"> • Guidelines should be put in place to prevent damage to root systems on trees on neighbouring private and municipal lands. (84.8% agree, 12.5% disagree) – 2017 survey
13	The District should have the ability to require the removal or trimming of trees and other vegetation when they block sunlight for existing solar panel installations	<ul style="list-style-type: none"> • The District should have the ability to require the removal or trimming of trees and other vegetation when they block sunlight for existing solar panel installations or other alternative energy systems. (73.5% agree, 23.5% disagree) – 2017 survey
14	The District should provide a recommended list of replacement trees species based on their drainage control properties	<ul style="list-style-type: none"> • Trees provide important drainage control of both surface water and groundwater. The District should provide a recommended list of replacement trees species based on their

No.	Inferences / Conclusions	Data points
		drainage control properties. (88.1% agree, 6.1% disagree) – 2017 survey
15	The District should allow reasonable pruning and maintenance without permits.	<ul style="list-style-type: none"> • Ranked 6 - 2017 survey comments • Ranked 4 - 2017 public meetings
16	Any resulting regulations should be designed to keep bureaucracy and costs to a minimum	<ul style="list-style-type: none"> • Ranked 8 - 2017 survey comments • Ranked 5 - 2017 public meetings
17	Marginal support for views that didn't previously exist.	<ul style="list-style-type: none"> • Removal of trees on private property should be allowed in order to create a new view corridor. (51.7% agree, 44.4% disagree). - 2017 survey.
18	Marginal support for Cash-in-Lieu for replacement trees.	<ul style="list-style-type: none"> • If tree replacement is required, and where a tree cannot be replaced on private property because of lot size, safety, views, light, or other valid reasons, establish a cash-in-lieu process to replant trees on public land. (53.2% agree, 42.6% disagree) - 2017 survey.
19	Marginal support for protecting trees based on their diameter/size.	<ul style="list-style-type: none"> • Removal of trees on private property should be regulated by protecting all trees over a specified diameter. (55.5% agree, 40.9% disagree) - 2017 survey

5.11.2. 2017 Survey Questions - Summary

The responses to the survey questions are contained in this section.

The committee felt that the 400 responders provided a good representation across the various West Vancouver neighbourhoods. At the request of the ITBWG, West Vancouver staff broke down all answers by neighbourhood, to allow the ITBWG to see any differences in responses across the neighbourhoods. In almost all cases, sentiments were similar across all neighbourhoods.

The question where there was the largest difference in sentiments, was in response to "How do you feel about the current level of the tree canopy (number of trees) in your neighbourhood?" Four eastern neighbourhoods have a poorer perception of the current level of tree canopy, but overall still have a positive view of tree canopy. Neighbourhoods that had more than 20% of residents responding that they have too few trees are: Ambleside (33%), Dundarave (25%), Altamont (24%), and Glenmore (60% - based on only five responses). Overall, 19% of residents felt there are not enough trees, while 35% felt there are too many trees, and 42% feel that there are about the right amount of trees.

Question 4 in the survey asked if the responder supported the ability for West Vancouver to protect trees on private property. If they answered "No", as 24.5% of the responders did, they were asked to skip the rest of the questions. Some of the responders answered the questions anyway, while others skipped to the comments. Therefore the analysis of the answers to all questions after Question 4 are somewhat inaccurate. The percentages represented in the following table are based on the total responders to that question, and is not based on the total 400 responders.

2017 Survey Response Summary:

Do you support the ability for the District of West Vancouver to protect trees on private property?

Yes: 55.1% No: 24.5% Not sure: 20.5%.

How do you feel about the current level of the tree canopy (number of trees) in your neighbourhood?

About Right: 42.1% Too Much: 35.4% Not enough: 19.3% Not Sure: 3.2%%

Please indicate your level of agreement with the following possible characteristics of the bylaw:

	Strongly Agree	Some-what Agree	Some-what Disagree	Strongly Disagree	Not Sure
Removal of trees on private property should be regulated by protecting all trees over a specified diameter. For example, the current interim bylaw protects trees having a diameter of 75 cm (30 in) and larger measured at a height of 1.4m (54 in) above the ground.	34.0%	21.5%	11.0%	29.9%	1.8%
Removal of trees on private property should be regulated to keep a minimum number of trees based on the lot size. For example, on an 8,000 sq. ft. lot, the bylaw could require that a minimum of four trees are maintained.	37.0%	28.7%	9.6%	20.0%	2.1%
Removal of trees on private property should be allowed in order to maintain a pre-existing view corridor.	47.5%	24.5%	11.3%	13.1%	2.4%
Removal of trees on private property should be allowed in order to create a new view corridor.	29.6%	22.1%	11.6%	32.8%	2.7%
For new property development, a minimum number of trees should be either maintained or planted based on lot size (new property development is defined as being a newly constructed residence after the original has been demolished or on a previously undeveloped lot).	63.3%	20.6%	6.6%	6.9%	0.9%
Where a tree is approved for removal on a single family lot or duplex lot, tree replacement is required on the lot from a District-approved suggested species list.	39.5%	29.5%	10.0%	18.2%	1.8%

If tree replacement is required, and where a tree cannot be replaced on private property because of lot size, safety, views, light, or other valid reason, establish a cash-in-lieu process to replant trees on public land.	31.3%	21.9%	12.5%	30.1%	3.6%
If tree replacement is required, a meaningful security deposit should be collected to ensure removed trees are replaced by an approved species.	47.7%	23.1%	7.9%	17.3%	3.6%
If tree replacement is required, it should be done using a species that does not usually exceed a specific height at maturity.	39.5%	30.7%	10.9%	13.1%	5.8%
The District of West Vancouver should perform periodic inspections of replacement trees to ensure the property owner is abiding by the intent of the tree bylaw.	54.7%	18.8%	9.4%	13.1%	3.0%
Guidelines should be put in place to prevent damage to root systems on trees on neighbouring private and municipal lands.	55.8%	29.0%	7.3%	5.2%	2.1%
The District should have the ability to require the removal or trimming of trees and other vegetation when they block sunlight for existing solar panel installations or other alternative energy systems.	32.3%	41.2%	11.9%	11.6%	2.7%
Trees provide important drainage control of both surface water and groundwater. The District should provide a recommended list of replacement trees species based on their drainage control properties.	57.0%	31.1%	4.9%	1.2%	4.6%

5.11.3. 2016 Survey Questions - Summary

There were 1,087 responses to the brief 2016 survey, which was held about two months after the Interim Tree Bylaw was enacted. Slightly over half (556) of the responders did not register on westvancouverITE. While most of the data should be considered as valid, there is more opportunity for duplicate responses. In addition, there was no requirement for responders to be residents.

Current regulations protect any species of trees that are 75 cm (29½ in.) diameter and larger, measured 1.4 metres (4 ft. 7 in.) from the ground. Do you support changing this so that smaller trees are protected?

- 46.8% Yes 53.2% No

Current regulations protect Arbutus and Garry oak trees 20 cm (7⅞ inches) in diameter or larger, measured 1.4 metres above the ground. Should the bylaw continue to protect these two species, or any other specific species?

85.8% Yes 14.2% No

Do you support additional regulations to prevent clear cutting, by further regulating the number and location of trees on a lot that can be cut and removed at one time?

59.7% Yes 40.3% No

5.11.4. Comments Analysis: 2016 and 2017

Comments from residents was a significant form of input. The four primary sources of input from which comments were analyzed are:

1. 2017 survey comments
2. 2017 three public meetings comments
3. 2016/2017 letters to Council
4. 2016 survey comments

The summary of the analysis of the characteristics identified in these inputs is in the table below:

Summary: Comments Analysis: Tree Survey, Meeting, and Letter Input

Source	2016 Survey	Rank	Letters to Council 2016/2017	Rank	Nov 2017 Public Meetings	Rank	2017 Survey	Rank	TOTAL	Rank (Avg)
Responses	648	#	151 (96 letters)	#	90	#	276	#	1,165	#
Characteristic										
View	121	1	71	1	10	7	70	2	283	2.8
Development	87	4	48	3	17	2	57	4	222	3.3
Safety/Hazard/Danger	83	6	22	7	25	1	77	1	222	3.8
Pruning/Maintenance					14	4	45	6	69	5.0
Bureaucracy					12	5	38	8	63	6.5
Clearcut	109	2	20	9	*		35	10	185	7.0
No Bylaw	109	2	13	12			**		136	7.0
Neighbours	66	9	59	2	5	13	48	5	207	7.3
Community/Character	84	5	28	6	3	15	40	7	188	8.3
Tall/Height	35	13	39	4	9	9	65	3	177	7.3
Replace	67	7	22	7	10	7	34	11	165	8.0
Education					12	5	29	12	58	8.5
Light/Sun	58	10	18	10	9	9	37	9	160	9.5
Fines/Penalties	67	7	39	4	5	13	18	15	168	9.8
Species	50	11	15	11	16	3	12	17	135	10.5
Value as a Resource	33	14	11	13	6	11	22	13	123	12.8
Permits	43	12	1	14					70	13.0
Hedge					6	11	20	14	51	12.5
Slopes					7	10	12	17	46	13.5
Protect <75cm					2	16	13	16	47	16.0
Climate Change							12	17	12	17.0
Support Bylaw			70						70	

5.11.4a 2017 Survey Comments: Analysis

The comments from 276 responders were scanned and read for occurrences of words associated with a range of characteristics that could be applied to a new bylaw. A maximum occurrence of one was associated with any individual response, even if a characteristic word appeared multiple times across up to three comment questions.

5.11.4b 2017 Three Public Meetings Comments: Analysis

Notes were taken at the three public meetings held in November 2017, from the total of about 90 participants. The characteristics captured are quite subjective, due to the varied styles of note collection, but does provide an idea of which characteristics were most important to the participating residents.

5.11.4c 2016/2017 Letters to Council: Analysis

From early 2016 through May 2017, Council received 96 letters from residents. Some of the letters represented multiple residents. If the letters contained multiple signatures, then each signature was counted as a resident's input. This resulted in 151 pieces of input from residents.

5.11.4d 2016 Survey Comments: Analysis

There were comments from 648 survey responders. The survey did not track the municipality of the responder, and duplicates were possible. Therefore it is likely that the survey results are not as accurate as they could have been.

5.11.5. Methodology used for Analyzing Comments and Letters

The ITBWG analyzed all of the comments on a best efforts basis. All text-based input was scanned for "characteristic" words which were largely based on key themes advanced by the residents, as well as themes which the ITBWG incorporated into its vision. Example of these characteristics includes views, development, clear-cutting, valued resources, etc.

Multiple different words could represent a single characteristic, so all comments were carefully read and assessed. In addition, there were both positive and negative views regarding characteristics. For example, some residents wanted to protect their views, while other residents feel that trees should not be removed for views. The detailed analysis captured all "positive" and "negative" views. For ease of understanding, the summary table in Section 5.11.4 above, uses "net" numbers which are calculated by subtracting the negative count from the positive count.

In the Comments Analysis table above, the number of mentions of each characteristic were counted, with a maximum allowed count of one per person.

For each comment source (e.g., surveys, letters), the characteristics were ranked. The final column averages the rankings. Therefore the table is listed in order of average ranking.

The second last column in the table displays the total count of mentions of that characteristic. It is felt that this number is not as meaningful as the average ranking, but both numbers are fairly close.

Some characteristics were not as prevalent in earlier data sources (e.g. hedges, slopes), so data was not collected on occurrences of those characteristics. The average ranking takes into account the number of sources evaluated. (e.g., there were only two sources for input on hedges, so the ranking was averaged over the two sources evaluated).

6. Appendix C: Vision and Problem Statement

6.1. Problem Statement

The ITBWG developed a problem statement which encompasses the issues raised by West Vancouver residents regarding tree loss with new development.

ITBWG Problem Statement:

Increased residential development in West Vancouver, together with unregulated removal of trees on private property, has many residents concerned about the loss of tree canopy and the resultant impact on neighbourhood character

This trend, combined with an increased awareness of the benefits of trees, has driven support for new regulations and educational guidelines surrounding tree management and conservation.

The ITBWG seeks to find a balance between residents' desire for sunlight, views, property enjoyment, and safety, and the desire to protect neighbourhood character and benefits gained by protecting trees.

6.2. Vision

The intent of the vision is to represent the interests of the majority of the community, serving as a basis for ITBWG consultation work, and informing ITBWG recommendations.

It's five years from today (2023) and...

- Residents understand the social, ecological and economic **benefits** of trees because our education has been engaging and effective
- Canopy surveys (2018 and 2021) reveal our **tree canopy** remains intact and is still part of the unique character of our the district
- Protecting the **tree canopy** is a shared responsibility amongst all property owners and developers so that trees on existing properties as well as those under development are protected wherever possible
- The **tree bylaw** balances resident's need for sun, safety and views; and their desire to protect trees
- The **tree bylaw** supports the goal for a minimum number of trees on each property based on lot size
- The **tree bylaw** ensures residents enjoy a degree of autonomy and flexibility where trees in excess of the minimum number required can be removed without permitting. The bylaw maintains the tree canopy by ensuring replanting trees happens when the number of trees falls below the minimum
- Regulating **hedge** height balances the need for privacy with the need for views and sunlight
- **Good neighbour** guidelines outline the steps neighbours can follow to communicate constructively and find solutions to tree and hedge issues
- An **Urban Forest Management Plan** enables an integrated approach to tree management on both private lots and on public land

7. Appendix D: Working Group Process & Method

7.1. Terms of Reference: Purpose

The purpose of the Interim Tree Bylaw Working Group (ITBWG) is to review options, engage the community, and make recommendations regarding the development of a bylaw to regulate trees on private property that balances tree management best practices with community interests.

Background

Trees are important to residents of West Vancouver and are an important part of the fabric, ecology and identity of the community. The presence of character-defining landscapes including trees helps to set West Vancouver apart from other municipalities in the Metro Vancouver region.

The complete Terms of Reference can be found in at the end of this Appendix D (7.8).

7.2. Working Group and Subgroups

The ITBWG elected to form two sub-groups in order to further study issues and meet outside the regularly scheduled working group meetings. The two sub-groups were tasked with:

- Sub-group 1: Regulations, bylaw and urban forest management issues
- Sub-group 2: Community engagement and education issues

The working group members were divided into the subgroups as follows:

- Group 1: Regulation/Bylaw and Urban Forest Management (UFM): Andy Gitt (lead), Bill Cafferata, Ernie Bodie, Craig Bench, Nic Tsangarakis, Ian Ferguson
- Group 2: Education and Engagement: Mary Gamel, Lisa Morris, Don Harrison

The two subgroups worked on developing recommendations to present to the larger working group. They used bylaws from other municipalities as a loose framework. The focus was not on drafting a bylaw recommendation, but rather focused their efforts looking for best practices from other jurisdictions. The subgroups were reminded to keep the vision and problem statement in mind as these will assist in forming the recommendations.

7.3. Review of Bylaws in other Municipalities

The working group reviewed recent urban tree management policies adopted by other municipalities. The object was to gain insight into different guidelines, regulations and bylaws concerning trees on private property that have been successfully implemented. Members of the working group reached out to some of the municipalities to inquire how well the policies were working and the level of acceptance by their citizens. The jurisdictions that were reviewed included:

- District of North Vancouver
- City of North Vancouver
- City of New Westminister
- City of Vancouver
- City of Surrey
- City of Delta
- City of Coquitlam
- City of Carmel, California
- City of Courtenay
- City of Port Alberni
- District of Saanich

7.4. Literature Reviewed

The ITBWG reviewed a significant cross-section of literature relating to trees and tree regulations from a variety of sources. Topics included tree selection, economic costs and benefits, health benefits, impact on utility providers, Urban Forest Management Plans, amongst other topics.

A list of referenced documents can be found in Appendix D (4.4)

7.5. Three Bylaw Options Generated

The ITBWG decided that there would be benefits of creating a few potential "options" as the basis for tree bylaw recommendations. It was felt that creation of these options could stimulate thought and discussion regarding the pros and cons of different approaches, both for the working group and for engagement with the public. In fact, the three options were used as a catalyst for discussion at the three public meetings held in November.

The three options were generated from a Bylaw Subgroup meeting and were purposely quite different in approach. It was recognized that some bylaw "features" (e.g., tree roots should be protected when they encroach on a development site) could be added to some or all of the options.

7.6. Three Bylaw Options Considered – Pros and Cons

Option 1: Interim Tree Bylaw 4892, 2016

A permit is required for cutting of any tree greater than 75 centimetres (30 inches) in diameter at breast height.

Pros	Cons
Addresses concerns about cutting large trees on lots under development	Does not address concerns regarding safety, light, and maintenance of existing tree canopy
Easy to administer and understand	Does not create a community wide canopy goal

Protects trees most likely to have eagle and osprey nests	Applies mainly to new development and redevelopment
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Option 2: Trees per Lot

A bylaw that would apply to all private residential properties, that would target a minimum number of trees per lot based on lot size.

Pros	Cons
Applies to all private residential properties	Administration more complex and costly
Establishes a tree canopy goal for entire community	Effective implementation requires community education
Provides flexibility for management of trees	

Option 3: Development-Focussed

Pros	Cons
Property rights of most residents not affected	Does not protect trees on majority of private residential properties
Supported by many respondents to 2017 tree survey	Does not encourage a sense of community responsibility for tree canopy

7.7. Decision-Making Process

The three options helped guide the ITBWG to its final recommendations. There was considerable input to consider and evaluate during the decision-making process including:

- significant input from West Vancouver residents
- input from West Vancouver staff
- review of tree bylaws from other jurisdictions
- review of literature related to trees (health, economics, drainage, etc.)
- internal workshops discussing the pros and cons of various approaches, including options

The alternative options generated the most discussion, and significant effort was required to result in a consensus-based recommendation. These discussions occurred over a number of multi-hour workshops, plus the regular biweekly meetings. While there were valid pros and cons for each of the options, the working group agreed that the option based on a number of trees per lot size was the best foundation for a new bylaw.

In addition to the base option, the working group agreed on a number of "features" that should be included in the recommendations. The ITBWG decisions regarding

these "features" were made after reviewing the various sources of input, and discussing what was appropriate for West Vancouver.

7.8. Terms of Reference: Complete Text

PURPOSE

The purpose of the Interim Tree Bylaw Working Group is to review options, engage the community, and make recommendations regarding the development of a bylaw to regulate trees on private property that balances tree management best practices with community interests.

BACKGROUND

Trees are important to residents of West Vancouver and are an important part of the fabric, ecology and identity of the community. The presence of character-defining landscapes including trees helps to set West Vancouver apart from other municipalities in the Metro Vancouver region.

Council adopted Interim Tree Bylaw No. 4892, 2016 on April 20, 2016. This interim bylaw has helped the community manage the impact of previously unregulated tree cutting activities. Since the adoption of the bylaw, staff has undertaken a public engagement process to help understand the impacts of tree cutting on neighbourhoods, the impacts that these interim measures have had, and to assist staff in exploring ways to adjust the interim bylaw for tree management in West Vancouver over the longer term.

DUTIES

Work Plan

After an orientation session, the working group will review its terms of reference and prepare an initial work plan consistent with the duties described below.

Review

The working group will review existing information regarding trees in West Vancouver and options for tree management, such as:

- the District of West Vancouver's Interim Tree Bylaw No. 4892, 2016 as amended;
- the Official Community Plan, as amended;
- recent and relevant community real estate trends, development industry practices and standards;
- best practices for tree management (as related to site development and property maintenance) from other jurisdictions and relevant organizations;
- other relevant documents as appropriate.

Engage

The working group will identify and then engage the wider community and stakeholders on potential options for tree management. Option identification and engagement should enable the Working Group to consider whether components of

the Interim Tree Bylaw No. 4892, 2016 as amended could be carried forward, expanded or contracted in an updated bylaw.

Recommend

On the basis of its review of relevant information and the findings of its engagement program, the group will make recommendations to Council regarding:

- the development of a Tree Bylaw;
- any other matters (as necessary or appropriate) that the group determines are of significance related to tree management in West Vancouver.

Progress Report

At the mid-point of its term, the Working Group will prepare a progress report (an interim report) to Council and review its terms of reference with the Community Engagement Committee to identify any modifications in tasks and completion dates that may be indicated.

Final Report

Upon completion of its assignment, the working group will submit a report of its findings and recommendations to Council. The Staff Liaison and Chair shall collaborate to prepare the report. Following review by the working group, the report will be submitted to Council.

The working group's function is advisory to Council, and the group's role ends upon submission of its final report to Council. The group has no continuing advocacy role concerning their findings and recommendations.

ORIGIN OF WORK

On July 18, 2016, staff presented a status report regarding the Interim Tree Bylaw to Council. This report recommended the creation of a task-oriented working group to aid in the development of a balanced and sound approach to regulating trees on private properties.

COMPOSITION

The working group will consist of 12 individuals:

- the Mayor, as an ex-officio member;
- one member of Council as Council liaison;
- one member of staff as Staff Liaison; and,
- ten citizen members reflecting a diversity of backgrounds. Members will be appointed on the basis of their ability to listen with an open mind, to think critically, to build consensus and to work towards realistic solutions to the challenges of the issue. Members will be able to advance the work of the Group in an unbiased way and represent the interests and desires of the community. Members will not represent specific organizations or interest groups.

The working group shall select a Chair and a Vice Chair from among its citizen members.

The role of the Council member is to:

- act as a liaison between Council and the working group;
- provide status reports to Council and solicit, where appropriate, Council's views on the issues and items being discussed and considered by the group.

The role of the citizen members is to:

- represent the views and interests of West Vancouver citizens;
- contribute their expertise and experience to the working group process;
- attend and participate in working group meetings and any other consultation events as determined and scheduled by the working group.

The role of the staff liaison is to assist the working group with facilitation and project management including:

- obtaining information, facilitating contact with District departments, and arranging for professional advice as required;
- supporting the Chair and working group members in promoting effective group functioning;
- collaborating with the Chair in preparing reports to Council;
- directing the support function for the group regarding scheduling working group meetings; preparing agendas; taking notes at meetings; maintaining working group records; posting agendas, notes, reference material, progress reports on the District's website as well as any other material the working group wishes to be made public.

TERM

The term of the working group is six months or until the group completes its work, whichever is earlier. The working group process is anticipated to generally span the first half of 2017.

MEETING SCHEDULE AND PROCEDURE

Meeting Schedule

The working group shall create a schedule of meetings that will be posted publicly.

Procedure

Working group meetings are open and constructive and are conducted in a spirit of good faith, and may rely upon the Community Engagement Committee for support or advice on procedure. Working groups will not hold any closed sessions.

- the role of the working group is to evaluate options and make recommendations on the specific issue of tree management, for consideration and decision by Council;

- Working group meetings are conducted in a spirit of good faith and respect, so as to foster a free flow of ideas and encourage the unconstrained development of options;
- the public and press shall similarly exercise good faith and respect, mindful that the proceedings are a “work in progress,” and not a forum for lobbying or decisions;
- public and/or press may attend working group meetings as observers;
- Working groups may receive delegations and presentations, and may call for public input from time to time;
- the Chair will provide opportunity for members of the public to ask questions and offer points of information, generally at the end of meetings; there will be no lobbying or speeches;
- electronic recording of a working group’s discussions, decisions or activities may occur with the working group’s permission;
- should anyone disrupt or impede a working group meeting, the Chair may expel that person from the meeting.

COMMUNICATION/CONSULTATION STRATEGY

The working group shall consult with stakeholders and the community as described in Section 3.3 above. The District will assist in the preparation of a supporting communications plan.

SUB-GROUPS

A basic principle guiding the operation of working groups is flexibility (meetings, discussions, and compiling/evaluating information) and the freedom to establish sub-groups for specific tasks within the working group’s mandate. The working group may establish sub-groups as required to review or address specific tasks or issues as they arise.

DECISION MAKING APPROACH/FORMULATING RECOMMENDATIONS

The working group will build toward consensus in formulating and evaluating alternatives, and in making recommendations. Unanimity is not required, nor is voting. In conducting their work, the working group shall maintain:

- a clear view of their purpose and Terms of Reference;
- a focused, task-oriented, and time-sensitive approach;
- accountability by each member for the effectiveness of the group as a whole;
- a flexible process inclusive of all interests in the community.

CONFLICT OF INTEREST

Working group members shall advise of personal conflicts of interest—for example, situations where a member:

- has a direct or indirect interest in the deliberations, pecuniary or otherwise;

- is involved in a matter contravening Council's Conflict of Interest guidelines

Where an actual or potential conflict of interest exists, the working group member shall explain its nature to the group and the Chair shall submit the matter to the CEC for consideration.

SUPPORT/PROFESSIONAL SERVICES UTILIZED

The Staff Liaison will arrange for professional advice as required.

BUDGET

The working group shall have a reasonable use of miscellaneous services such as clerical services, photocopying, paper supplies, meeting areas, appropriate refreshments, and other requirements such as the advertising of engagement events. These are provided primarily through the Staff Liaison and the applicable District division. A budget of \$10,000 has been assumed by the District to support this working group.

8. Appendix E: Literature Reviewed

1. **The West Vancouver Tree Book**
<http://archives.westvancouver.ca/PDFs/0999.0057.DWV.pdf>
2. **1975 tree study; District of West Vancouver**
<http://archives.westvancouver.ca/PDFs/0999.0057.DWV.pdf>
3. **City of New Westminster**
<https://www.newwestcity.ca/services/environment-and-sustainability/urban-forest-management-strategy/articles/5348.php>
4. **City of Surrey**
<http://www.surrey.ca/community/1364.aspx>
5. **The Corporation of Delta**
<http://www.delta.ca/environment-sustainability/environmental-initiatives/trees>
6. **West Vancouver Tree Survey 2016**
<http://archives.westvancouver.ca/permalink/14475/default.aspx>
7. **British Pacific Properties Design Guidelines**
<http://britishproperties.com/wp-content/uploads/2015/11/PrcedurforPlanApprvlsFeb2014General.pdf>
8. **District of West Vancouver Parks Regulation Bylaw**
<https://westvancouver.ca/sites/default/files/bylaws/4867%20PARKS%20REGULATION%20BYLAW%204867%202015.pdf>
9. **District of West Vancouver Policy: Tree Work on District Property**
https://westvancouver.ca/sites/default/files/dwv/assets/home-building-property/permits-and-licences/TREE_WORK_ON_DISTRICT_OF_WEST_VANCOUVER_PROPERTY_POLICY_02-70-199.pdf
10. **District of West Vancouver Landscaping Requirements** (Section 130.15 see page 130-12 to 130-14):
https://westvancouver.ca/sites/default/files/dwv/assets/gov/docs/bylaws/ZONING_BYLAW_4662_SECTION_130_GENERAL_REGULATIONS_FOR_RESIDENTIAL_ZONES_AND_USES_ONLY%20June%202016.pdf
11. **Metro Vancouver Urban Forest Climate Adaptation Framework, Tree Species Selection**
<http://www.metrovancouver.org/services/regional-planning/PlanningPublications/UrbanForestClimateAdaptationFrameworkTreeSpeciesSelection.pdf>
12. **Metro Vancouver Design Guidebook – Maximizing Climate Adaption Benefits with Trees**
<http://www.metrovancouver.org/services/regional-planning/PlanningPublications/DesignGuidebook-MaximizingClimateAdaptationBenefitswithTrees.pdf>

13. **Researchgate.net – Residential Green Spaces and Mortality**
https://www.researchgate.net/publication/283465001_Residential_green_spaces_and_mortality_A_systematic_review
14. **Phytosphere.com – Tree Ordinance Guidelines**
http://phytosphere.com/treeord/ordprt1a_effectiveness.htm
15. **United States Department of Agriculture, Northern Research Station – The Effects of Urban Trees on Air Quality**
https://www.nrs.fs.fed.us/units/urban/local-resources/downloads/Tree_Air_Qual.pdf
16. **International Society of Arboriculture –Guidelines for Developing and Evaluating Tree Ordinances**
http://www.isa-arbor.com/education/resources/educ_treeordinanceguidelines.pdf.
17. **Arbor Environmental Alliance – Carbon Tree Facts**
<http://www.arborentionalalliance.com/carbon-tree-facts.asp>
18. **The Guardian – What impact do seas, lakes and rivers have on people’s health?**
<https://www.theguardian.com/sustainable-business/impact-sea-lakes-rivers-peoples-health>
19. **City of New Westminster – Urban Forest Management Strategy**
<https://www.newwestcity.ca/services/environment-and-sustainability/urban-forest-management-strategy>
20. **Metro Vancouver – Design Guidebook – Maximizing Climate Adaption Benefits with Trees**
<https://www.metrovancouver.org/services/regional-planning/PlanningPublications/DesignGuidebook-MaximizingClimateAdaptationBenefitswithTrees.pdf>
21. **i-Tree – Sustainable Urban Forest Guidelines**
http://www.itreetools.org/resources/content/Sustainable_Urban_Forest_Guide_14Nov2016.pdf
22. **The Globe and Mail – Earth’s deadly heat waves to happen more frequently**
https://www.theglobeandmail.com/technology/science/earths-deadly-heat-waves-to-happen-more-frequently/article35357968/?utm_source=Shared+Article+Sent+to+User&utm_medium=E-mail:+Newsletters+:+E-Blasts+:+etc.&utm_campaign=Shared+Web+Article+Links
23. **Canadian Urban Forest Network – Urban forest canopy cover targets in BC**
<https://www.cufn.ca/urban-forest-canopy-cover-targets-in-bc>
24. **Ontario Urban Forest Council – Bylaw Information package**
<http://www.oufc.org/wp-content/uploads/2012/04/By-law-Information-Package-January-7-2011.pdf>
25. **Community Dialogue on Neighbourhood Character & Housing: District of West Vancouver Report**
<https://westvancouver.ca/government/bylaws-strategies-reports/reports/community-dialogue-neighbourhood-character-housing>
26. District of West Vancouver Report
 West Vancouver Survey on Neighbourhood Character and Housing: Presented By: Julie Winram, Presented On: July 4, 2008, Job #08-0241 Powerpoint presentation

27. **District of Saanich – Tree Selection form**
<http://www.saanich.ca/assets/Community/Documents/Saanich-Tree-Selection-Form-PRIVATE-TREES.pdf>
28. **City of Courtenay – Tree Bylaw Questionnaire**
<http://www.courtenay.ca/assets/Departments/Development~Services/Tree%20Bylaw%20Questionnaire.pdf>
29. **City of Port Alberni – Fence and Hedge Guidelines**
https://www.portalberni.ca/sites/default/files/doc_library/Pamphlet-%20Building%20Handout2014-FenceHedge.pdf
30. **Citree – tree selection guidelines**
<https://citree.ddns.net/guideline.php?language=en>
31. **Small trees for the Home landscape**; Charles Brun; Washington State University Extension; October, 2008.
32. **The Hidden Life of Trees: What They Feel, How They Communicate—Discoveries From a Secret World**; Peter Wohlleben, 2016
33. **Ribnjak Park Case-Study, Zagreb**
 Karlo Beljan, Lead Author
 University of Zagreb, Faculty of Forestry
 2014
34. **Value, Benefits and Costs of Urban Trees**
 Virginia Cooperative Extension, Publication 420-81
 Brian Kane, Assistant Professor
 University of Massachusetts, Amherst
 2009
35. **Special Report; TD Economics: Urban Forest: The Value of Trees in The City of Toronto**
 Craig Alexander, SVP and Chief Economist; Connor McDonald, Economist
36. **Urban Forestry and Urban Greening**
 Volume 4, Issues 3-4, April 2006, Pages 115-1223
 Air pollution removal by urban trees and shrubs in the United States
 David J. Nowak, Daniel E. Crane, Jack C. Stevens
37. **B.C. Hydro Web Page**
 Power outages by the numbers
 Jan 19, 2017

TREE BYLAW DECISION FLOWCHART

How would the new Tree Bylaw affect my property?
And, do I require a tree cutting permit?

Are you developing your lot or only requesting tree removal?

I am developing my lot.

You must meet the minimum required number of trees that are 10 cm *Diameter at Breast Height* or above. (See Table.)

You will require a landscape plan. If trees cannot be retained to meet requirements, new or replacement trees are to be shown. Landscape security required.

A PERMIT IS REQUIRED FOR ALL TREE CUTTING.

I only want to remove trees.

You must meet the minimum number of trees (10 cm *Diameter at Breast Height* minimum) requirement.

Do you have more than the required number of trees on your lot? (See table.)

NO

YES

You will not be able to remove any more trees without planting a new or replacement tree, except for one additional tree per subsequent three year period. Alternatively, you may apply for a permit to remove a tree and provide cash-in-lieu to fund public trees.

You may remove trees in excess of required number of trees (see table) except for conditions stated below.

When do I need a permit?

Table

Minimum number of trees required

LOT SIZE

(m ²)	(ft ²)	trees required
0-300	0-3,229	2
301-450	3,230-4,844	3
451-600	4,845-6,458	4
601-750	6,459-8,073	5
751-900	8,074-9,688	6
901-1,050	9,689-11,302	7

Each additional 150 m²

Each additional 1615 ft² one additional tree

- if the trees are within 15 metres of the top of watercourse/stream bank
- are growing on a slope greater than 35%
- the tree contains an eagle or osprey nest, or an active nest of any bird
- old growth trees (>120yrs old)
- heritage trees
- protected trees (Arbutus, Pacific yew, Garry oak, Pacific dogwood and yellow cedar)
- when cutting below the minimum per lot (except for three year exemption)
- trees in the Shoreline Protection Area

10. Appendix G: Frequently Asked Questions

1. Why is Council considering this tree bylaw?

Council and staff hear repeated concerns from residents who believe their neighbourhood character is being harmed when most of or all trees are cut down on a lot before a new home is built. The proposed bylaw has taken into account additional public input since the Interim Tree Bylaw was put into effect.

2. Shouldn't I have the right to do whatever I want with the trees on my property?

Existing bylaws (covering fence height, building height, etc.) regulate aspects of private property that affect neighbours and overall neighbourhood character. We have worked hard to listen to resident's concerns and to balance the goal of preserving tree canopy and neighbourhood character with the flexibility and autonomy desired by residents to manage their own trees. Most other communities have bylaws protecting trees on private property.

3. Why do all WV neighbourhoods have the same tree requirements? Each neighbourhood is unique and has its own distinct character.

The working group felt that the responsibility of preserving tree canopy should be shared equally, without disproportionate requirements being placed on any particular group of residents (or neighbourhood). Average lot size and character varies between neighbourhoods, the minimum density being recommended (one tree per 150 m² / 1615 sq. ft.), takes this into account and is intended to provide a baseline to protect current canopy cover. A recommendation has also been made to re-evaluate tree canopy on an ongoing, neighbourhood-by-neighbourhood basis to verify that the density target is achieving the desired goal of maintaining current tree canopy levels.

TREE PROTECTION

4. Which trees are being considered for protection under the proposed bylaw?

Trees 10 cm DBH (diameter at 1.3 height; or when the main stem forks below 1.3 m, 10 cm diameter at the narrowest width below the fork), excluding trees that fall under the hedge definition and excluding trees in repositionable planters,

5. Why was a density target of one tree per 150 m² (1615 sq. ft.) lot area chosen? That doesn't make any sense. It seems ridiculously low/high.

The working group evaluated several other bylaws that use tree density targets, leveraging work done by those communities to identify a tree density most likely to meet the goal of preserving tree canopy at current levels. Building upon experience gained by other jurisdictions, including how tree density numbers relate to canopy cover targets, a linear approach using one tree per 150 m² was chosen as likely to achieve the desired outcome. The density target selected is within the range used by other communities with similar goals. A recommendation was also made to re-evaluate tree canopy on an ongoing, neighbourhood-by-neighbourhood basis to verify that the density target achieves the goal of maintaining current tree canopy levels.

6. How can I find out my lot size?

You can access West Vancouver's GIS system at maps.westvancouver.ca/westmap2017/map.htm (Search on your address, then touch the "Tempest" icon to find property details including lot size in square metres). Alternatively, <https://www.bcassessment.ca/> provides lot size in square feet.

7. Why are trees as small as 10 cm being protected? No other Lower Mainland jurisdiction has trees smaller than 20 cm protected?

Ten centimetres (approx. four inches) is being recommended (as opposed to a larger size) to support the desirability of smaller trees in some instances, where larger trees may contribute to blocking views or sunlight. The 10 cm size may also encourage retention of smaller mature species of landscaping trees and shrubs such as mature specimens of rhododendrons, camellias, etc.

8. I have a protected native species in my minimum number of trees. Will I be able to remove it with a permit?

The circumstances around the requested removal of a protected native species will be considered. It is recommended that any allowed removal of a protected species require replacement with a tree of the same species.

9. If all trees can eventually be removed from a property, does it give the wrong message about the value of trees?

Some residents believe that a well-landscaped property does not require trees in order to be pleasant in appearance (e.g. English gardens). The recommended allowance for a gradual removal of trees helps to provide a balanced approach for the varying needs of residents.

10. Why aren't large trees being specifically protected? These provide character to West Vancouver!

All trees help contribute to neighbourhood character. Protection just for large trees (such as 75cm/30" in the Interim Bylaw) wasn't identified as a particularly suitable strategy for West Vancouver, where residents' concerns with views, sunlight and safety are often specifically associated with large, very fast growing trees such as Western Red cedar, Western hemlock and Douglas fir. When growing on open lots outside of their natural forest context, these tree species can grow very large quite quickly, posing a greater safety risk and contributing more to blocking views and sunlight than other trees, especially if they've developed multiple crowns from previously being "topped".

11. How does this bylaw protect mature trees, when you are allowed to cut down anything and replace them with small 5 cm trees?

While retention of mature trees is encouraged, it is not an absolute requirement. The recommendations allow resident to exercise some control over how their trees are managed. The ITBWG recognizes that there are many situations where planting a more suitable replacement tree may be desirable for any number reasons. 5 cm trees will grow to be mature trees themselves.

12. My property is very rocky, and much of it can't support trees. Is there consideration when the plantable area of a property is reduced due to rock?

Yes, exceptions to minimum tree requirements include a cash-in-lieu option for situations where retention, even of smaller tree/shrub species (10 cm DBH) may not be possible.

13. There are a number of boulevard trees that are just outside of my property line, and provide tree canopy over my property. Can I count these trees partially or completely as part of my required tree count?

No. A tree must be growing on your property to count toward your minimum requirement.

EXEMPTIONS

14. Why are residents being allowed to remove one tree every three years without a permit, even below the minimum number of trees normally required?

There are certain situations where residents may not already have, or be able to accommodate the number of trees recommended for a given lot size. This could include lot characteristics (unsuitably steep/rocky terrain) or specific gardening preferences (for example open, English gardens). This exemption gives residents flexibility and autonomy to manage their own trees without a permit requirement in those situations.

This should be considered in the context that prior to 2016 there was no Tree Bylaw governing tree removal at all in West Vancouver, and that the Interim Tree Bylaw in place since April 2016 has no minimum tree retention requirements (or protection for trees under 75cm/30”). Despite this historic lack of tree protection, the largest group of residents surveyed felt that current tree canopy levels are “about right”. Large scale tree canopy loss or “clear cutting” on non-development lots was not identified as a significant concern by residents, whereas residents did express a strong desire to be able to manage their own trees without municipal interference, as in the past. The working group felt that this exemption satisfies the needs of residents, while providing a safeguard against future “clear cutting” on non-development lots, if or when that ever becomes a problem.

DEVELOPMENT LOTS

15. Why are trees being protected on all lots? The problem is with development lots.

The recommendation to protect trees on all lots was made as a possible safeguard against bulk removal of trees (i.e. “clear-cutting”) on single family lots not under development. This was based on a working group concern that large scale tree removal might also occur on non-development lots if left largely unregulated.

16. Why do development lots only have the same tree density requirements as non-developing lots?

The working group felt that the responsibility of preserving tree canopy should be shared equally, without disproportionate requirements being placed on any particular group of residents.

17. I am redeveloping my lot. What trees am I mandated to preserve?

It is anticipated that residents re-developing their lots will retain trees that do not impact the building envelope. It is recommended that single family lots under a new or redevelopment permit should be required to have a landscape plan including a minimum number of trees. If existing trees cannot be retained to meet the requirements, new/replacement trees of a specified size

(based on species) should be required as part of the landscape plan. Retaining some existing trees can reduce the potential costs of replacement trees.

18. I am planning on redeveloping my lot, but have a huge >75cm (>30”) Douglas fir straddling the lot line with my neighbour. The huge tree roots reach 5 m (16’) into my lot, encroaching on my desired foundation for my new home. How should I proceed?

The bylaw recommendations include the protection of root systems of trees on neighbouring public or private lands during development. The extent of protection required would be determined as part of the planning and permitting process, but would not typically take precedence over a proposed building envelope.

19. If building, how do I find out where my property lines and principal building envelope are?

These can be established by a professional surveyor. Contact one of the many companies that provide this service.

20. What is a principal dwelling envelope?

It’s the area on a lot that a house can be built. It is calculated by applying the required setbacks to a lot as per the Zoning Bylaw. Requirements may vary due to lot configuration, watercourses on or adjacent to the lot or the presence of covenants, easements or rights-of-way registered against the property. The Zoning Bylaw must always be consulted for exact interpretation and additional information.

PERMITS AND REPORTING

21. If permits aren’t required for cutting some trees, how do we know that the trees are being cut legally?

Most tree bylaws have permit exemptions for certain sizes, numbers or classes of trees. Similarly, our recommendations also require residents to be informed as to when permits are required, and how to obtain them. There is also a recommendation that the municipality provide a web-based reporting site that will include a list of upcoming tree work, both permitted and permit-exempt. This will provide information about planned tree work and details of the permit terms or the type of exemption, to encourage compliance through transparency.

22. How can I determine if the tree-cutting my neighbour is doing legal?

There is a recommendation that the municipality provide a web-based reporting site that will include a public list of upcoming tree work, both permitted and permit-exempt. This will provide information about planned tree work and details of the permit terms or the permit exemption, to encourage compliance through transparency.

23. I don’t own a computer. How can I self-report a tree I want to remove?

If you are unable to report planned tree removal using the municipal website, municipal staff will be able to assist you with meeting reporting requirements.

24. What can I do if my neighbour is illegally cutting trees?

Any concerns about compliance should be directed to the arborist or the WV Bylaw Dept.

25. How will this bylaw be enforced?

As with all District bylaws, Bylaw Officers will work with staff, residents and property owners to identify and investigate potential violations of the bylaw. If violations are found, fines will be levied.

26. Is a permit required for tree pruning and maintenance? What standards should be followed for pruning? ISA standards?

No permit is required for pruning or maintenance. ISA standard “best practices” are recommended.

27. Is a permit required to remove invasive species? (Only Laurel and Holly can grow large enough to be defined as trees and invasive species in West Vancouver)

No permit is required to remove trees designated as invasive species, whether as single trees or as part of a hedge. Invasive species do not count toward minimum tree numbers.

28. Since fines are not large enough to stop illegal cutting of trees, can other penalties—such as not allowing a development permit for two or three years—be invoked?

Fines and/or replanting requirements may be supplemented with other penalties as deemed appropriate by the District (note: delayed permit approval was suggested, but formalizing this might present legal challenges).

REPLACEMENT TREES

29. Why aren't replacement trees required for all trees removed?

The working group felt that the responsibility of preserving tree canopy should be shared equally, without disproportionate requirements being placed on any particular group of residents (for example residents already having a higher than required number of trees on their lot).

30. When replacement trees are required, why is the ratio only 1:1? It should be higher.

With a bylaw based on preserving a certain number of trees per lot size (as opposed to protecting specific trees based on diameter), replacement ratios reflect only the pre-existing number of trees and do not align well with an overall goal of maintaining a certain number of trees based on lot size.

31. Can I still plant native west coast trees like cedars and Douglas fir?

Yes. There would be no restrictions on tree species, only recommendations to select appropriate species, taking into account factors like mature height, views, sunlight etc.

32. Can I still plant trees like flowering cherry even if they aren't native?

Yes. There would be no restrictions on tree species, only recommendations to select appropriate species, taking into account factors like mature height, views, sunlight etc.

33. How can I find out about the best trees to plant that require little water?

There is a recommendation that the municipality update its Tree Book and website resources to provide specific recommendations for selecting trees that are best suited to various site conditions, maximum mature height, slope suitability, drainage and water requirements, etc.

HAZARDOUS TREES

34. What can I do if my neighbour won't take care of a dangerous tree?

Trees posing a safety hazard will continue to be an issue to be resolved between neighbours. If a resolution cannot be reached, the affected neighbour may need to bring the issue to court.

35. What can I do if DWV won't take care of a dangerous tree?

For trees posing a safety hazard on municipal lands, the regular process is to contact the municipal arborist so that the tree can be assessed. The District does not assess trees on private property.

36. How can I find out the appropriate ways to prune my large coniferous trees to reduce hazard?

There is a recommendation that the municipality update its Tree Book and website resources to provide specific recommendations for pruning and tree maintenance, etc. that best promote safety and tree health.

37. A tree on my lot has been declared dangerous. Who will pay for its removal?

Trees on private property are the responsibility of the land owner, including tree removal.

38. Even arborists sometimes misinterpret the stability of a tree. What can be done to reduce this occurrence?

A second opinion from a different arborist might be helpful. Be sure that the arborist is ISA-certified, specifically to perform hazard tree assessment.

VIEWS AND SUNLIGHT

39. Can I remove a large tree on my property to renew my pre-existing view?

Yes, as long as you maintain the required minimum number of trees specified for your property, no permit will be required.

40. Can I request that a neighbour remove a tree that is blocking my pre-existing view and sunlight?

This is a matter between you and your neighbour, if both parties agree and the minimum number of trees is maintained for the lot, no permit will be required.

HEDGES

41. Why are hedges being included in this tree bylaw?

Overgrown and abandoned edges were identified by residents as a significant source of problems with regard to blocking views and sunlight. A clear hedge definition and height restriction is intended to provide a basis for conflict resolution between residents.

42. Can I request that a neighbour lower his hedge to 4.5 m (15'), as it is blocking my view and sunlight? Who is responsible for the cost of lowering the hedge to the maximum 4.5 m (15')?

Yes, the hedge height restriction is intended to provide a clear maximum height as a tool for dispute resolution between neighbours. A hedge is the responsibility of its owner, but as with tree removal, other agreements are often made between neighbours to assume or share costs.

43. My neighbour and I both like the 6 m (20') hedge between our properties. Do we have to lower them to 4.5m (15')?

No, the maximum hedge height restriction is intended to provide a clear basis for neighbour conflict resolution, rather than being generally enforced by municipal staff where no issues exist.

44. Why aren't the hedge height restrictions the same as fence height restrictions?

A maximum height of 4.5 m (approximately 15') is being recommended to accommodate hedges intended for privacy, while at the same time addressing problems identified by residents with overgrown and abandoned hedges blocking sunlight and views. Hedges are a common feature in West Vancouver neighbourhoods and have a different esthetic impact on neighbourhood character than fences of a similar height.

45. My mature hedge includes stems that are greater than 10 cm DBH. Can I count those stems towards my tree count?

No, any trees falling under the hedge definition (that are not protected species) are neither protected, nor do they count toward minimum requirements.

46. If my 40 foot hedge is cut down to 15 feet, it will likely die or it will look so ugly, that an expensive removal and replacement would be required. Who would pay for this?

Ultimately a tree or overgrown hedge is the responsibility of its owner. It has been common practice in West Vancouver, however, for neighbours to agree to share or even assume costs depending on who benefits most from tree or hedge work.

SLOPES AND RUNOFF

47. What about tree removal on slopes and problems with water retention and erosion?

Tree removal on steep terrain was identified by the working group as a concern. We are recommending that a permit be required for all tree removal on slopes greater than 35% so that any impact, and appropriate mitigation, can be addressed prior to tree removal. This aligns with the current requirement for slope stabilization on lots under development.

48. I am concerned that one large tree may legally be replaced by one small tree. Leaves on trees store rainfall and slow runoff. Will this lead to increased runoff?

While there are many factors that can lead to increased runoff, the likelihood of increased runoff is typically linked to sloped properties. We are recommending that a permit be required for all tree removal on slopes greater than 35% so that any impact, and appropriate mitigation, can be addressed prior to tree removal.

49. Who is responsible for excess runoff when trees are removed above my property?

The recommended requirement for a permit to remove trees on slopes greater than 35% should reduce the likelihood of excess runoff. This aligns with the current requirement for slope stabilization on lots under development. Should excess runoff still occur, and if neighbours cannot resolve the issue themselves, the affected neighbour(s) may need to bring the issue to court.

50. If deciduous trees are used as replacement trees what happens in the winter to slow down runoff?

In winter, coniferous trees do reduce runoff on steep slopes compared to deciduous trees. However, there are many factors that can lead to affect runoff, such as soil type and drainage systems. We are recommending that a permit be required for all tree removal on slopes greater than 35% so that any impact, and appropriate mitigation, can be addressed prior to tree removal.

51. Are watershed health, impervious surface effects, and hydrology considered when the bylaw recommendations were written?

With new or redevelopment there is a planning review process already in place, with specific slope, drainage requirements, etc. With tree removal on non-development lots we have added the new requirement that any tree removal on slopes over 35% require a permit so that drainage or slope retention impact can be properly assessed and mitigated.

GENERAL

52. How will deciduous trees effect canopy coverage?

Canopy coverage is not statistically changed when a coniferous tree is replaced with a deciduous tree with a crown of similar size. Visually there is an obvious difference in winter. There are pros and cons to both types of trees. For example, deciduous trees allow for more light penetration in the darker winter months, but provide more shade and cooling in the brighter summer months.

53. What process do I have to follow to remove any tree during bird-nesting season?

Before tree removal, it should be verified that the tree does not contain an active nest of any bird (or any nest, active or not, of an eagle or osprey), to assure compliance with provincial legislation.

54. How do I obtain a certified arborist's report?

Contact one of the many companies that offer arborist services in the Lower Mainland. A professional arborist is one who is certified by the International Society of Arboriculture.

55. Where will the tree bylaw apply?

It is proposed to apply to all private property in the District of West Vancouver except where a property is subject to a development permit or a heritage alteration permit.

56. Do other municipalities have a bylaw that protects trees on private property?

Yes, almost all municipalities in Metro Vancouver have one.

57. How do the bylaw recommendations fit with the supporting recommendation of a UFMP (Urban Forest Management Plan)?

The resulting tree bylaw will be just one component of an overall UFMP that will take into account trees on private, parks and other municipal lands and recommend a coordinated, overall approach with best practices to attain specific long-term goals.

58. How can I tell if my tree (or my neighbour's tree) is 120 years old?

An arborist will likely be able to estimate a tree's age with some accuracy. Since West Vancouver was extensively logged before the 1920s there are very few trees on private residential lots in West Vancouver that would be considered old-growth trees by this standard. Remaining trees >120 years old can typically be found along stream corridors, near a few significant parks with old-growth forests, and in the Upper Lands areas.

59. Won't protecting 120 year-old trees in an urban setting provide means for negligent owners to avoid dealing with dangerous trees?

The recommendation for protecting old-growth trees is targeted at stands of trees or trees adjacent to remaining first-growth forests, for example old growth trees that were spared from logging early last century along streams, the area surrounding Lighthouse Park, and in the Upper Lands (above 1,200'). The permit requirement does not give any special protection to hazard trees or trees within planned building envelopes etc.